

KIC 008247116

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})
008247116-01	OBS	No	0.835839	131.611722	90.3	5.516	14.3	13.5	1.46	7219	1.45	13146.26
008247116-02	OBS	No	0.580873	131.821610	544.6	2.000	13.5	-1.0	1.46	7219	3.46	21356.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008247116-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008247116-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

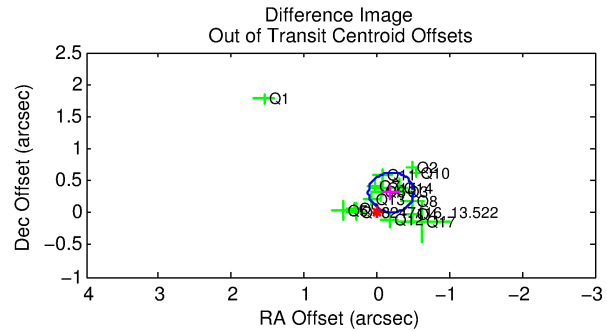
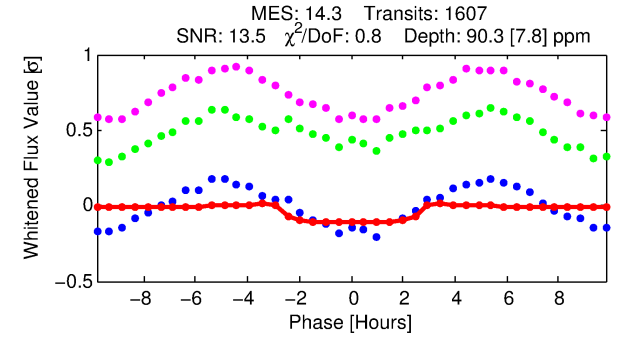
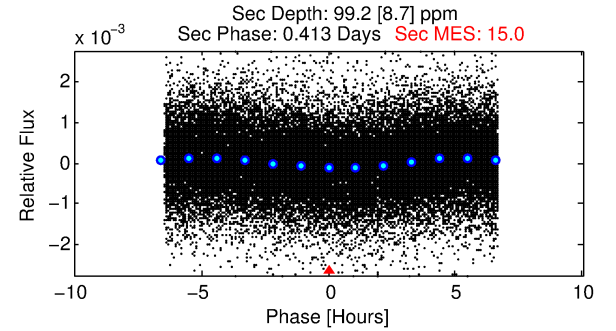
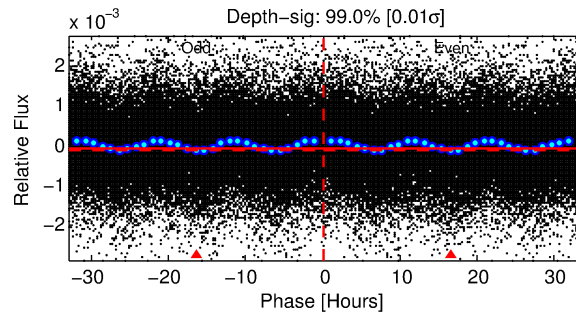
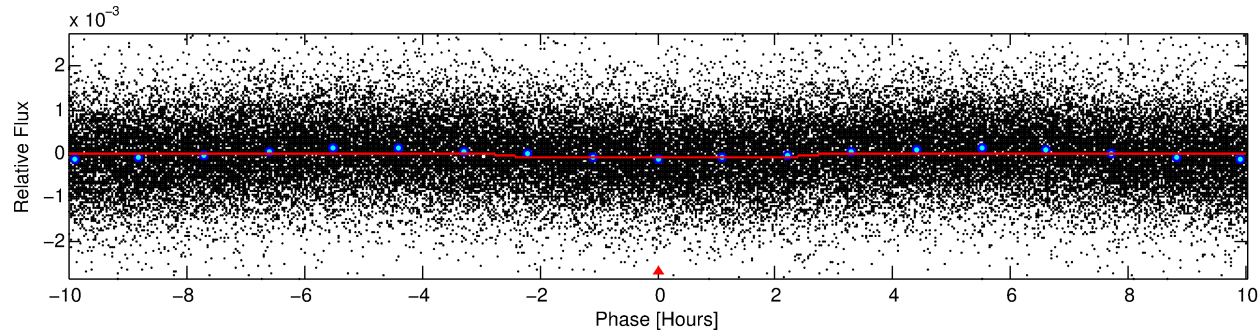
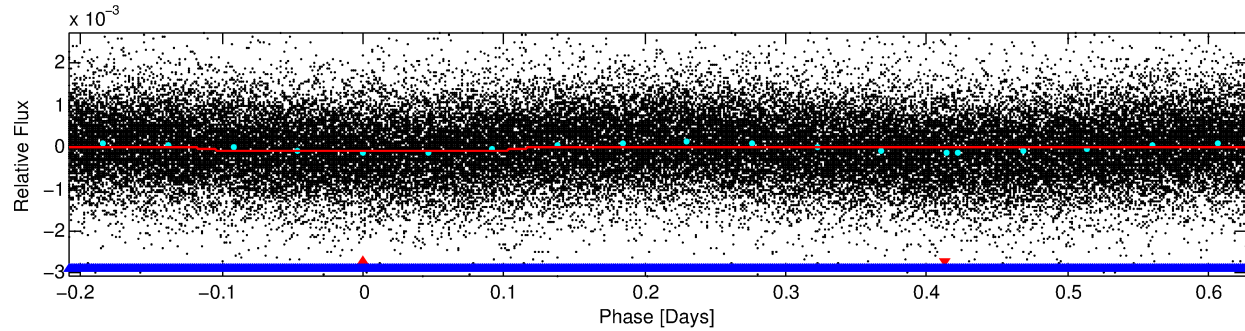
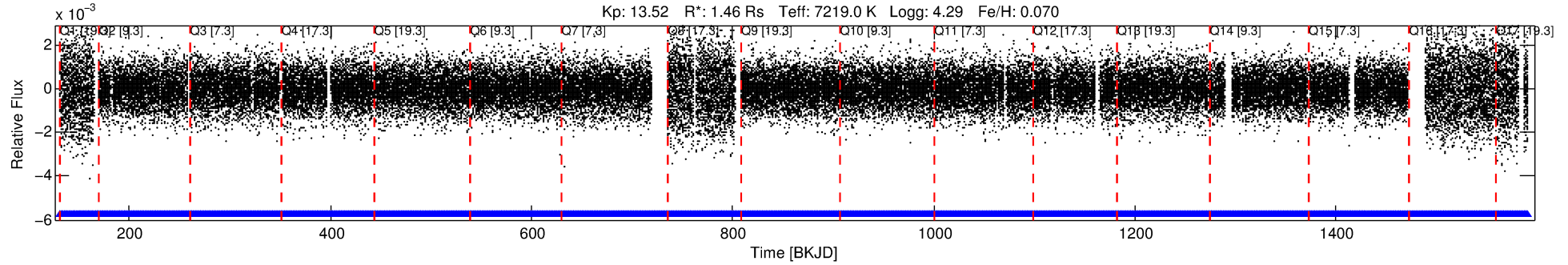
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008247116-01

No Significant Match Found

DV One-Page Summary

KIC: 8247116 Candidate: 1 of 2 Period: 0.836 d



DV Fit Results:

Period = 0.83584 [0.00001] d
Epoch = 131.6117 [0.0039] BKJD
Rp/R* = 0.0091 [0.0071]
a/R* = 1.25 [2.13]
b = 0.52 [6.69]
Seff = 13146.26 [6583.12]
Teq = 2730 [342] K
Rp = 1.45 [1.28] Re
a = 0.0199 [0.0065] AU
Ag = 10.35 [16.97] [0.55 σ]
Teffp = 7571 [3007] K [1.60 σ]

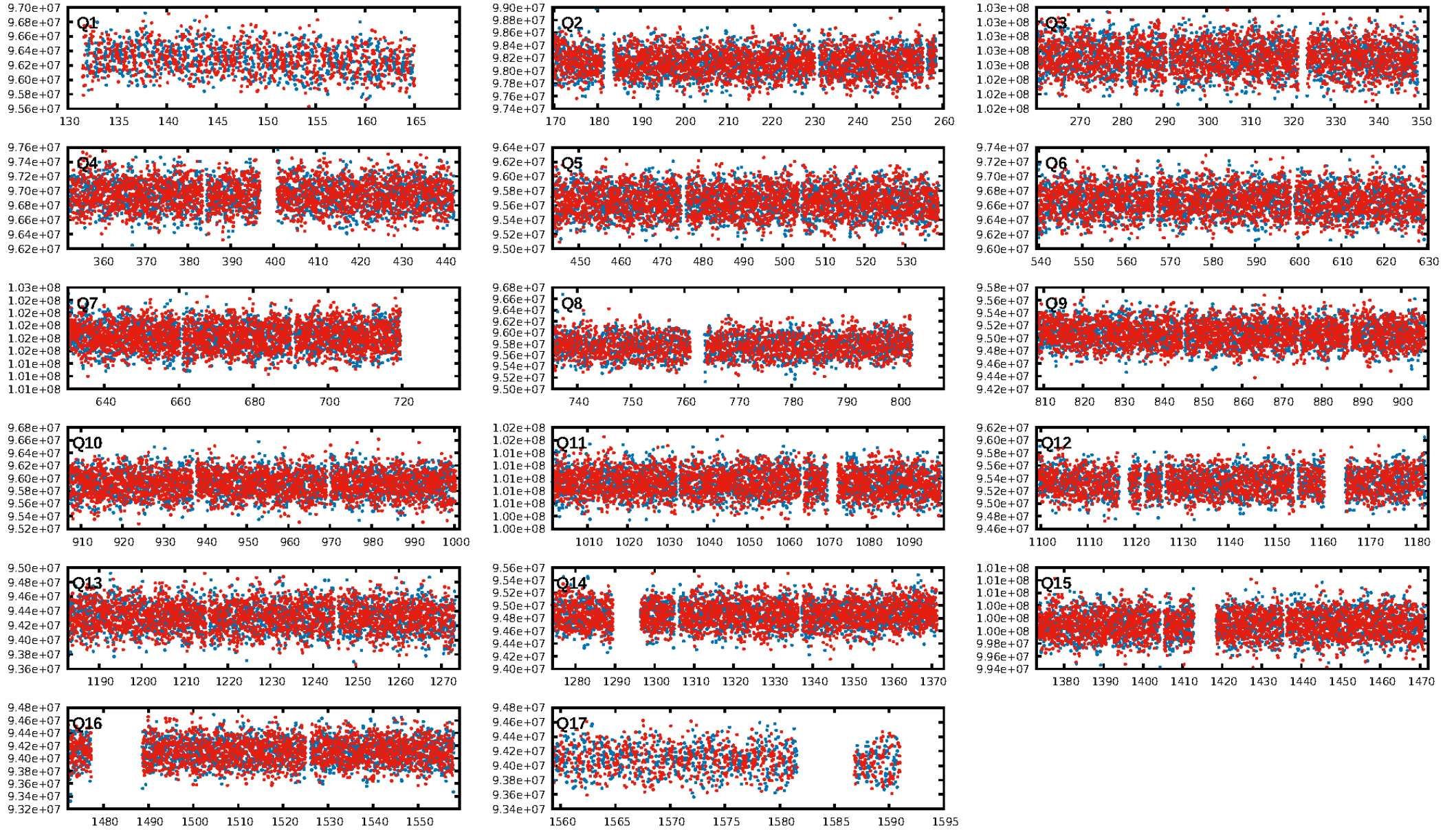
DV Diagnostic Results:

ShortPeriod-sig: 70.3% [1.04 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1533/1533]
GhostDiagnostic-chr: 2.94
Centroid-sig: 0.0%
Centroid-so: 0.688 arcsec [3.17 σ]
OotOffset-rm: 0.372 arcsec [3.59 σ]
KicOffset-rm: 0.340 arcsec [3.31 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

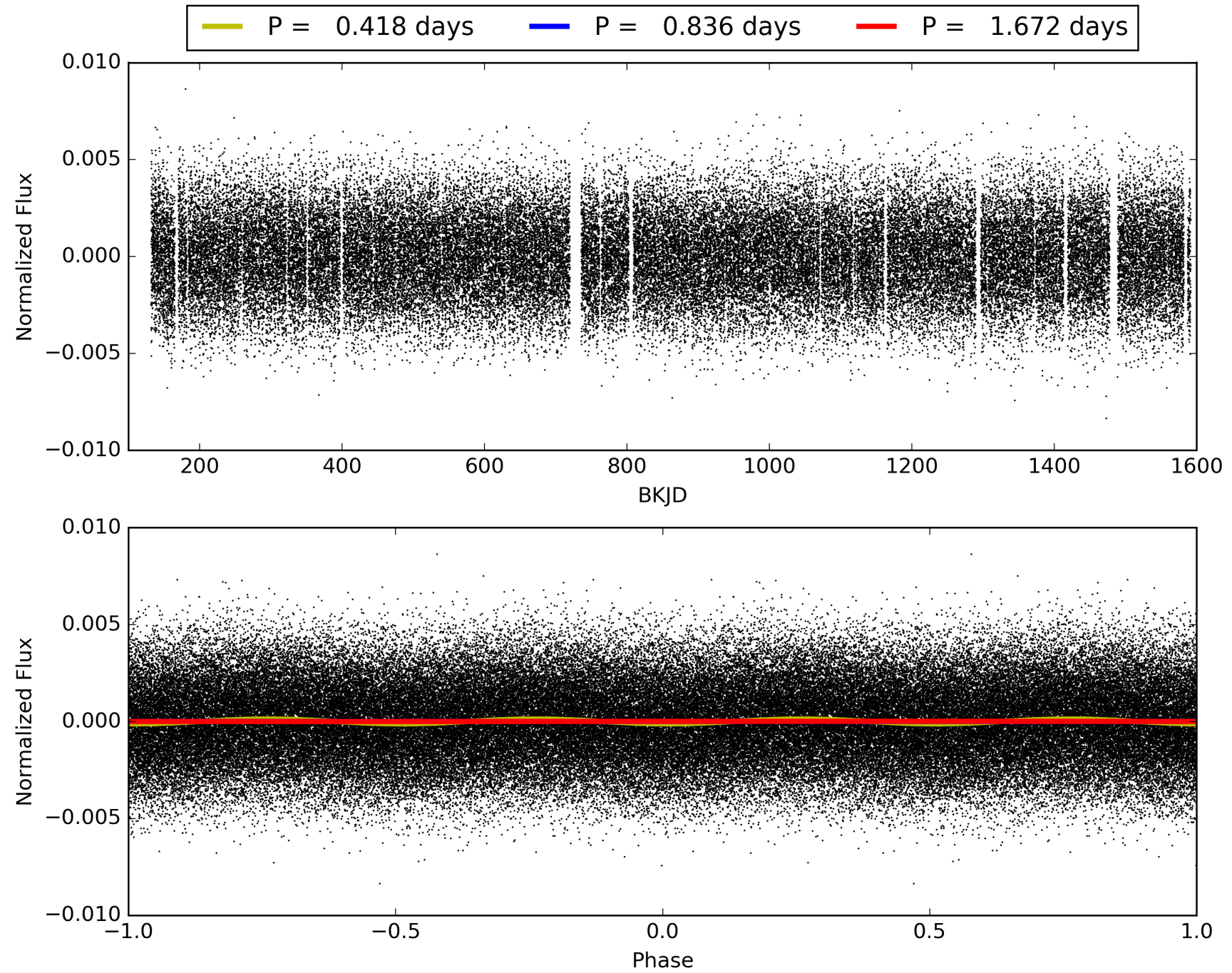
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:33:15 Z

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

TCE 008247116-01, PDC Light Curves

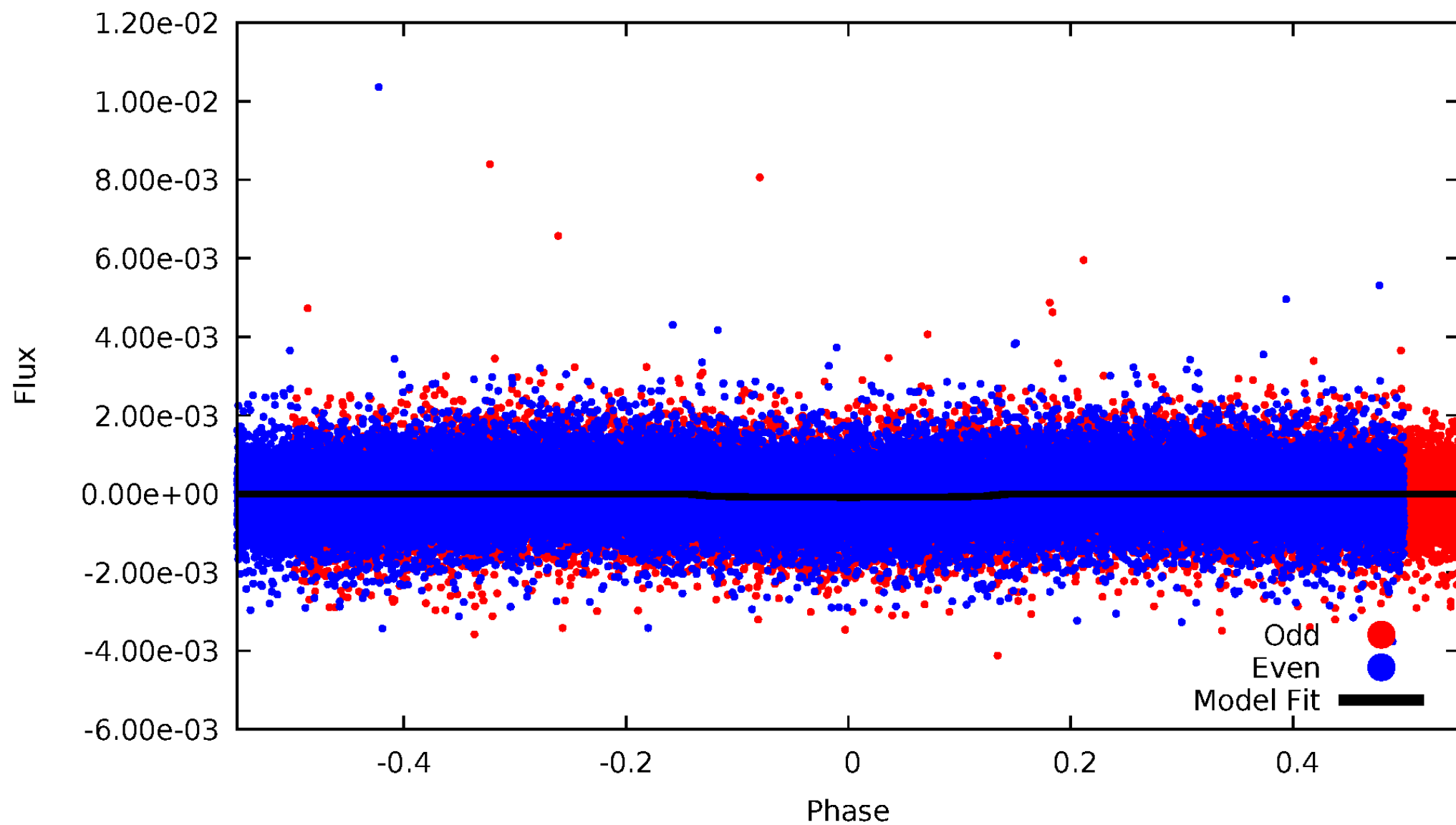


TCE 008247116-01



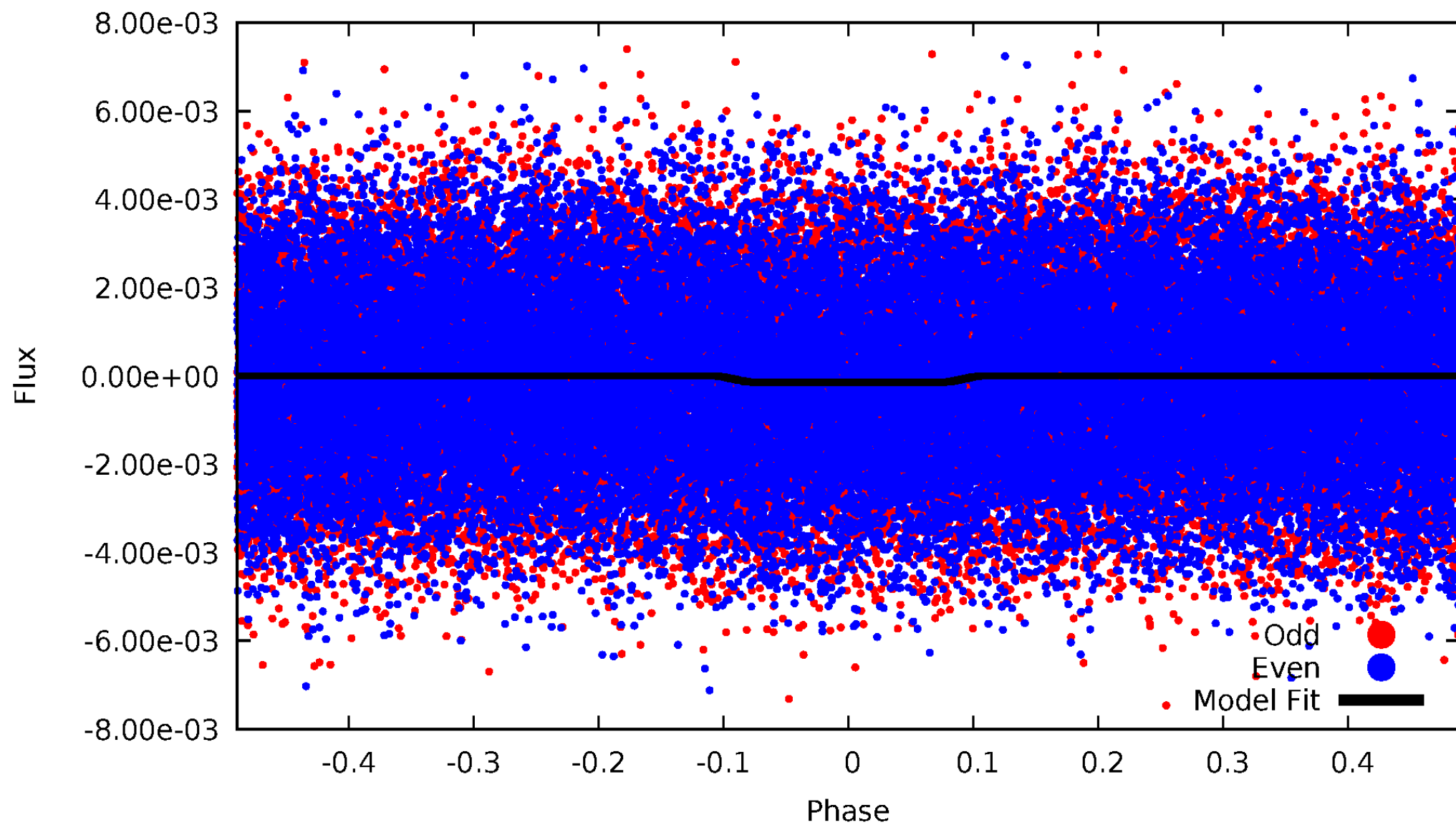
DV Odd/Even

TCE 008247116-01



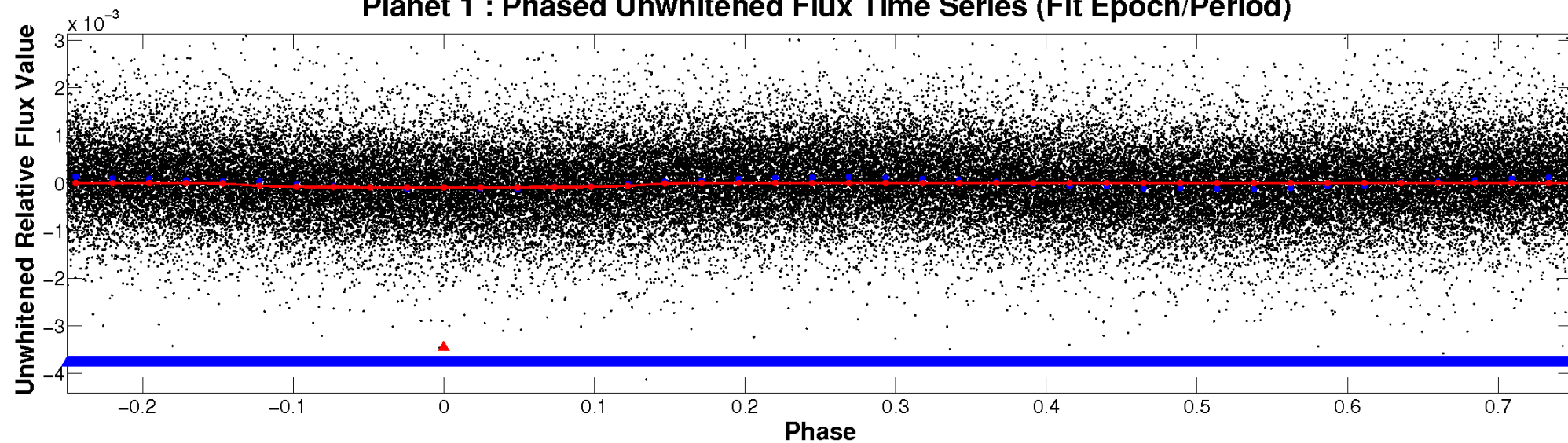
ALT Odd/Even

TCE 008247116-01

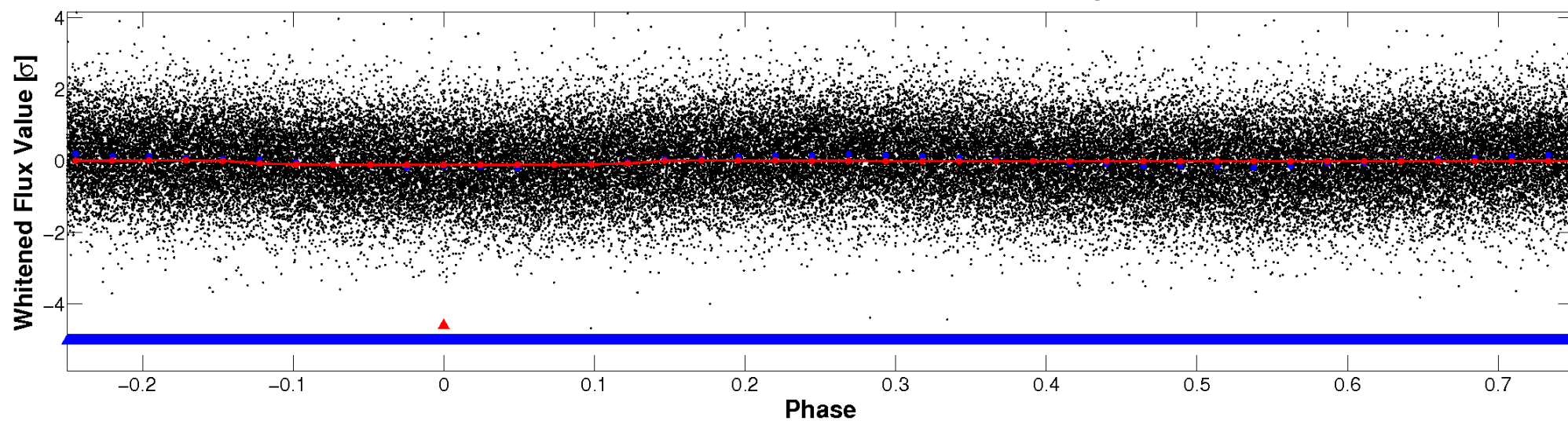


Non-Whitened Vs. Whitened Light Curve

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

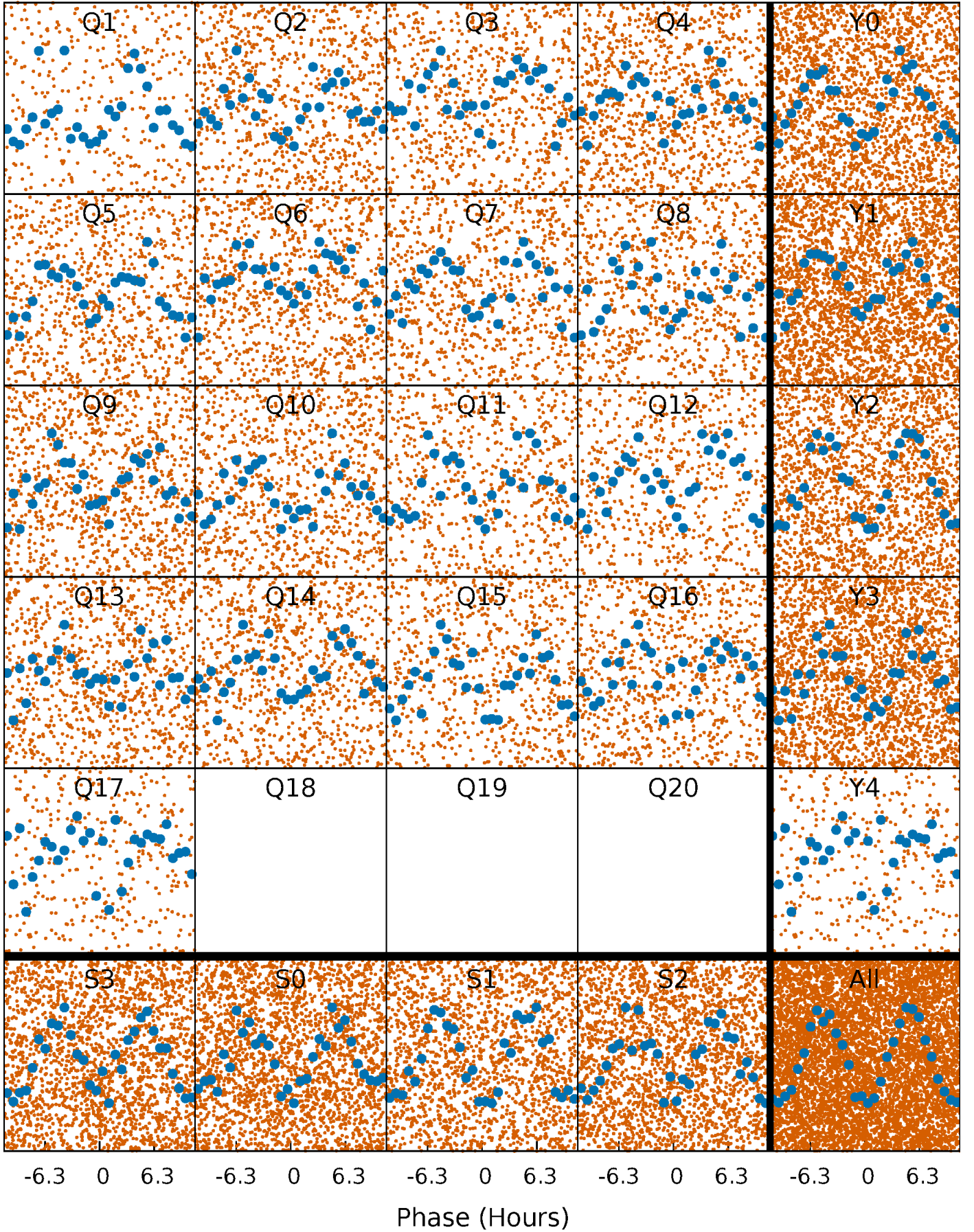


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



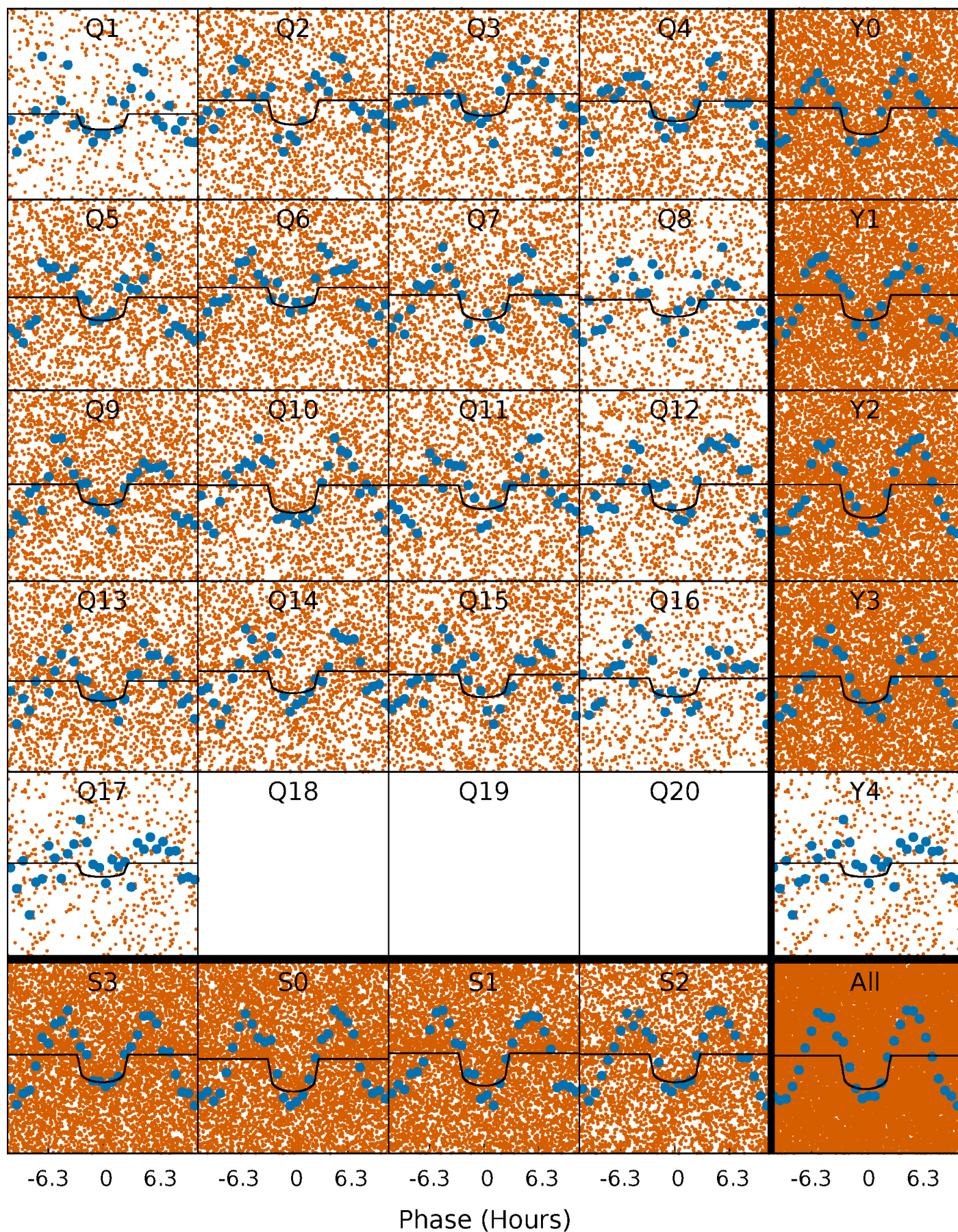
PDC Quarter-Phased Transit Curves

TCE 008247116-01 P= 0.835839 Days $T_0=131.611722$ (BKJD)



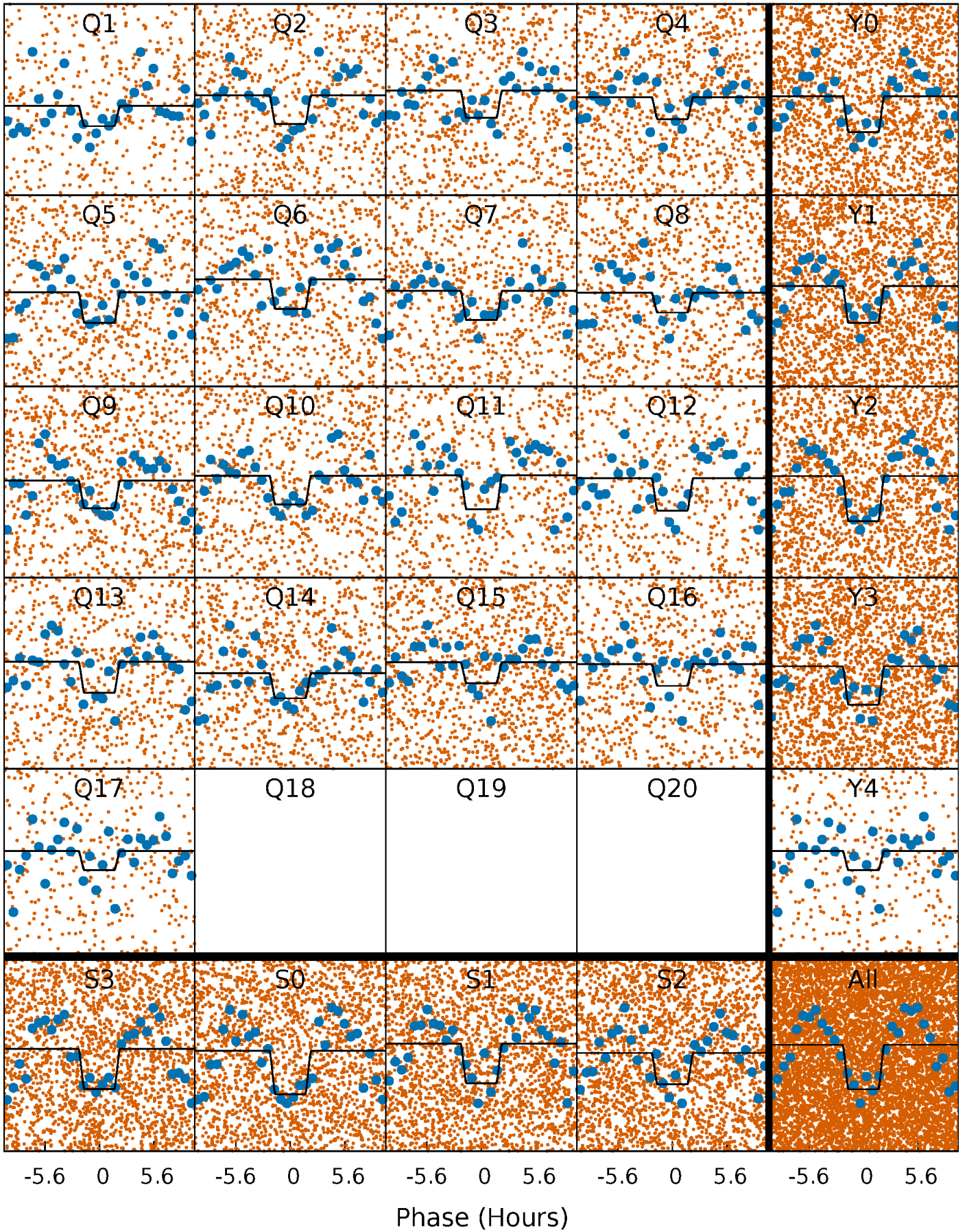
DV Quarter-Phased Transit Curves

TCE 008247116-01 P= 0.835839 Days $T_0=131.611722$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

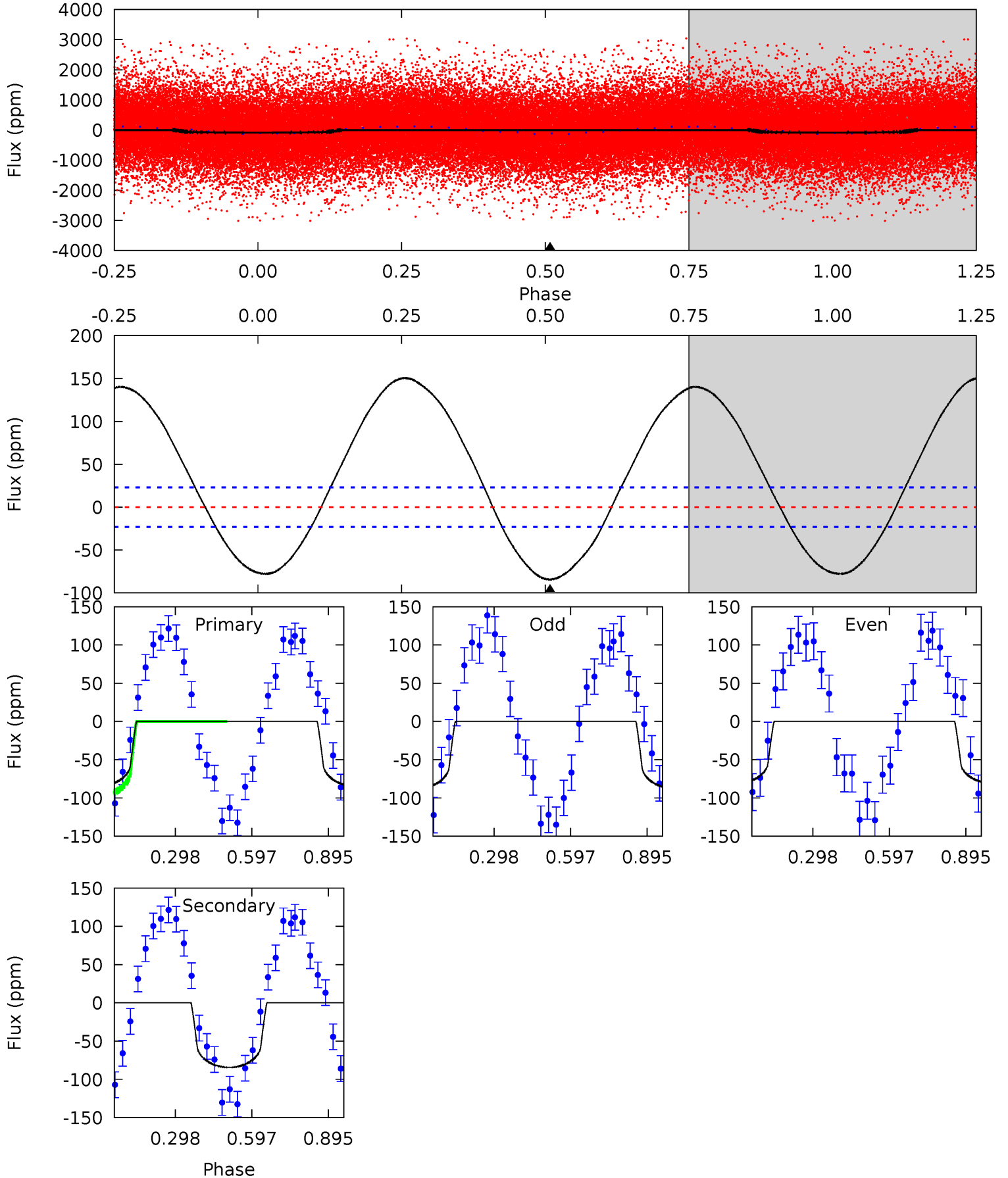
TCE 008247116-01 P= 0.835879 Days $T_0=131.590617$ (BKJD)



DV Model-Shift Uniqueness Test

008247116-01, P = 0.835839 Days, E = 130.775883 Days

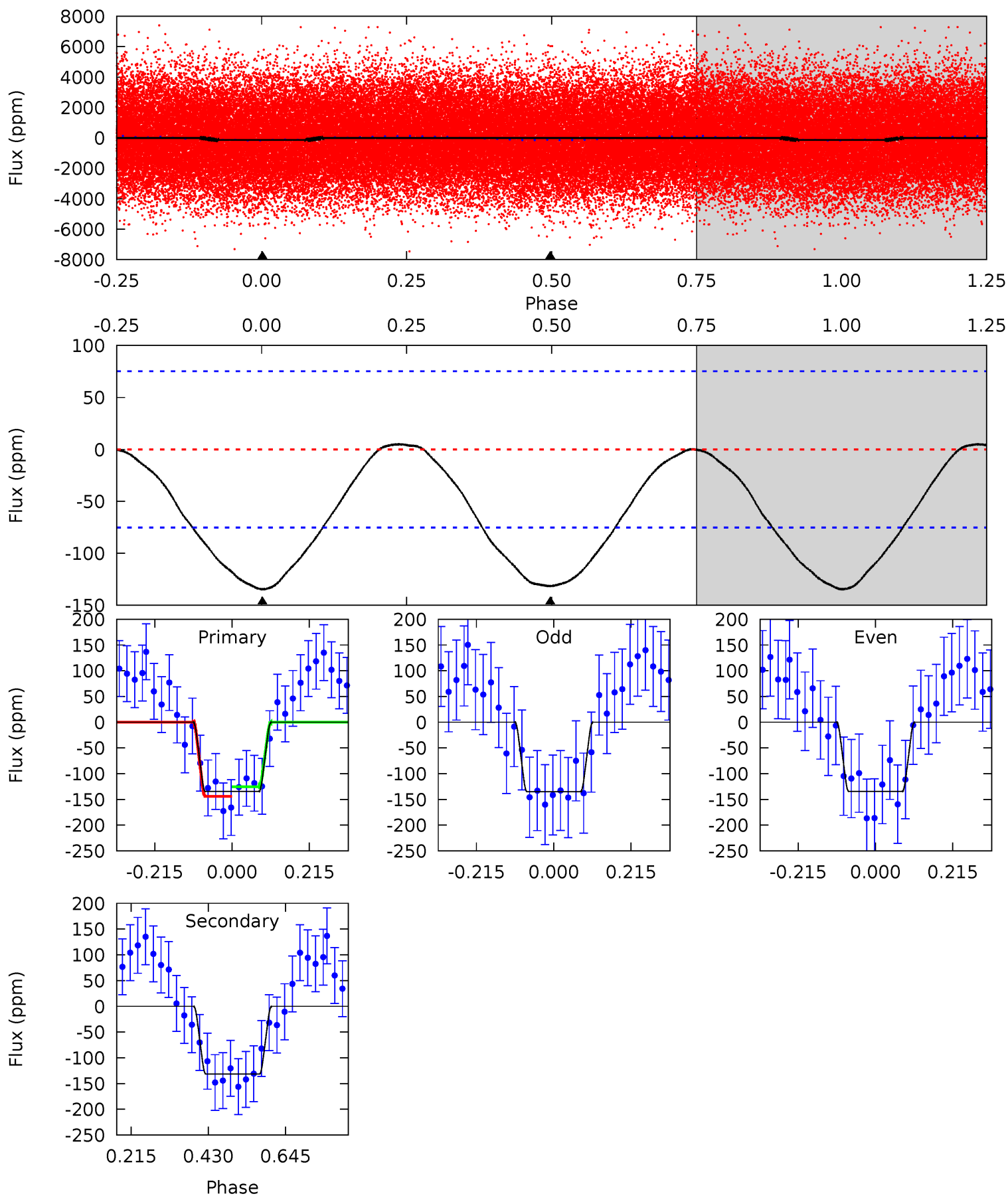
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	15.9	0	0	4.33	1.04	12.5	15.9	15.9	15.9	15.9	0.63	0.96	0.64	2.41



Alt Model-Shift Uniqueness Test

008247116-01, P = 0.835879 Days, E = 130.754738 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.89	7.71	0	0	4.40	1.24	0.23	7.89	7.89	7.71	7.71	0.01	0.97	0.04	0.54



Stellar Parameters For KIC 008247116

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7219^{+228}_{-371}	$4.285^{+0.060}_{-0.240}$	$0.070^{+0.200}_{-0.350}$	$1.463^{+0.592}_{-0.185}$	$1.506^{+0.233}_{-0.211}$	$0.677^{+0.229}_{-0.397}$
	+3%/-5%	+1%/-6%	+286%/-500%	+40%/-13%	+15%/-14%	+34%/-59%
Source	PHO1	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 008247116-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-84 ± 5	$1.71^{+1.17}_{-1.09}$	3896^{+326}_{-244}	6794^{+6886}_{-1648}	$6.022^{+40.720}_{-3.803}$
Alt.	-132 ± 17	$2.17^{+1.31}_{-1.15}$	3897^{+345}_{-250}	6648^{+4049}_{-1386}	$5.945^{+20.548}_{-3.551}$

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 $A_{obs} \gg 1.0$

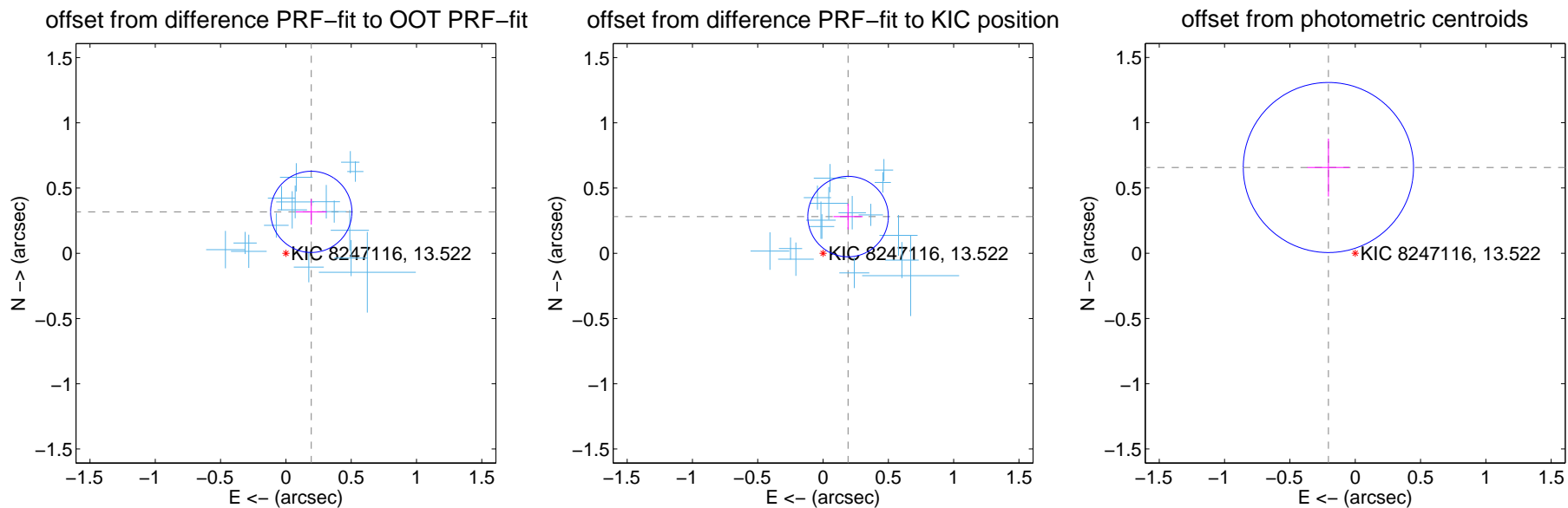
DV Centroid Data

Supplemental centroid analysis for 008247116-01. Kepler magnitude: 13.52. Transit SNR 13.49

There are 17 quarters with good PRF difference image offsets

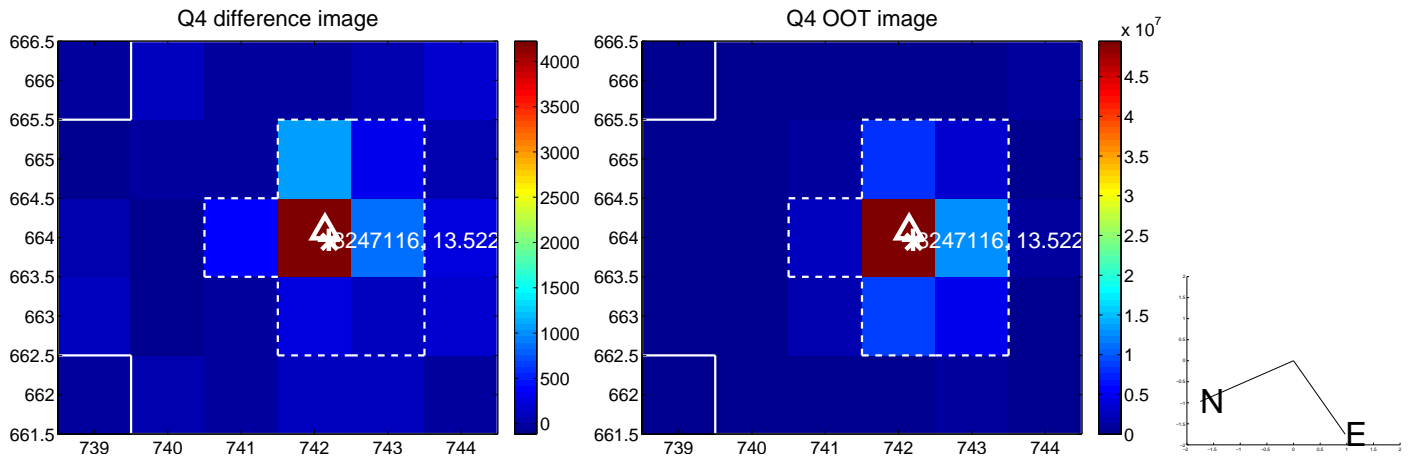
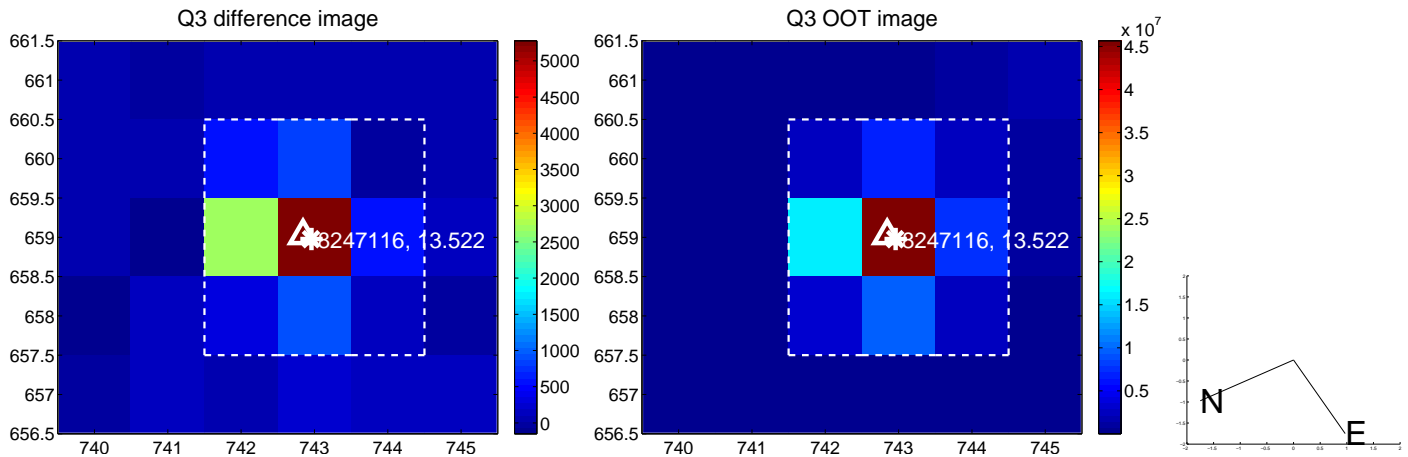
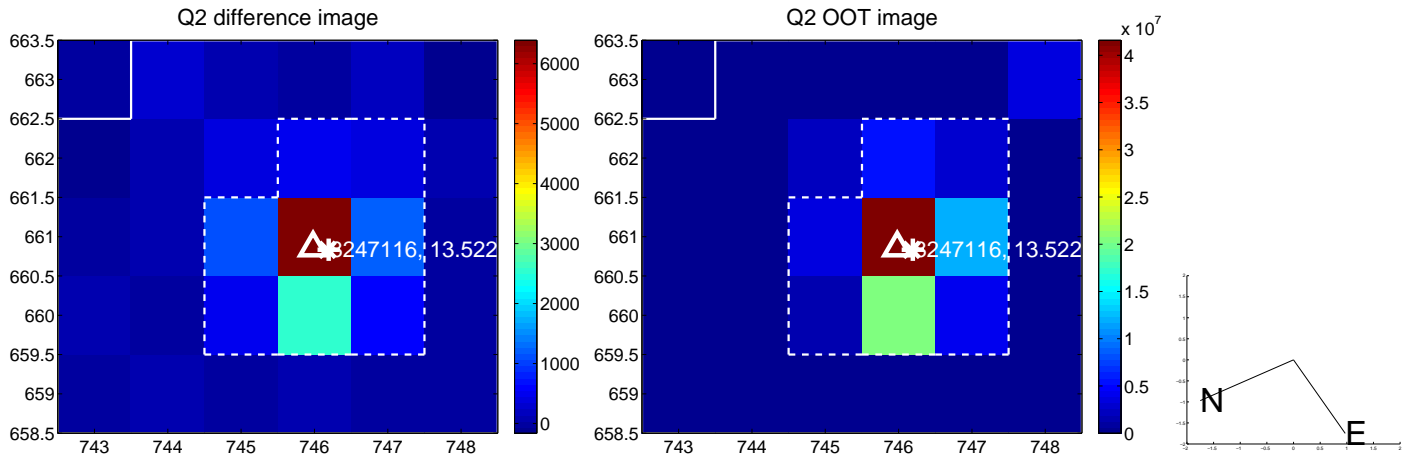
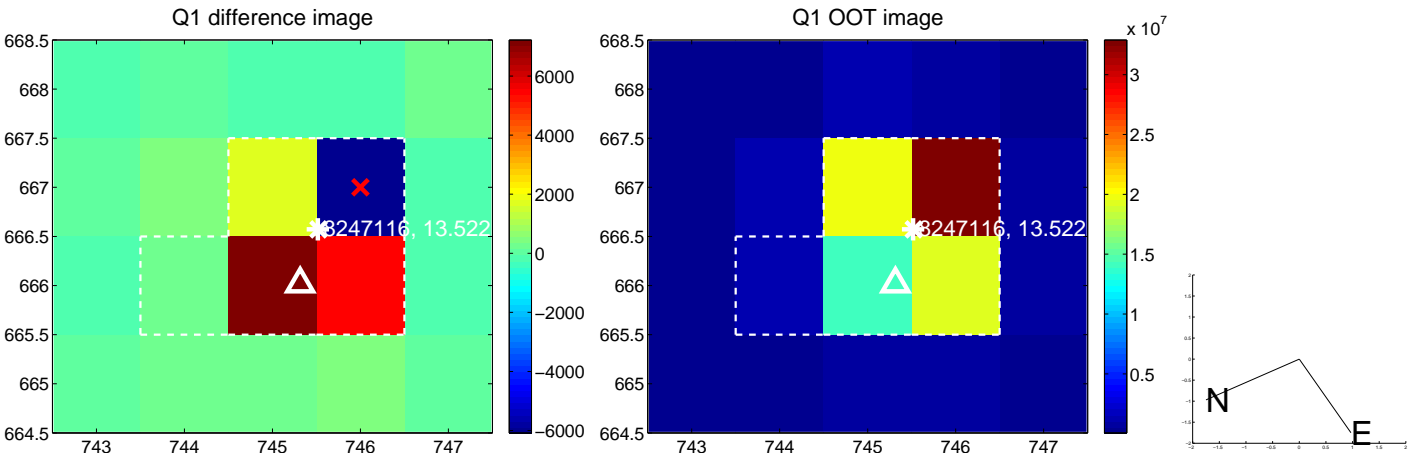
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.372 ± 0.104	3.59	-0.194 ± 0.118	0.318 ± 0.098
PRF-fit source offset from KIC position	0.340 ± 0.103	3.31	-0.192 ± 0.112	0.281 ± 0.098
photometric centroid source offset	0.69 ± 0.22	3.17	0.21 ± 0.16	0.66 ± 0.22

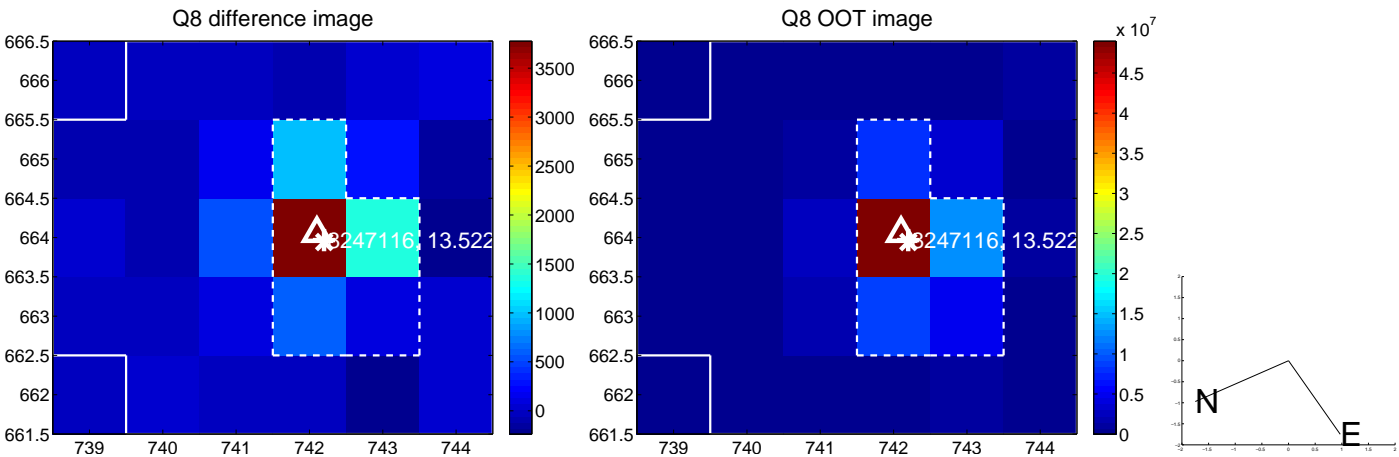
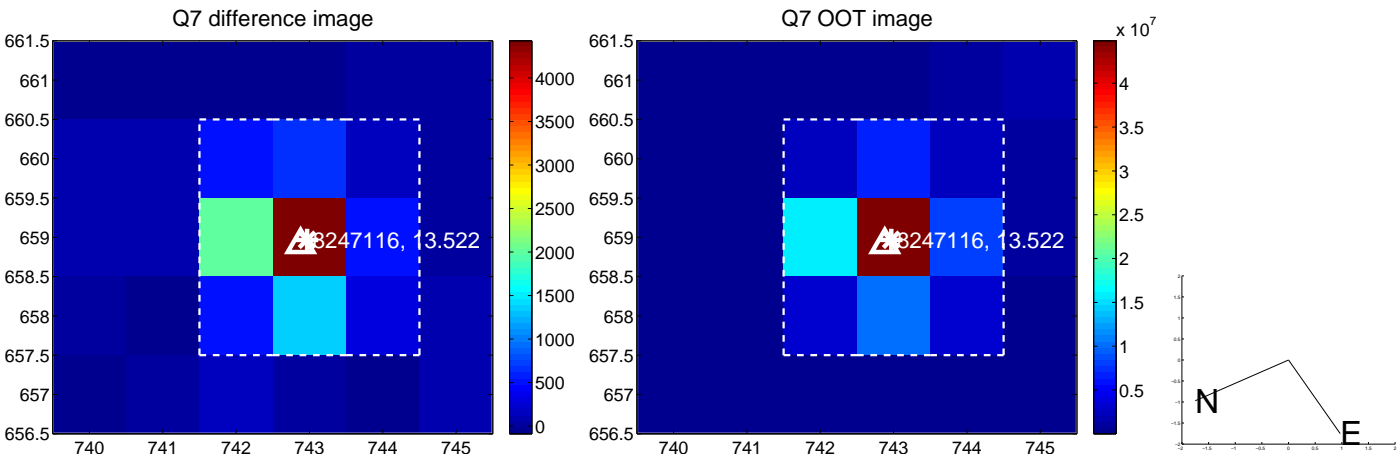
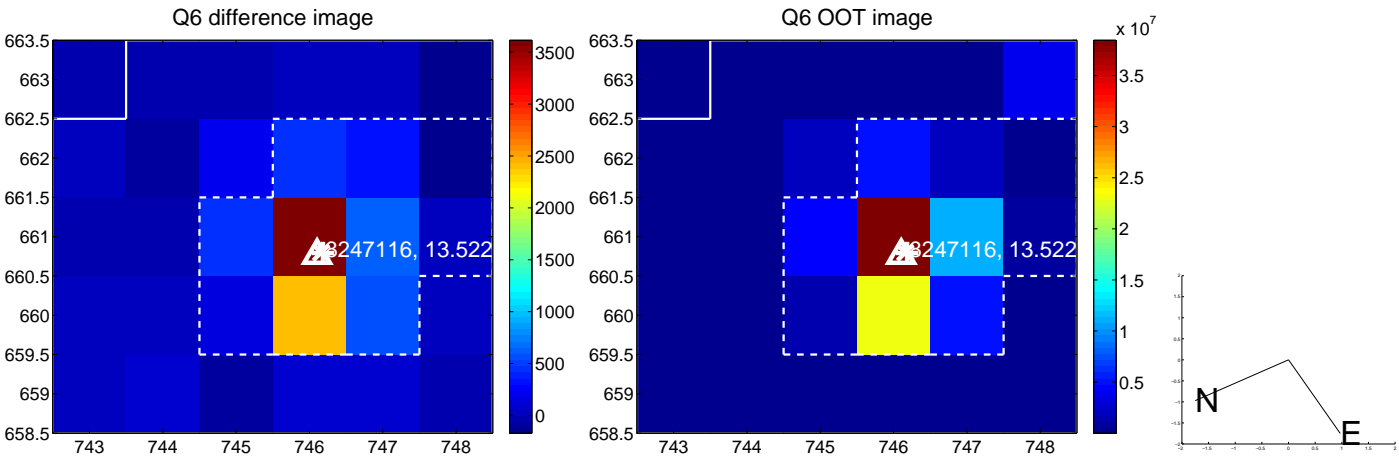
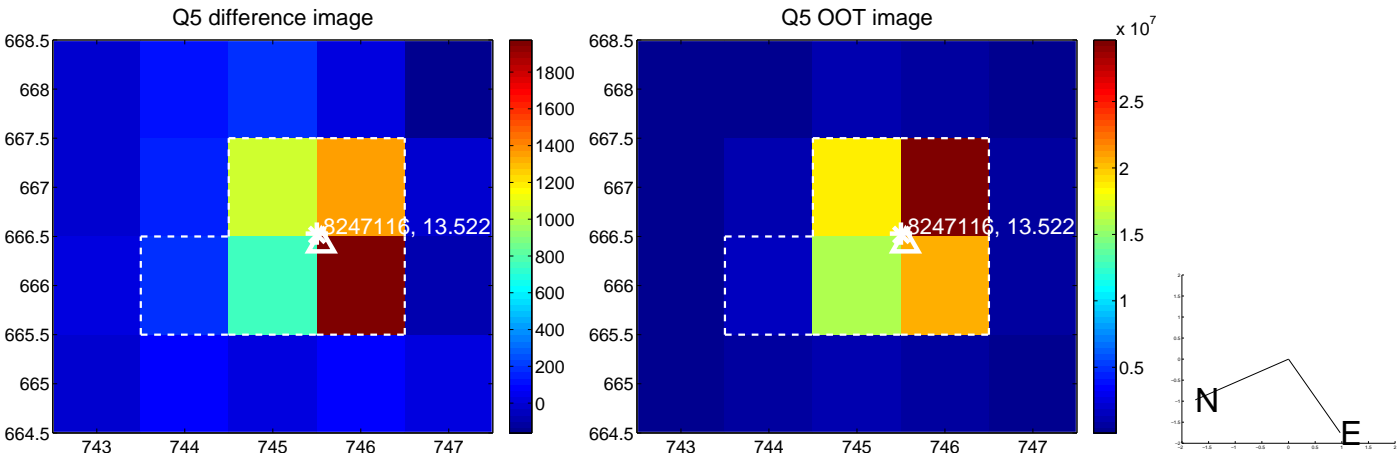


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

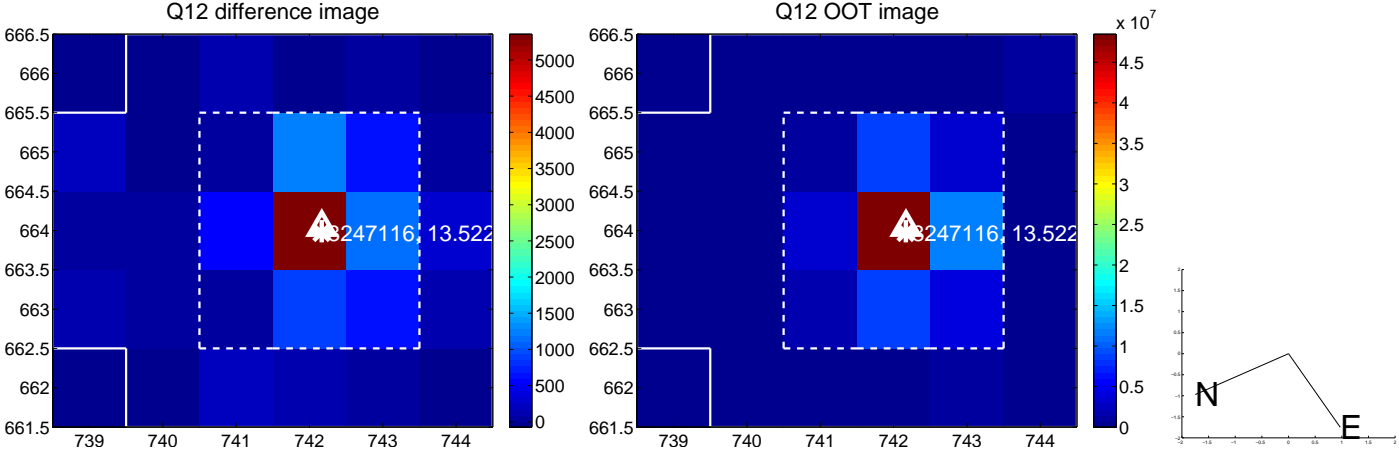
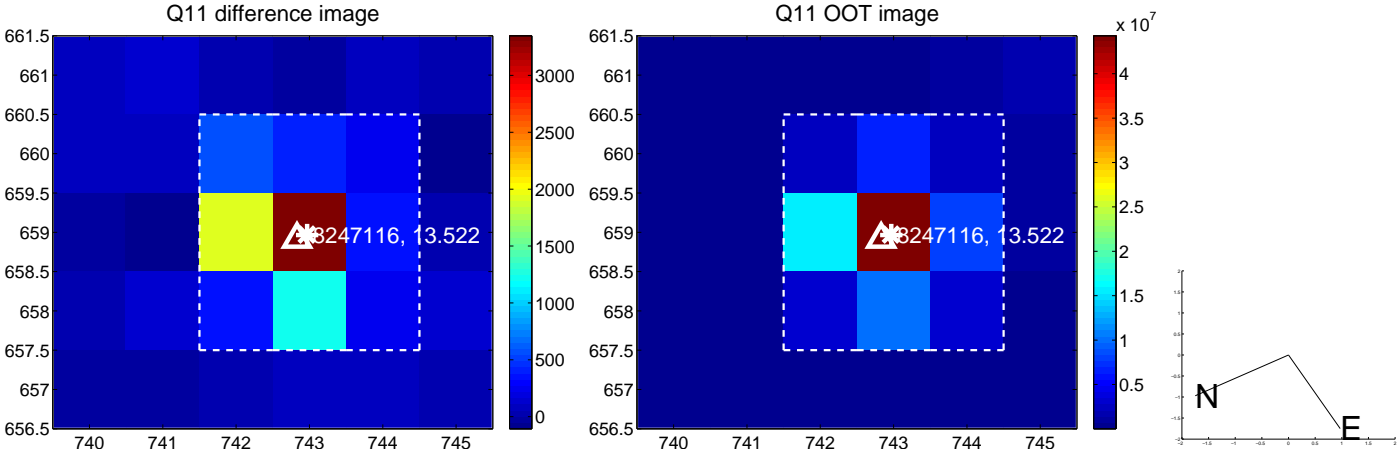
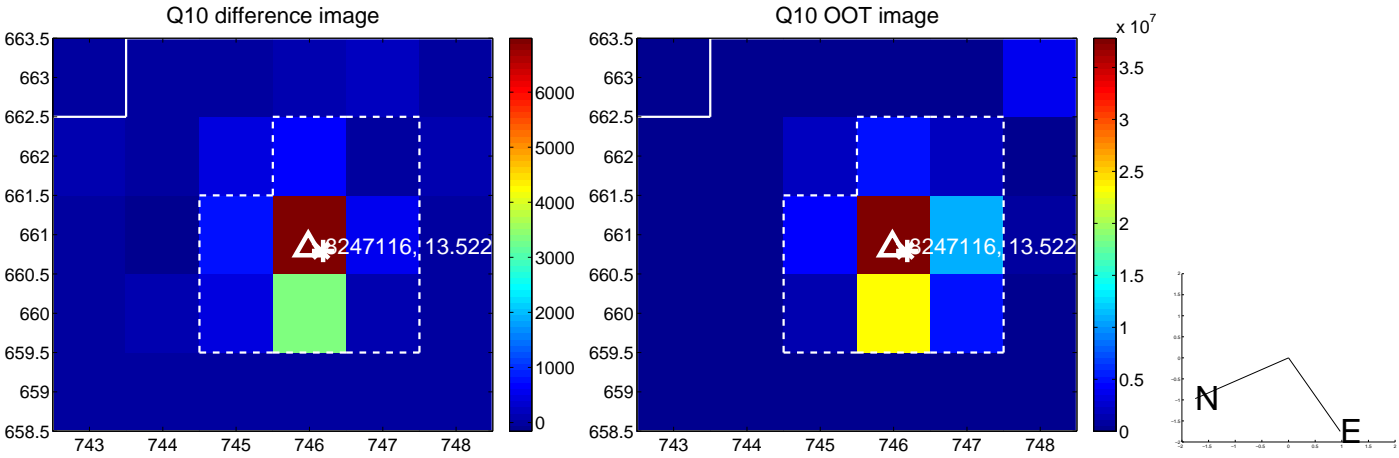
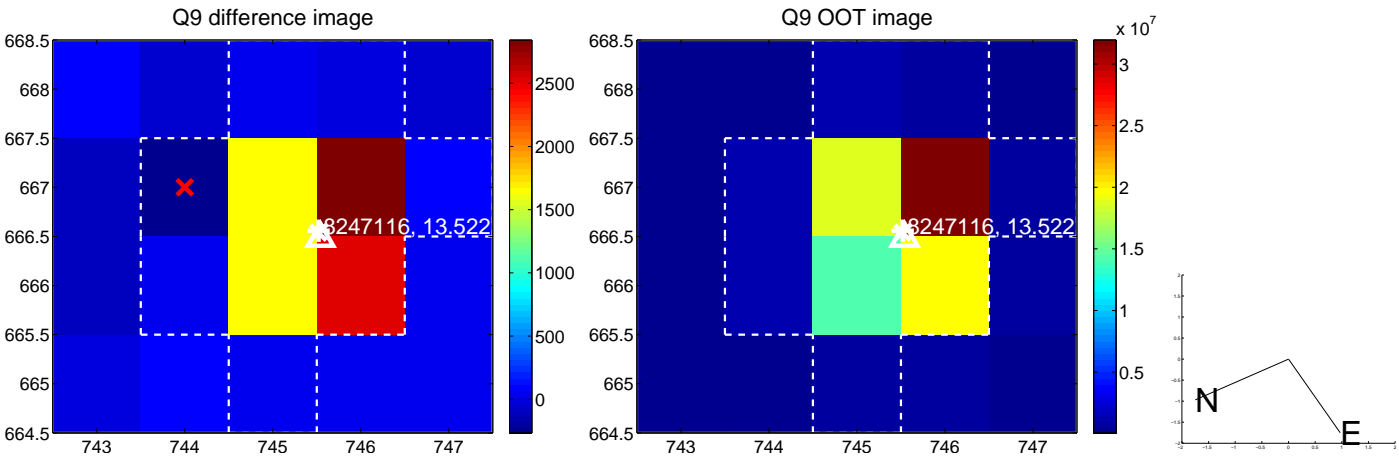
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



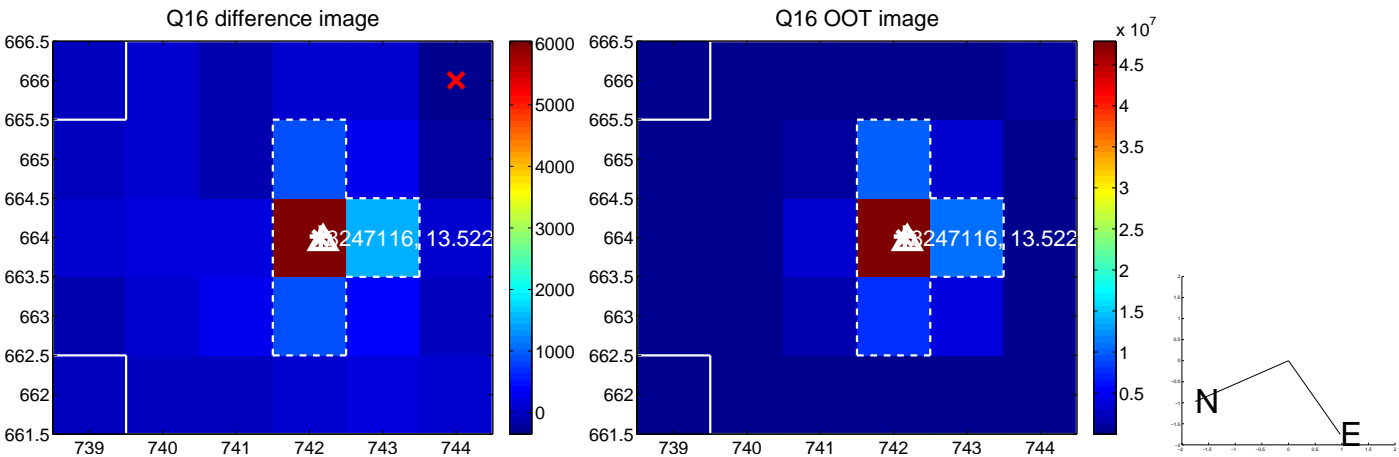
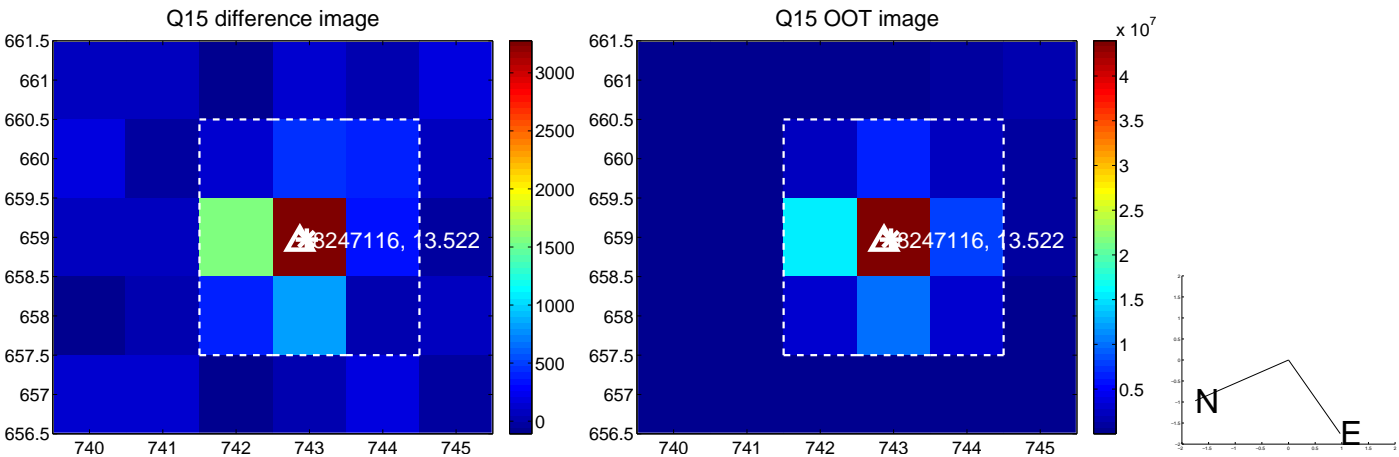
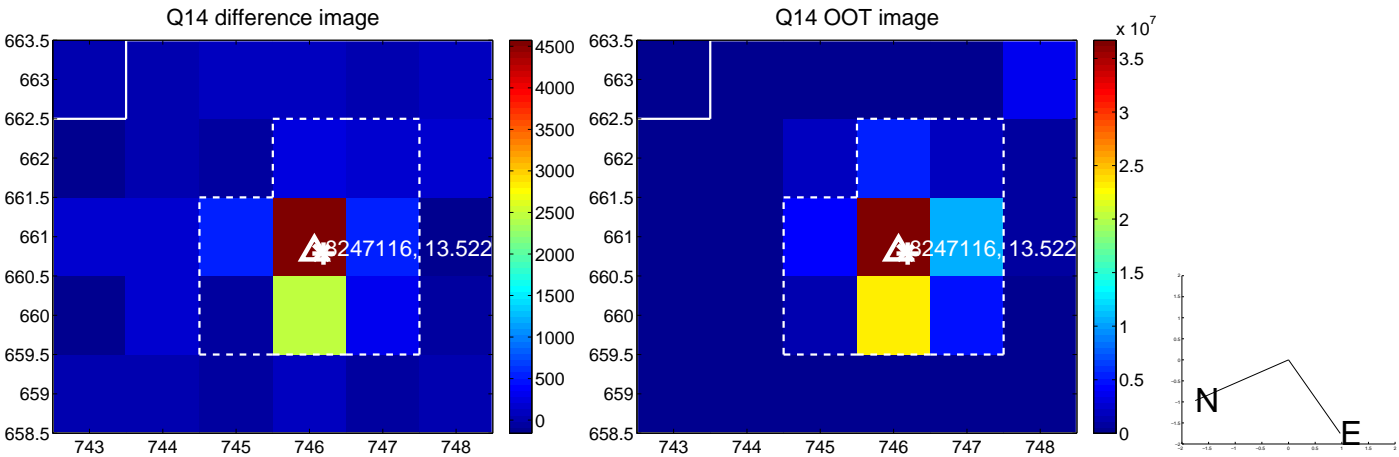
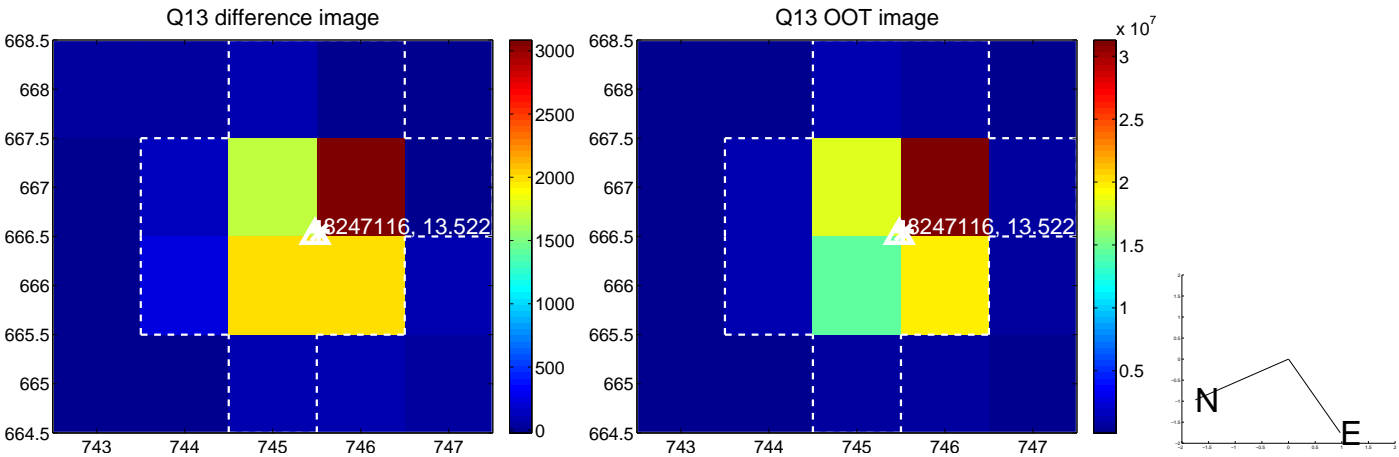
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



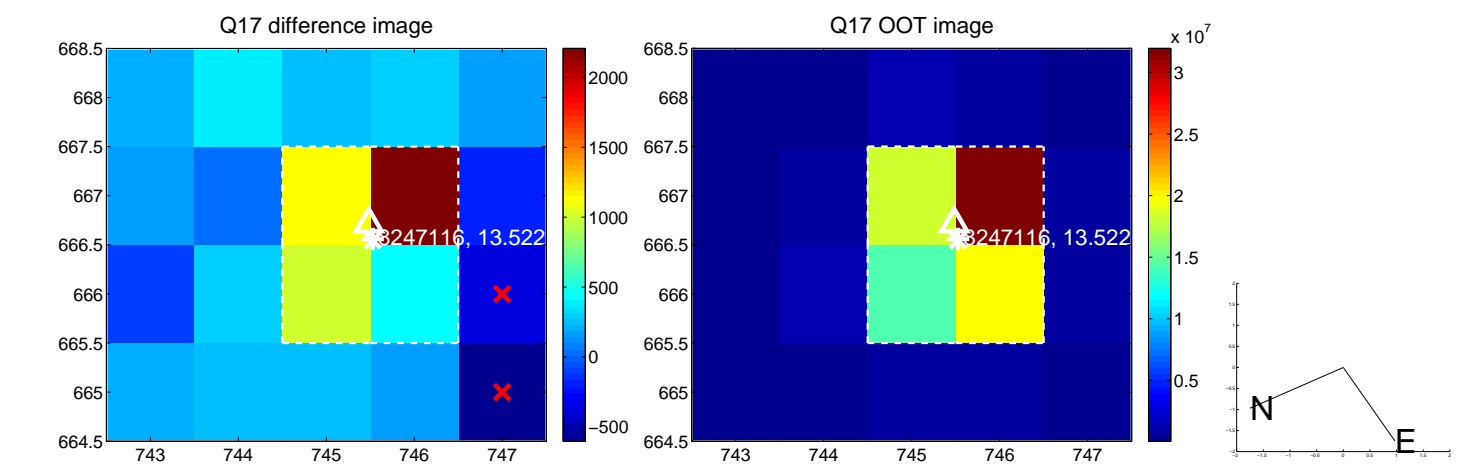
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



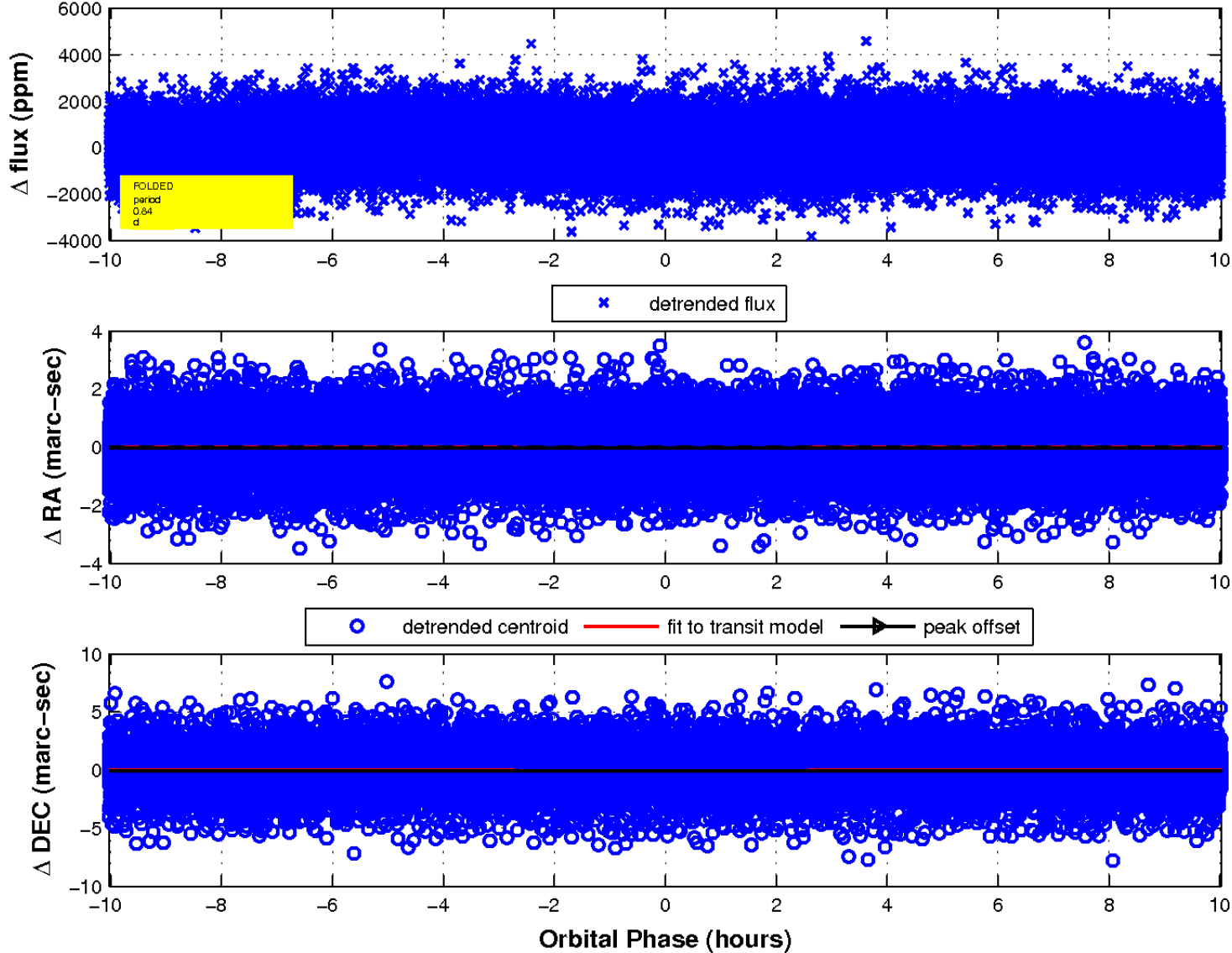
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

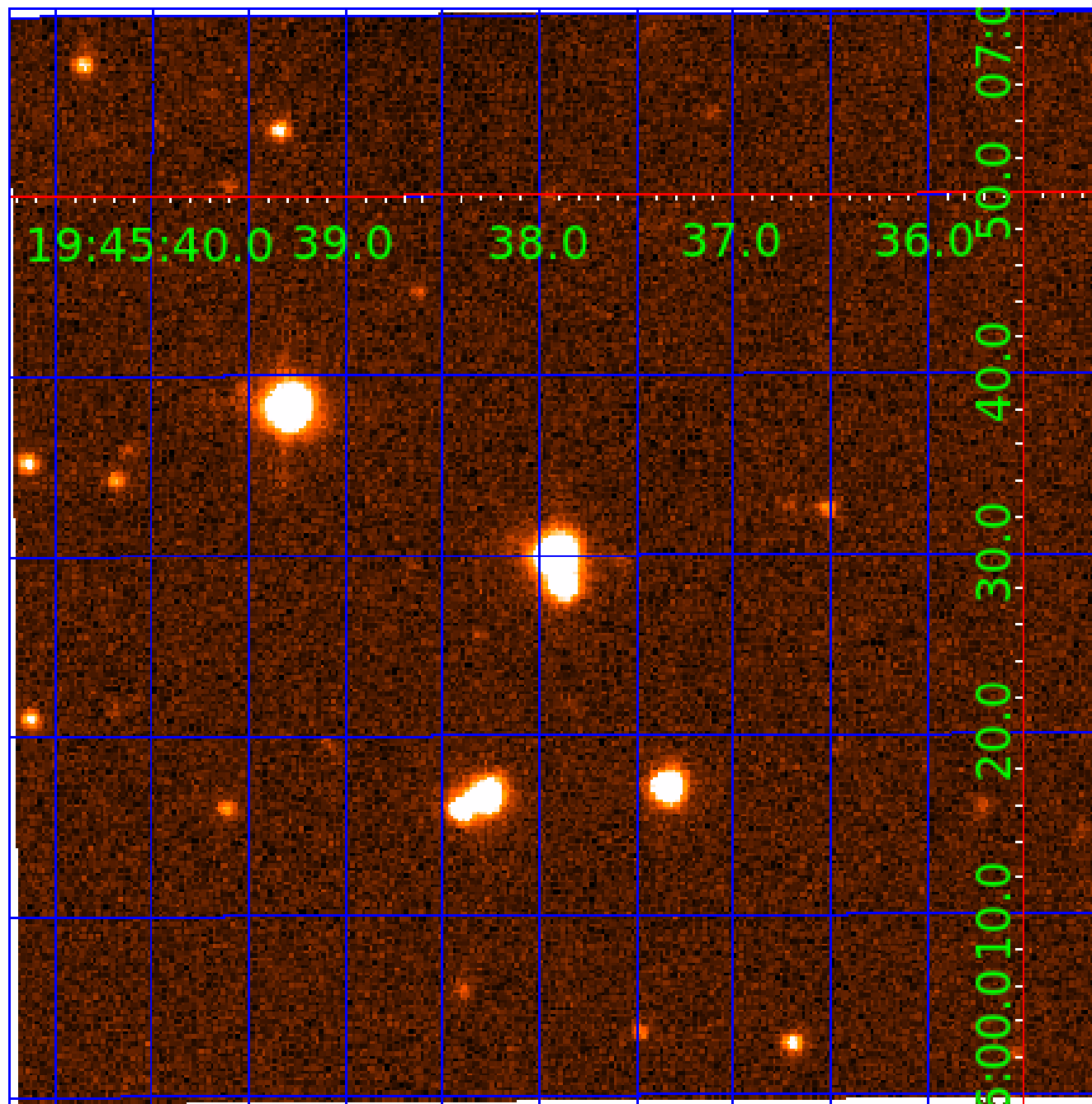


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008247116

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})
008247116-01	OBS	No	0.835839	131.611722	90.3	5.516	14.3	13.5	1.46	7219	1.45	13146.26
008247116-02	OBS	No	0.580873	131.821610	544.6	2.000	13.5	-1.0	1.46	7219	3.46	21356.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008247116-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008247116-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

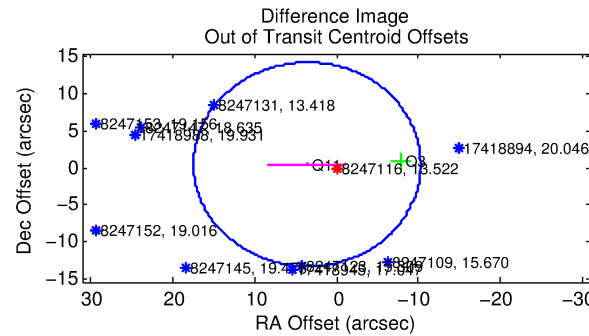
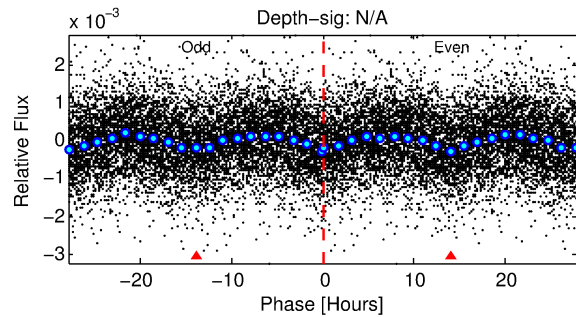
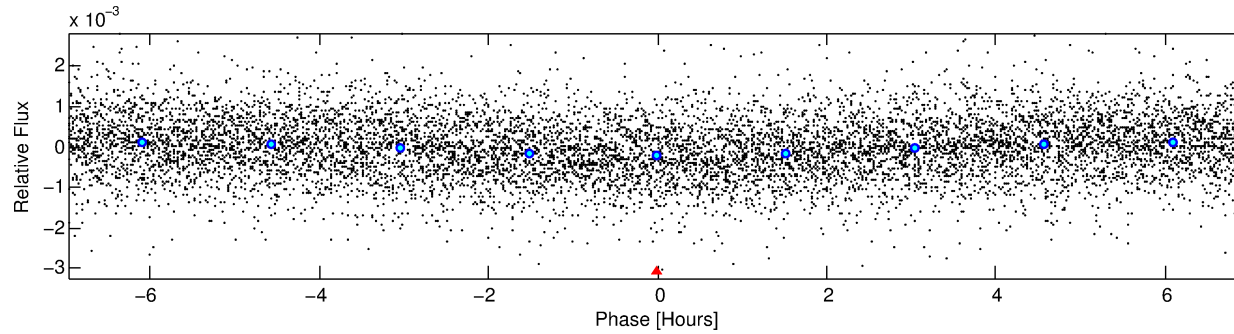
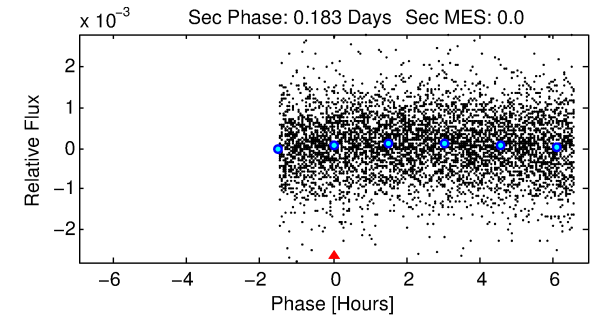
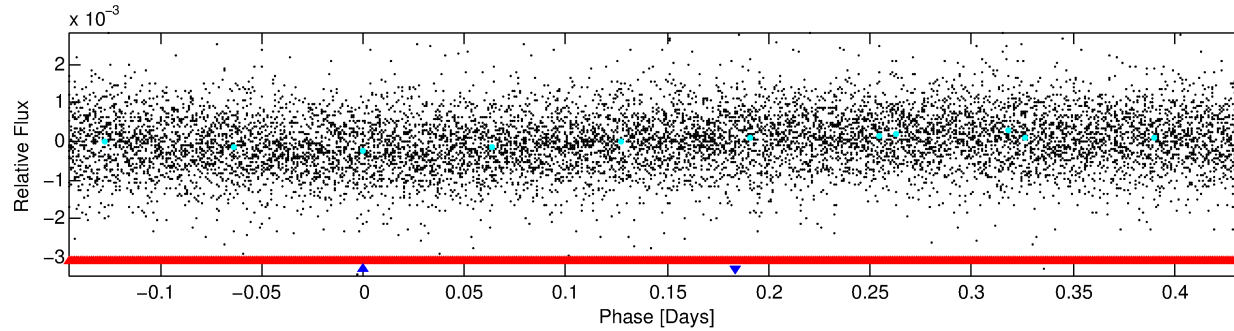
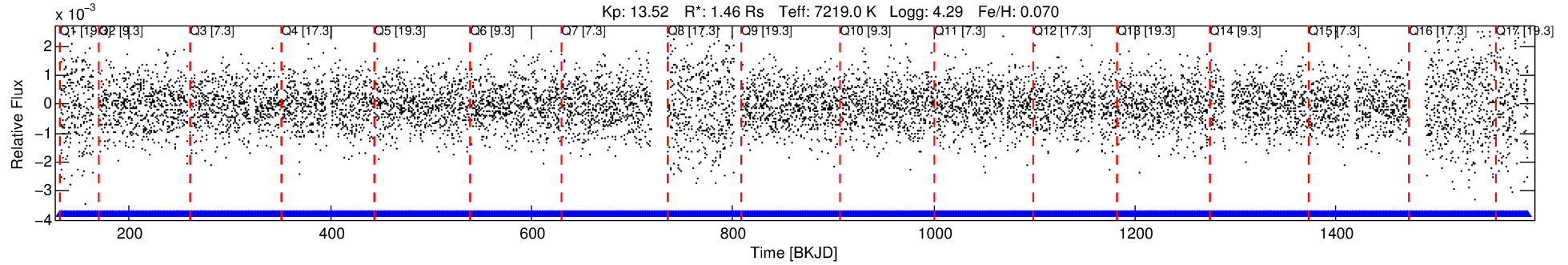
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008247116-02

No Significant Match Found

DV One-Page Summary

KIC: 8247116 Candidate: 2 of 2 Period: 0.581 d



TPS TCE Results:

Period = 0.58087 d
Epoch = 131.8216 BKJD

DV fit results are unavailable

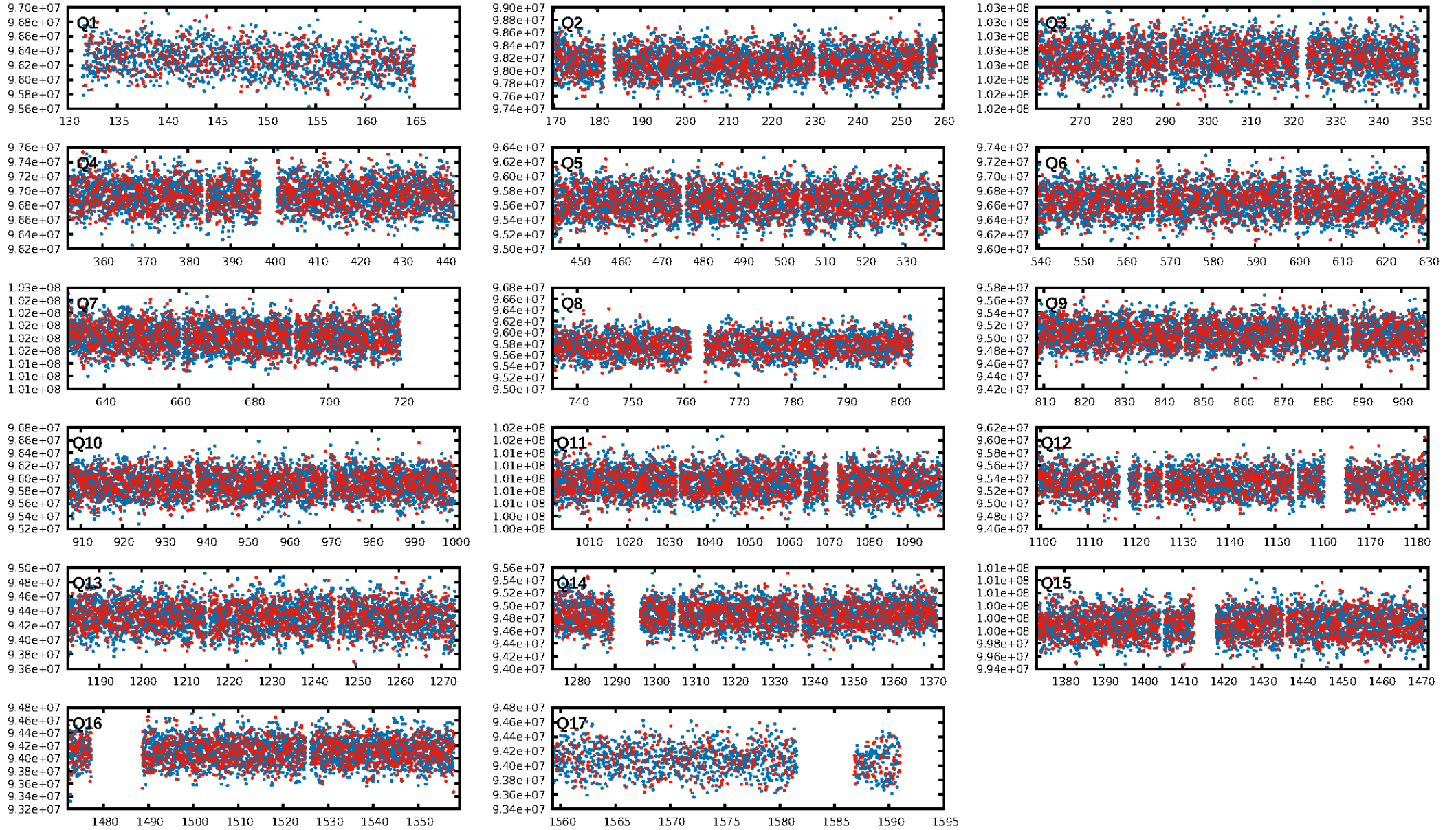
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 70.3% [1.04 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1017/1017]
GhostDiagnostic-chr: 1.112
Centroid-sig: 9.5%
Centroid-so: 0.271 arcsec [6.62 σ]
OotOffset-rm: 3.601 arcsec [0.78 σ]
KicOffset-rm: 3.627 arcsec [1.28 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
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DiffImageOverlap-fno: 0.00 [0/17]

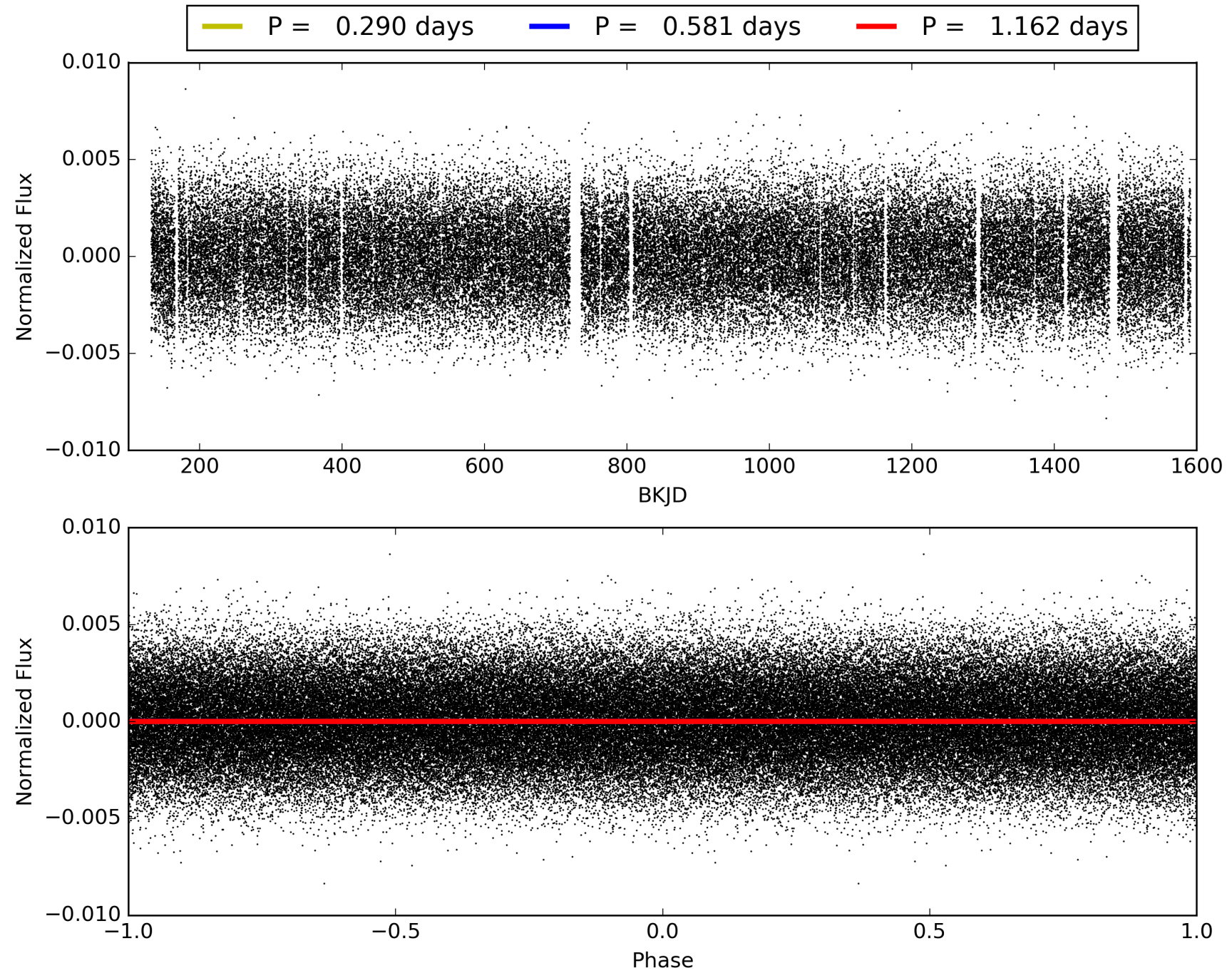
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:33:30 Z

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

TCE 008247116-02, PDC Light Curves

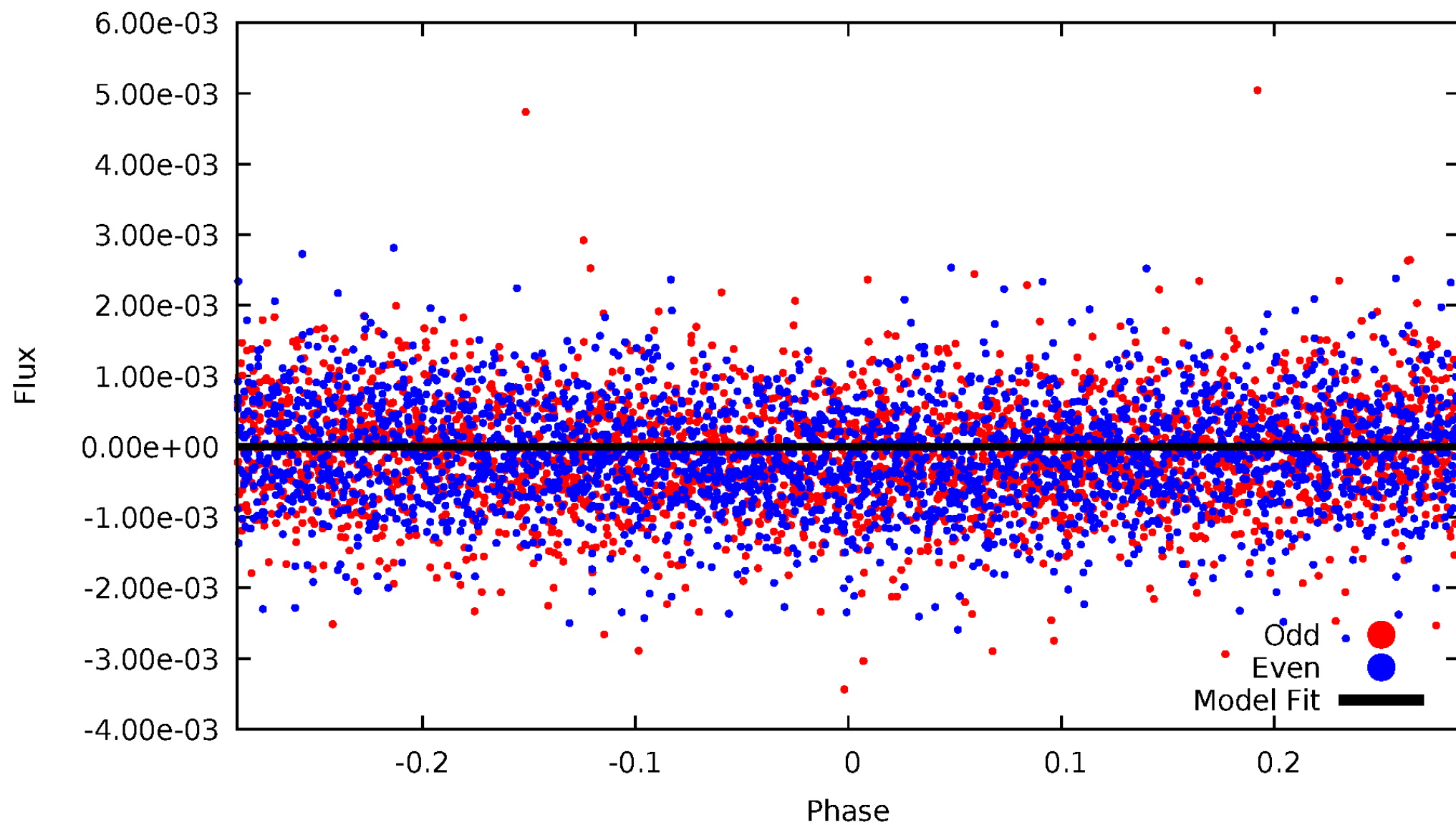


TCE 008247116-02



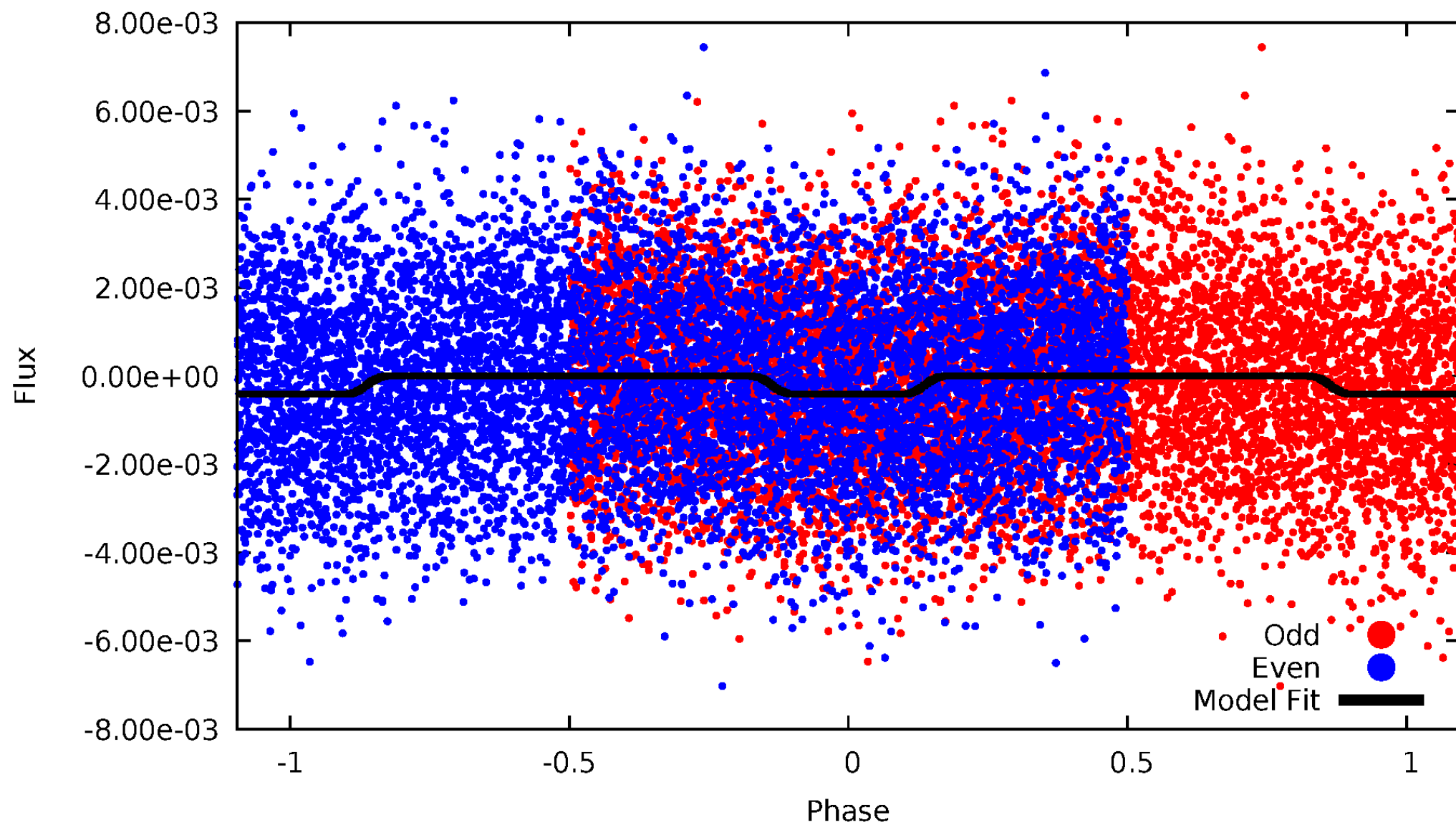
DV Odd/Even

TCE 008247116-02



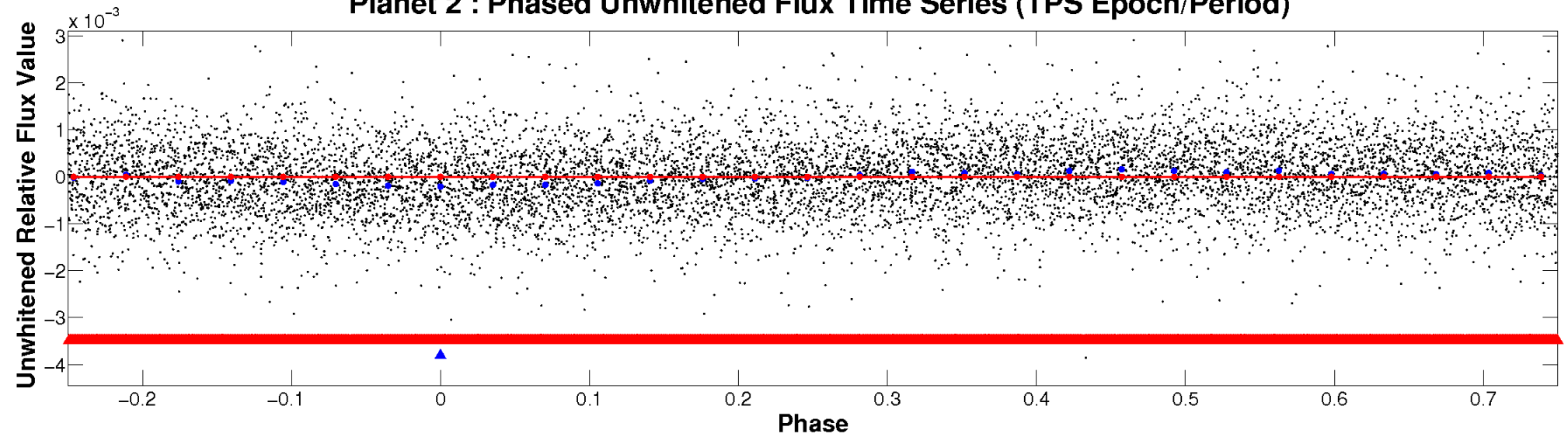
ALT Odd/Even

TCE 008247116-02



Non-Whitened Vs. Whitened Light Curve

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

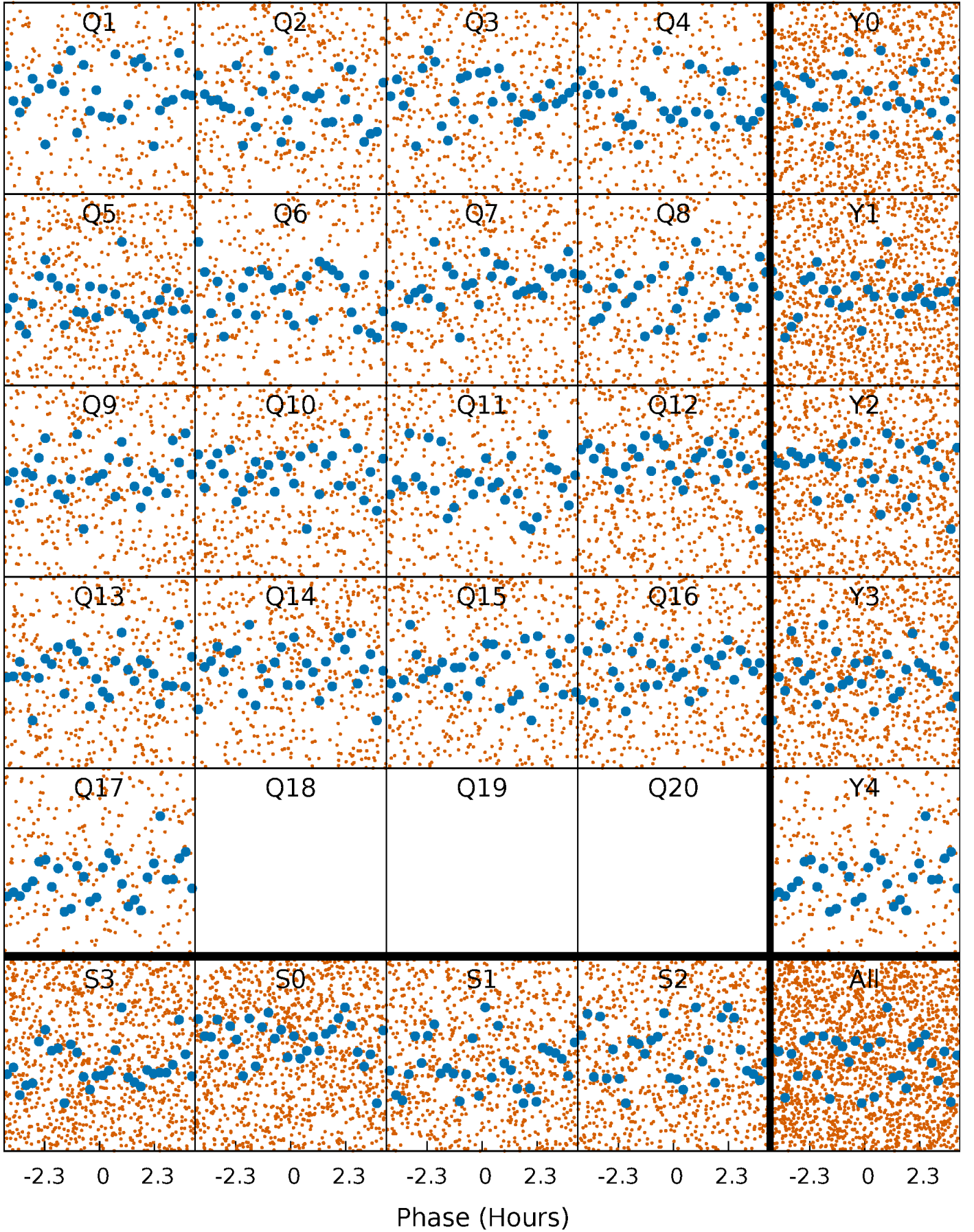


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



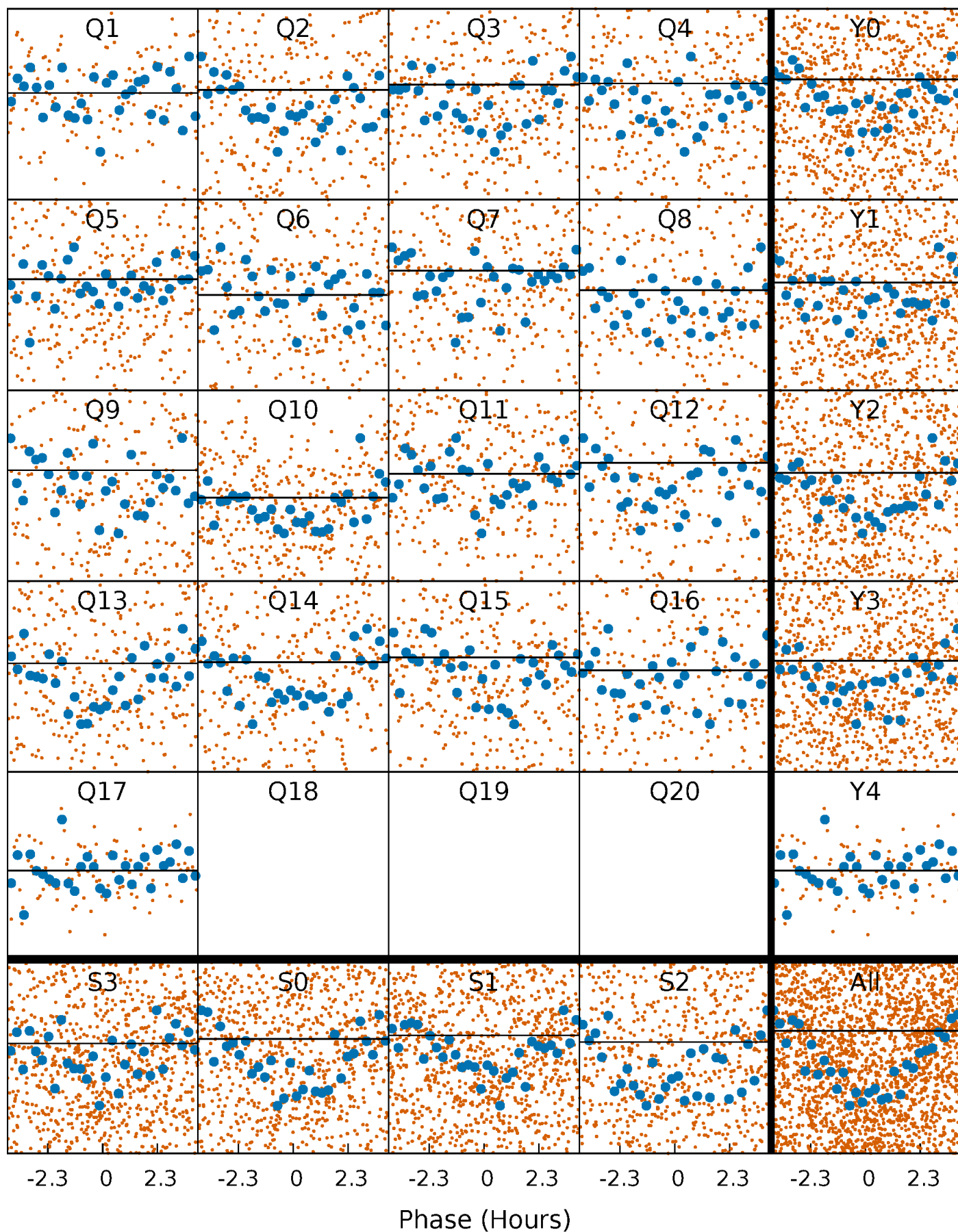
PDC Quarter-Phased Transit Curves

TCE 008247116-02 P= 0.580873 Days $T_0=131.821610$ (BKJD)



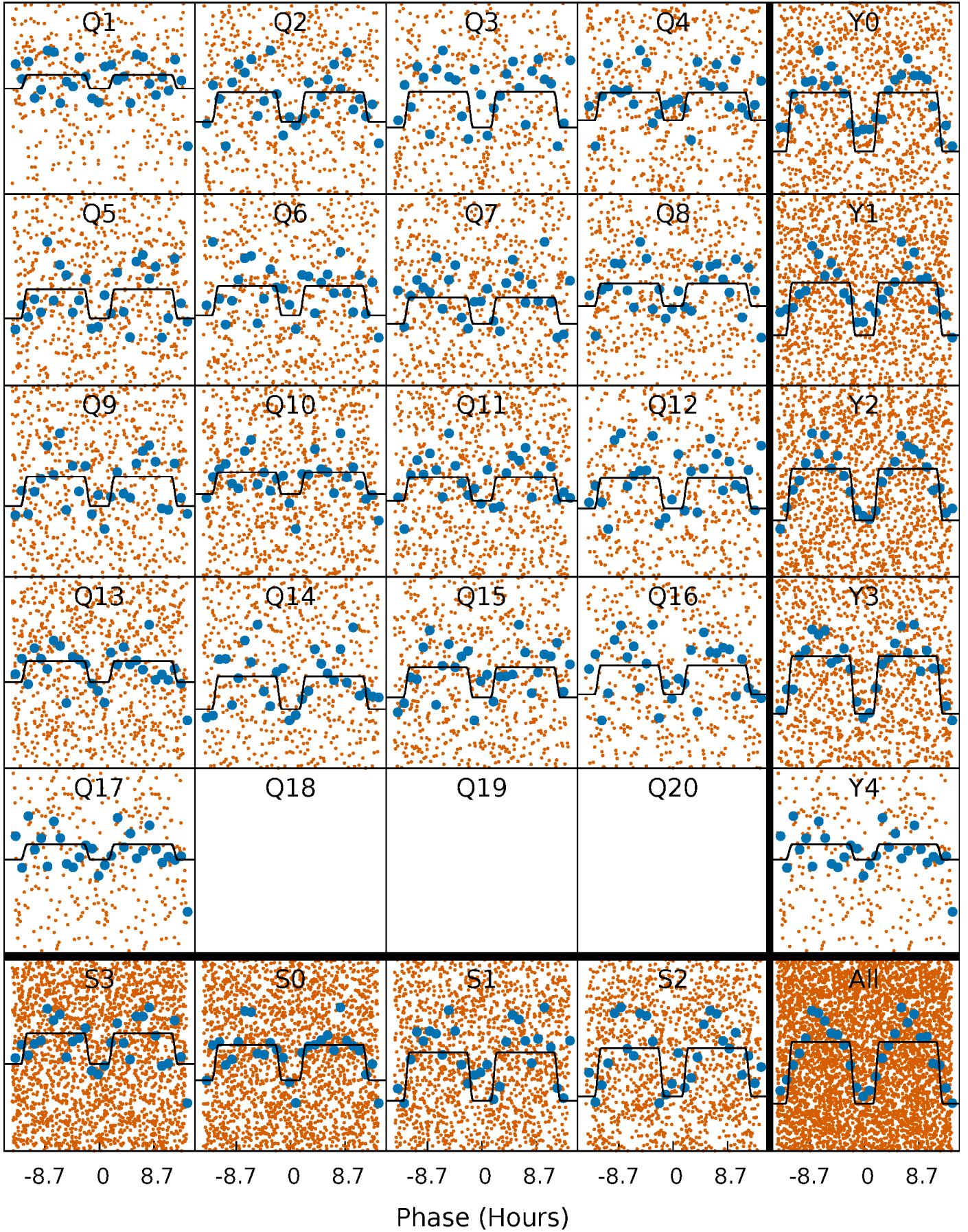
DV Quarter-Phased Transit Curves

TCE 008247116-02 P= 0.580873 Days $T_0=131.821610$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

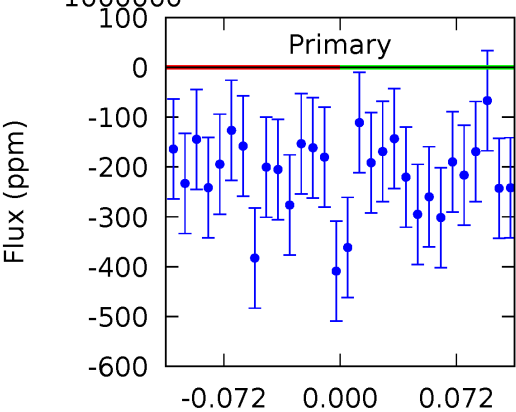
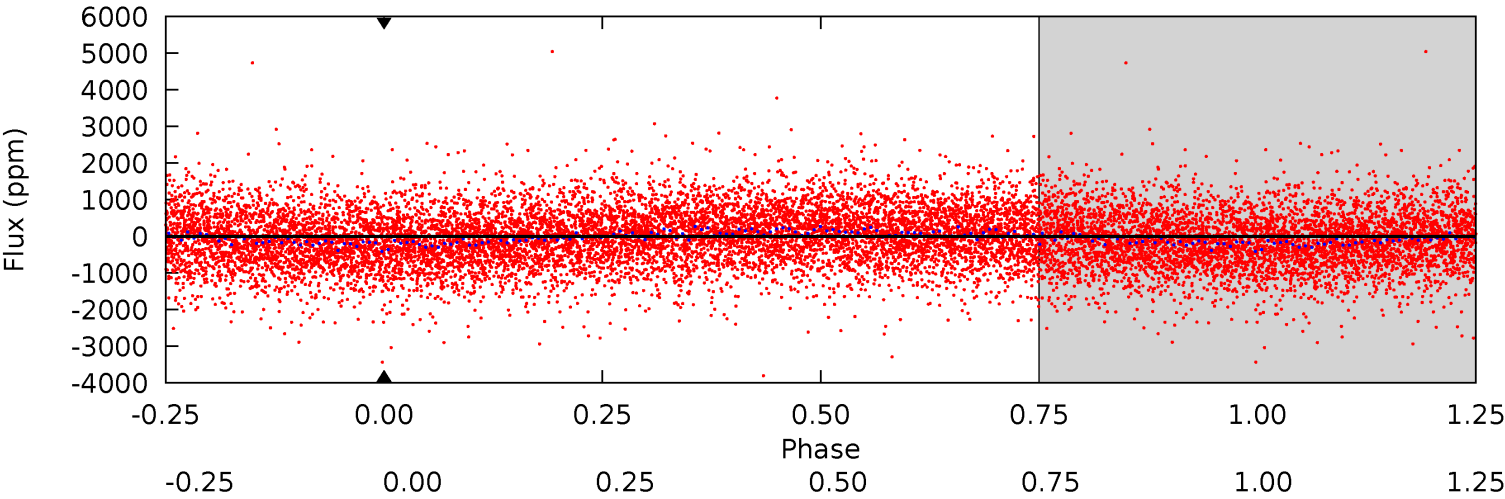
TCE 008247116-02 P= 0.580873 Days $T_0=131.823228$ (BKJD)



DV Model-Shift Uniqueness Test

008247116-02, P = 0.580873 Days, E = 131.821610 Days

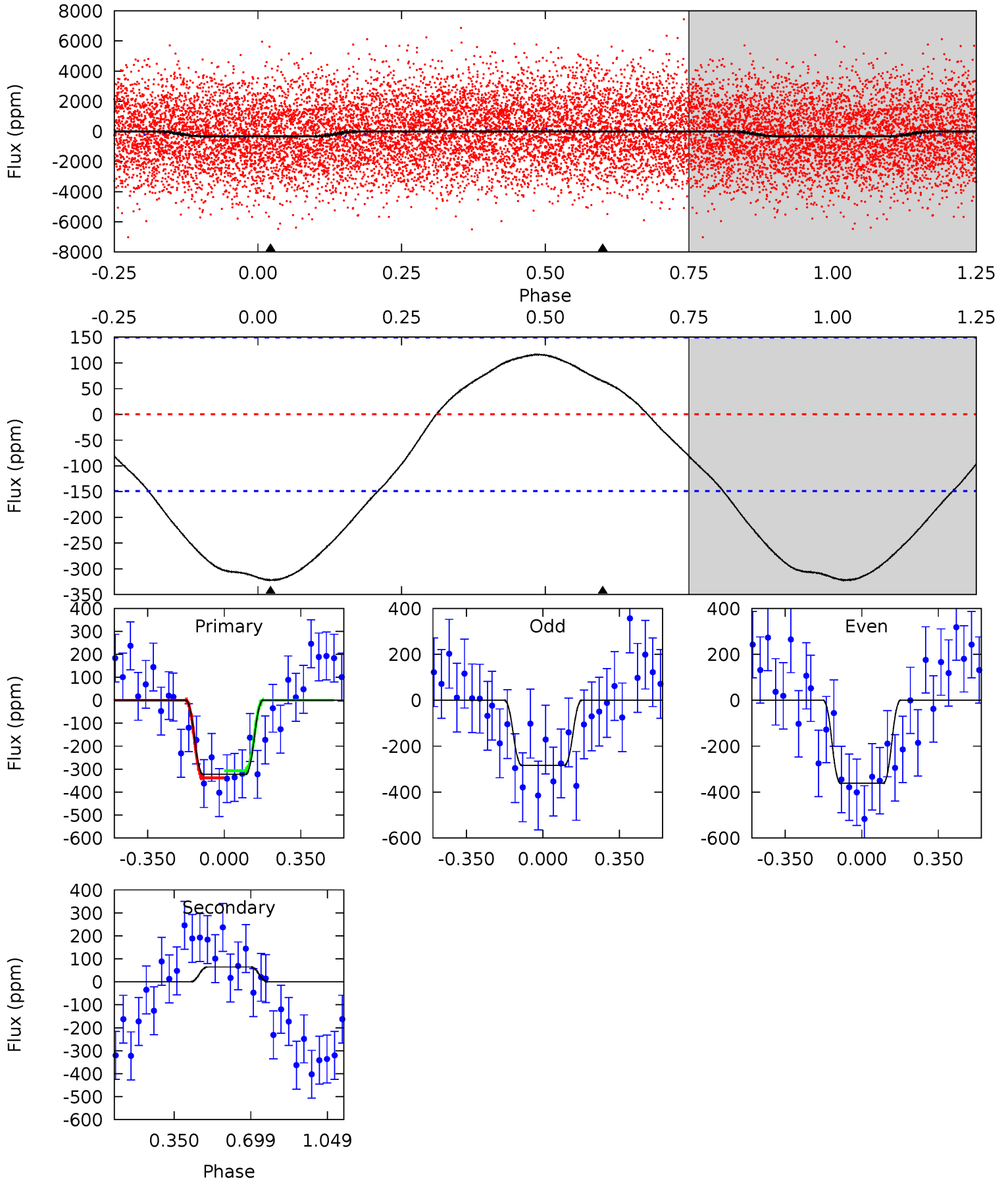
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008247116-02, $P = 0.580873$ Days, $E = 131.823228$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.29	-1.86	0	0	4.29	0.94	1.17	9.29	9.29	-1.86	-1.86	1.14	0.92	0.27	0.45



Stellar Parameters For KIC 008247116

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7219^{+228}_{-371}	$4.285^{+0.060}_{-0.240}$	$0.070^{+0.200}_{-0.350}$	$1.463^{+0.592}_{-0.185}$	$1.506^{+0.233}_{-0.211}$	$0.677^{+0.229}_{-0.397}$
	+3%/-5%	+1%/-6%	+286%/-500%	+40%/-13%	+15%/-14%	+34%/-59%
Source	PHO1	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 008247116-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.28^{+13.99}_{-8.93}$	4403^{+395}_{-302}	4169^{+29395}_{-37880}	$0.751^{+147.873}_{-141.007}$
Alt.	65 ± 35	$13.25^{+13.55}_{-9.44}$	4407^{+376}_{-267}	-4122^{+258}_{-746}	$-0.047^{+0.039}_{-0.507}$

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 $A_{obs} \gg 1.0$

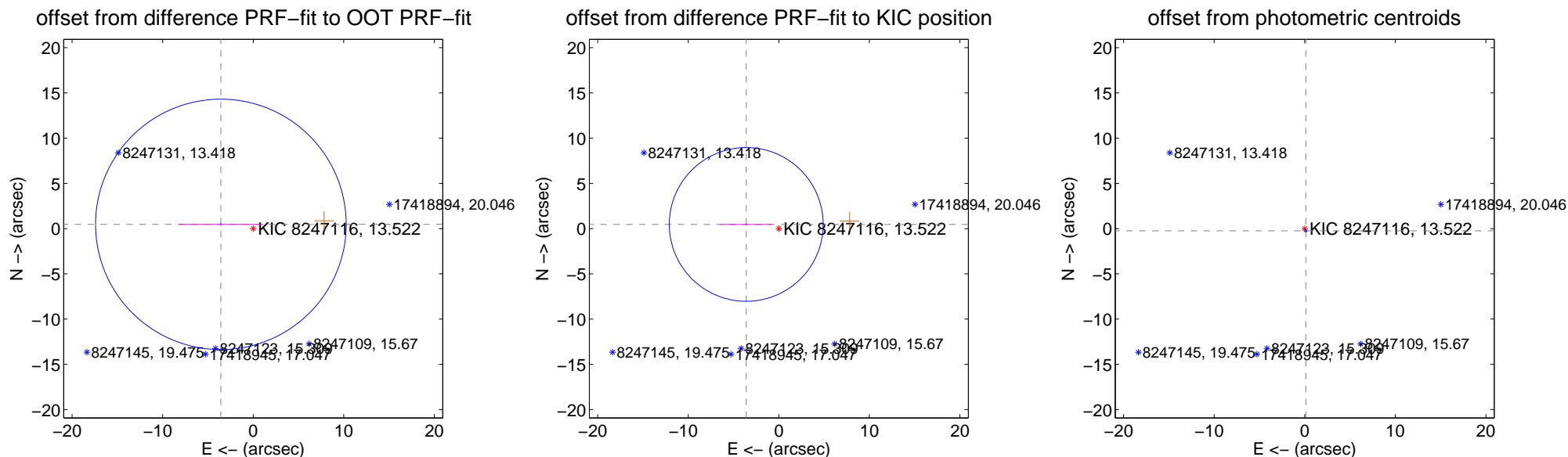
DV Centroid Data

Supplemental centroid analysis for 008247116-02. Kepler magnitude: 13.52. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

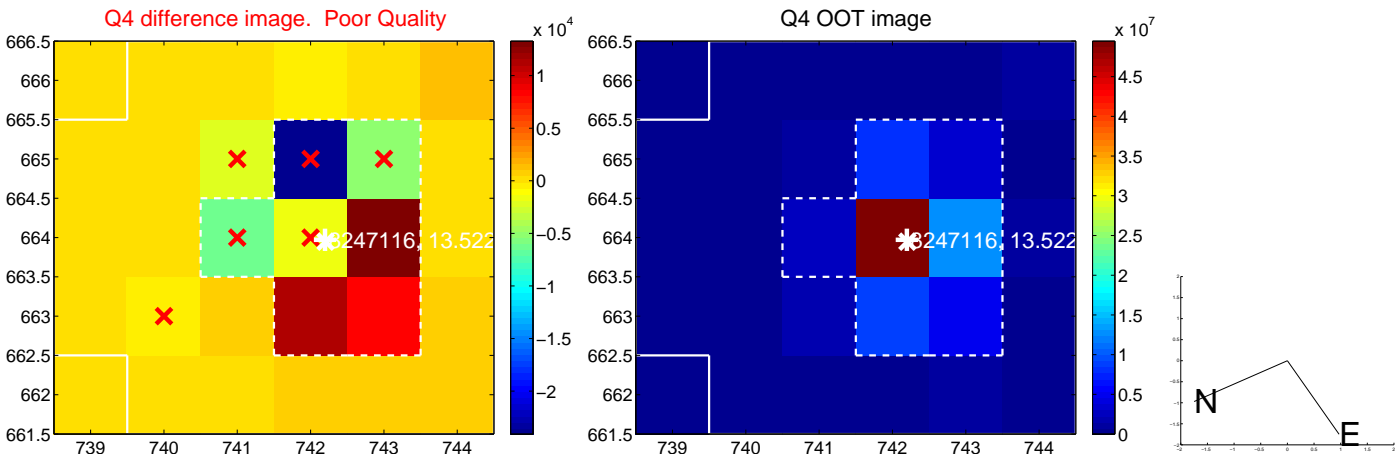
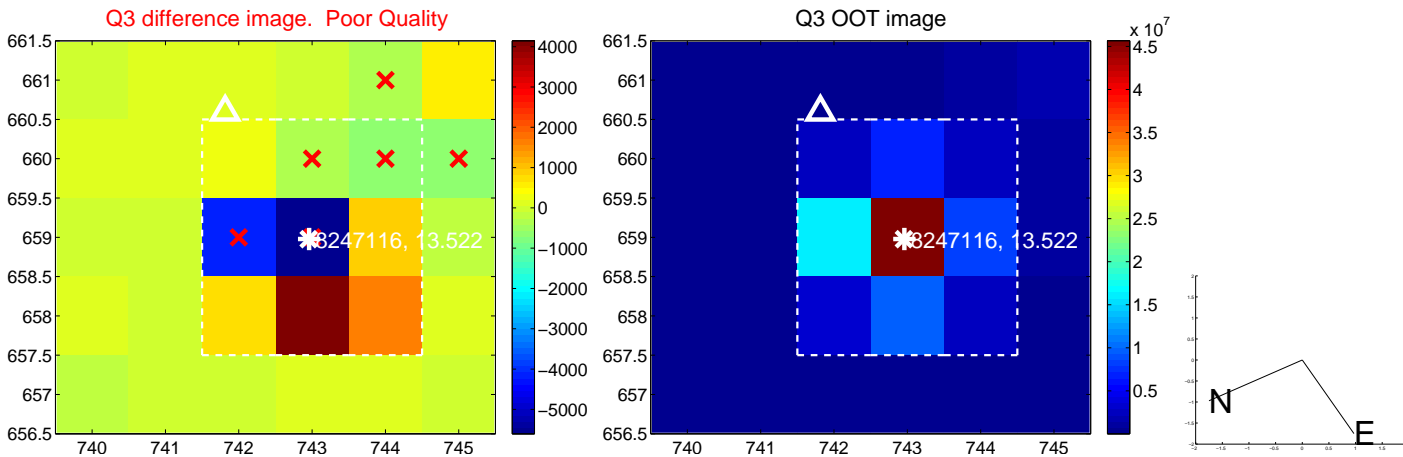
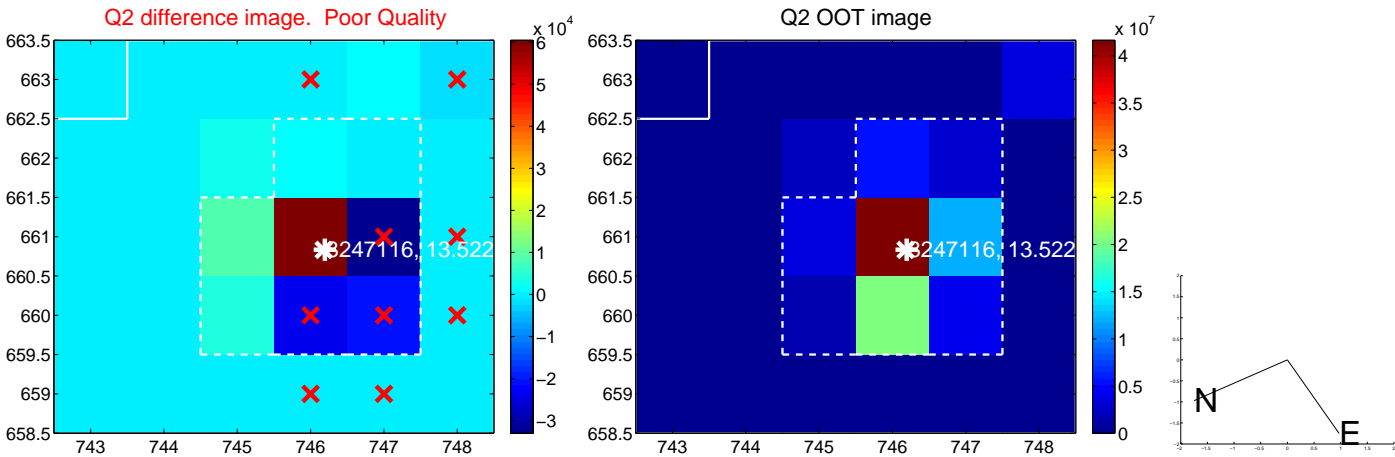
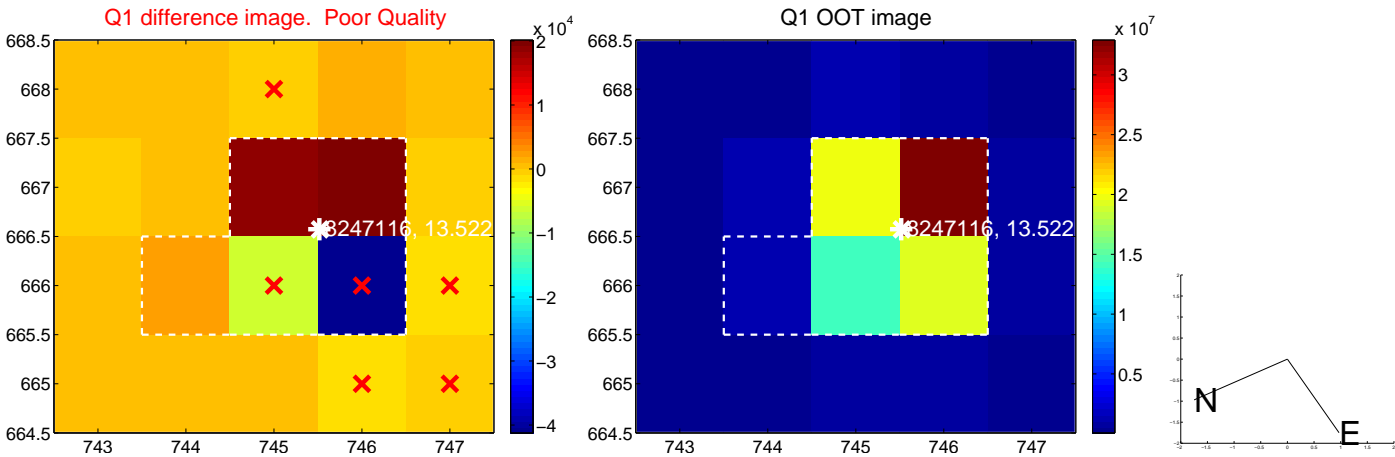
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.601 ± 4.613	0.78	3.571 ± 4.675	0.471 ± 0.177
PRF-fit source offset from KIC position	3.627 ± 2.833	1.28	3.597 ± 2.869	0.465 ± 0.116
photometric centroid source offset	0.27 ± 0.04	6.62	-0.12 ± 0.03	-0.24 ± 0.04

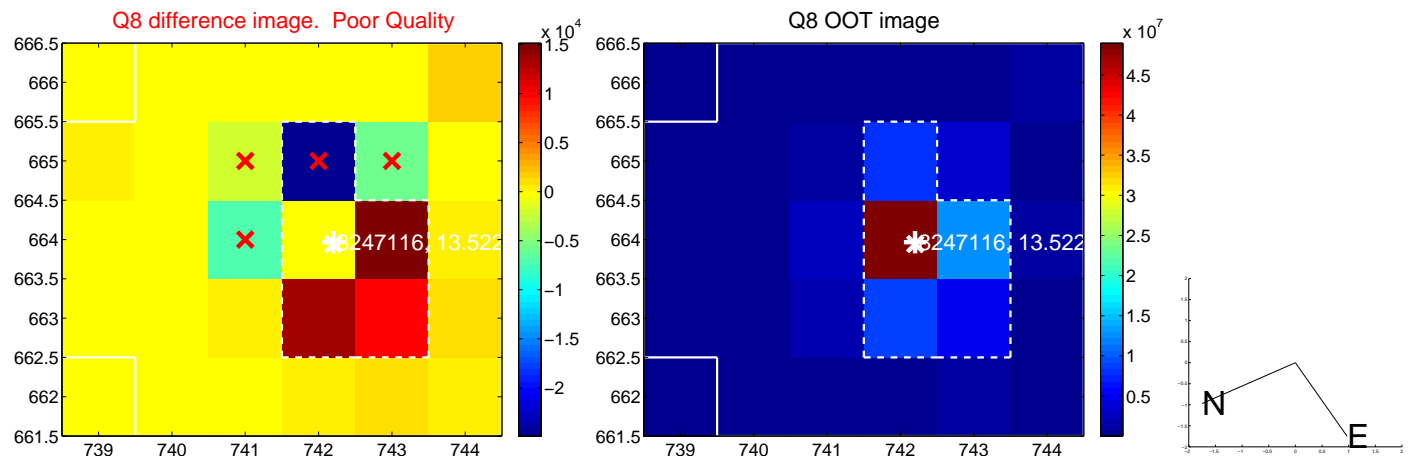
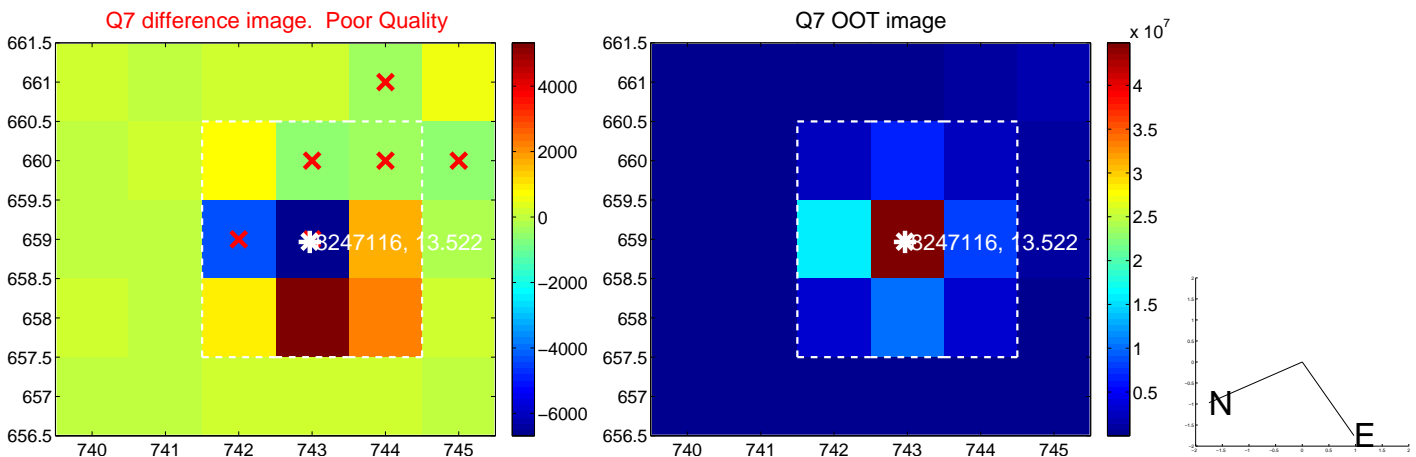
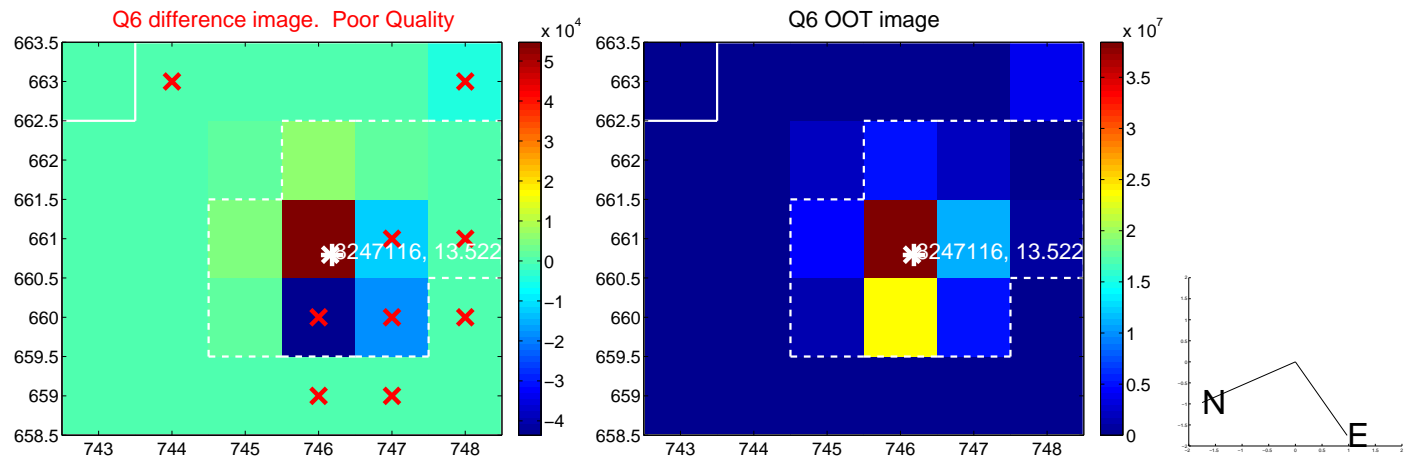
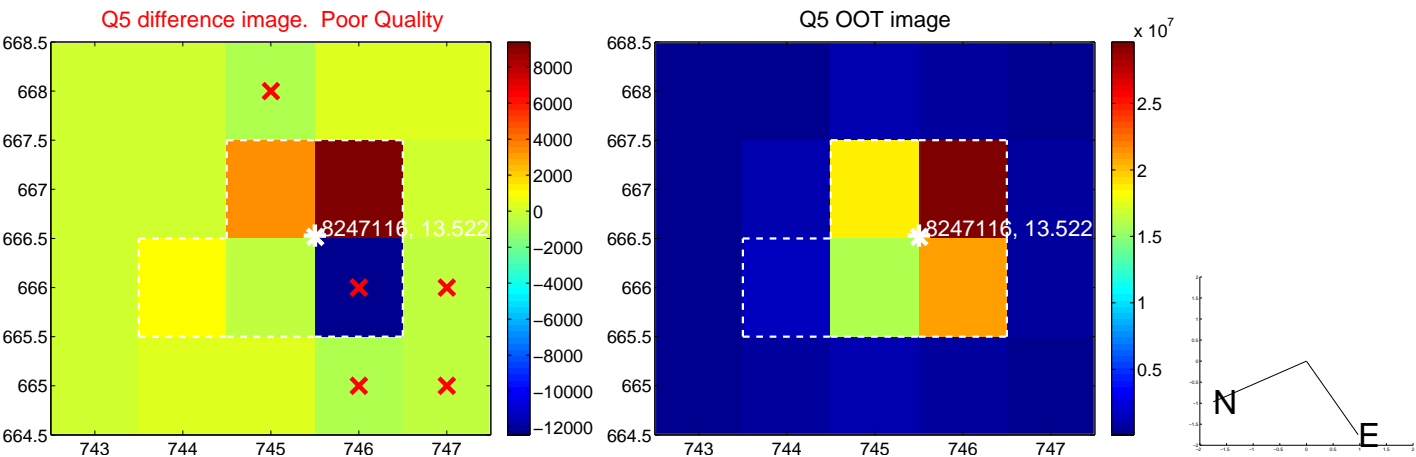


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

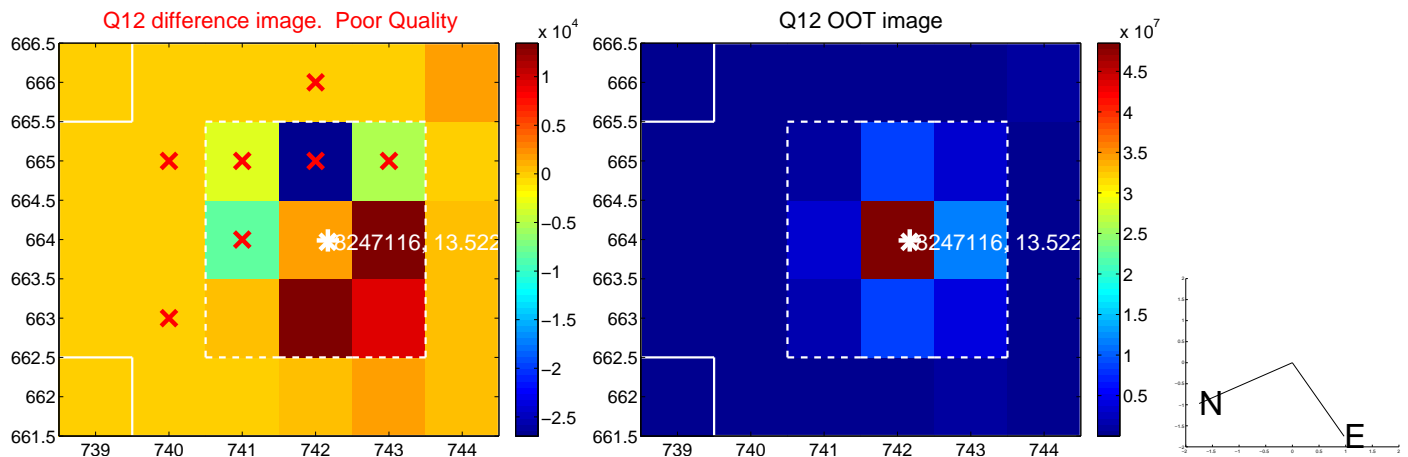
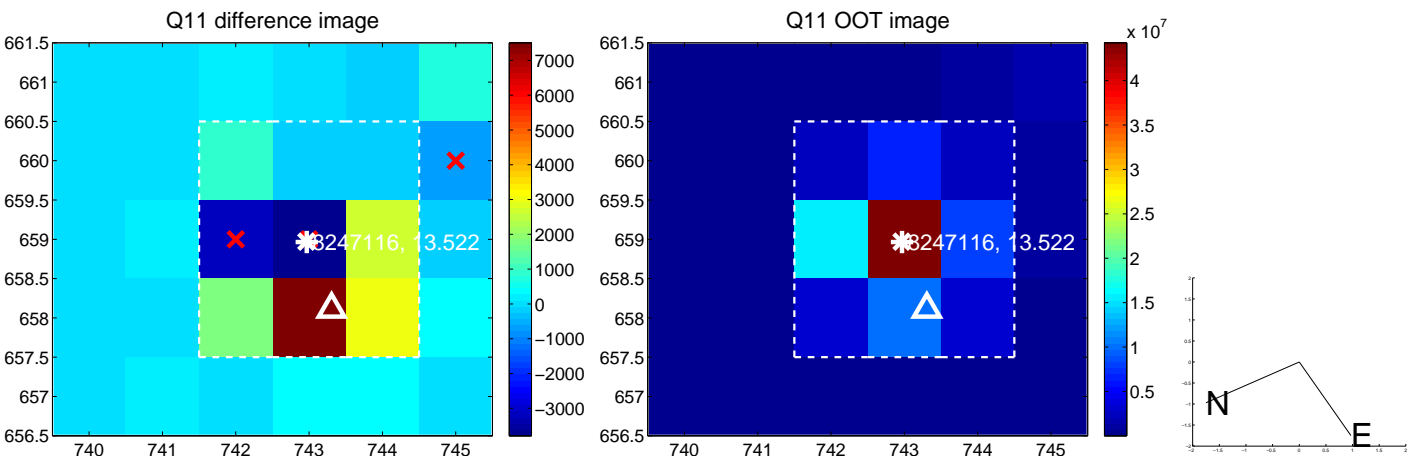
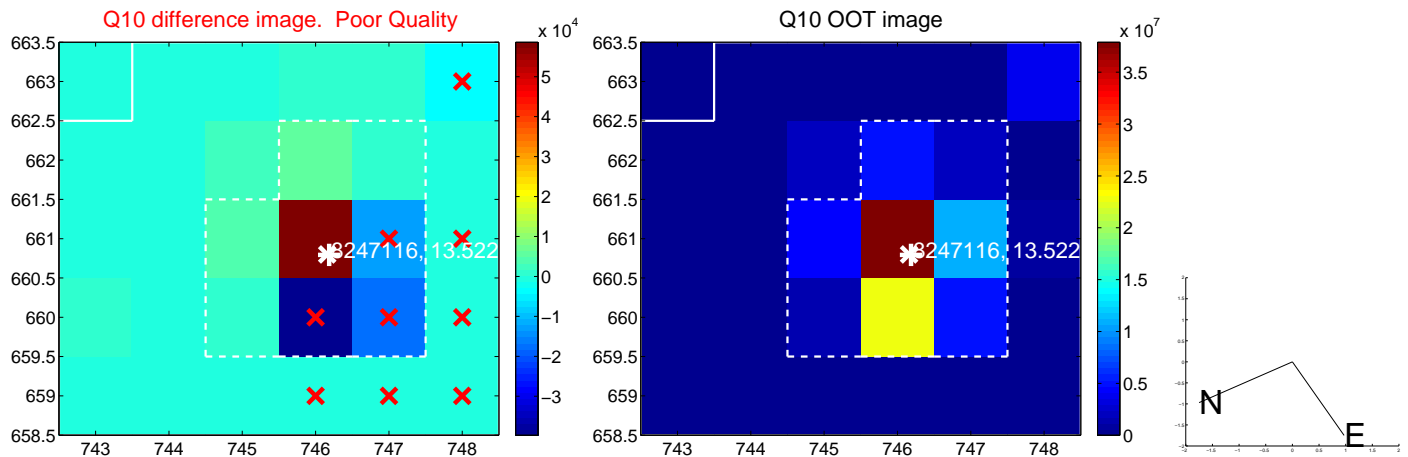
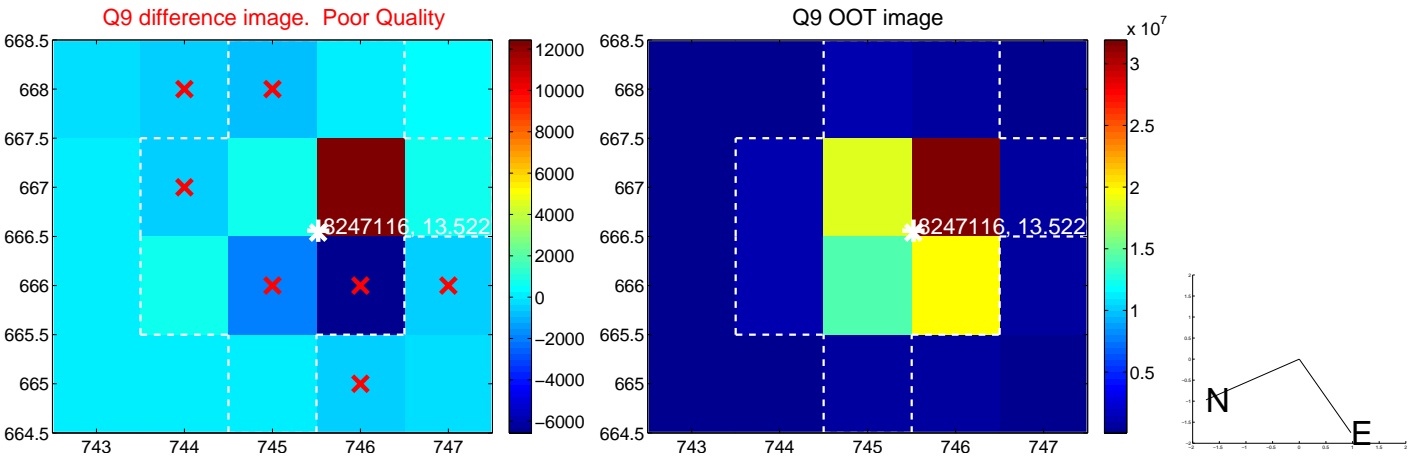
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



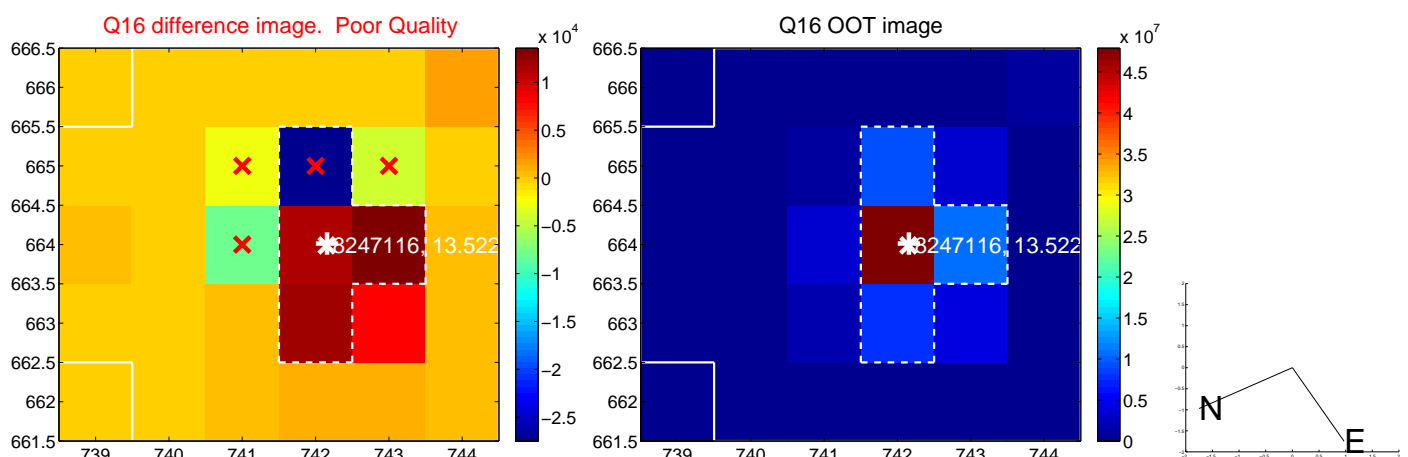
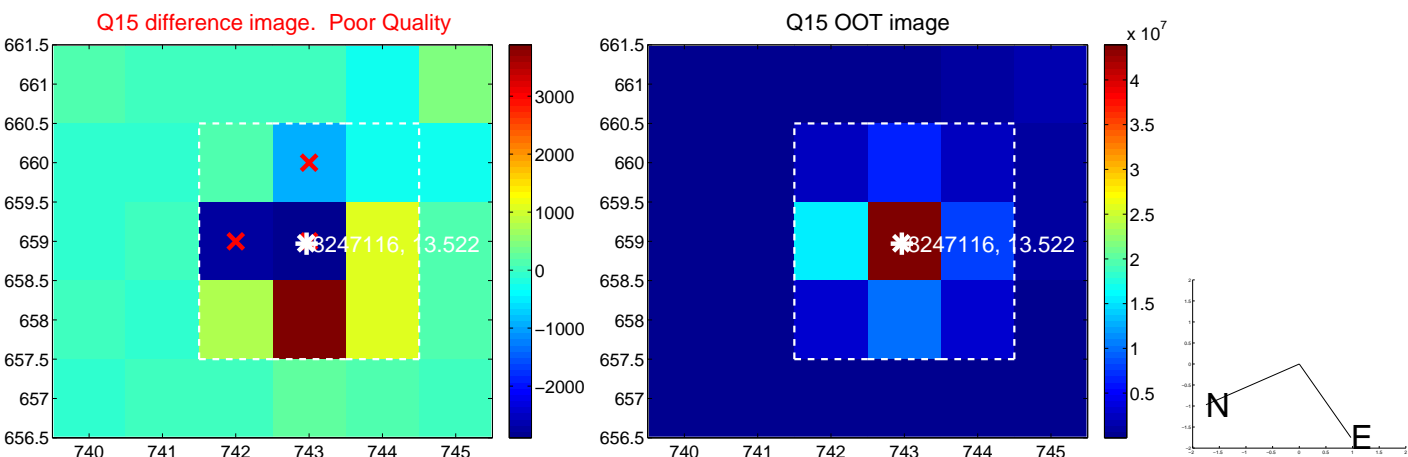
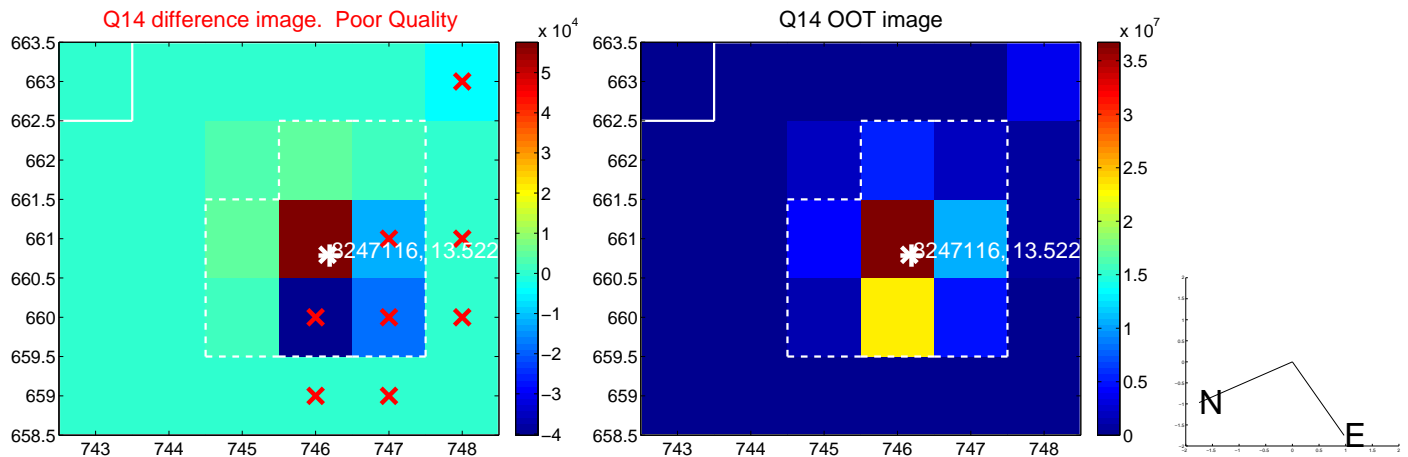
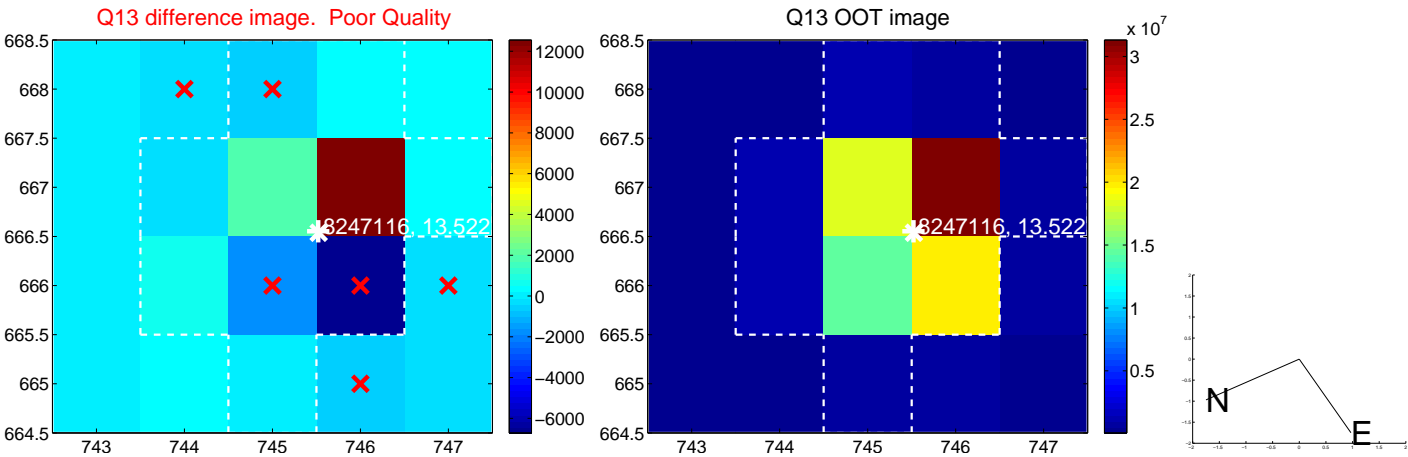
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



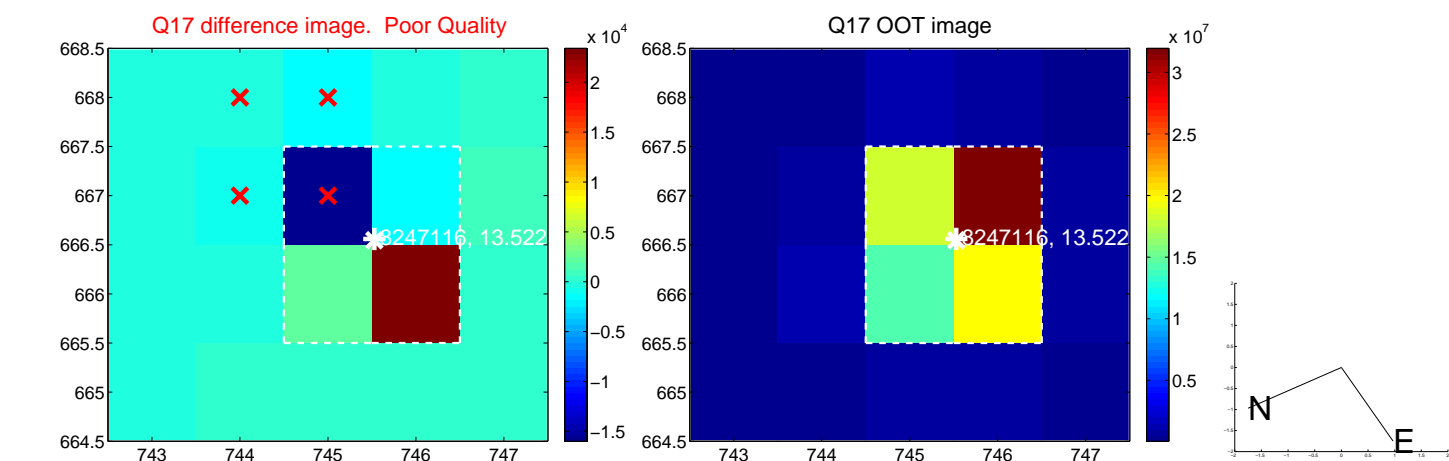
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



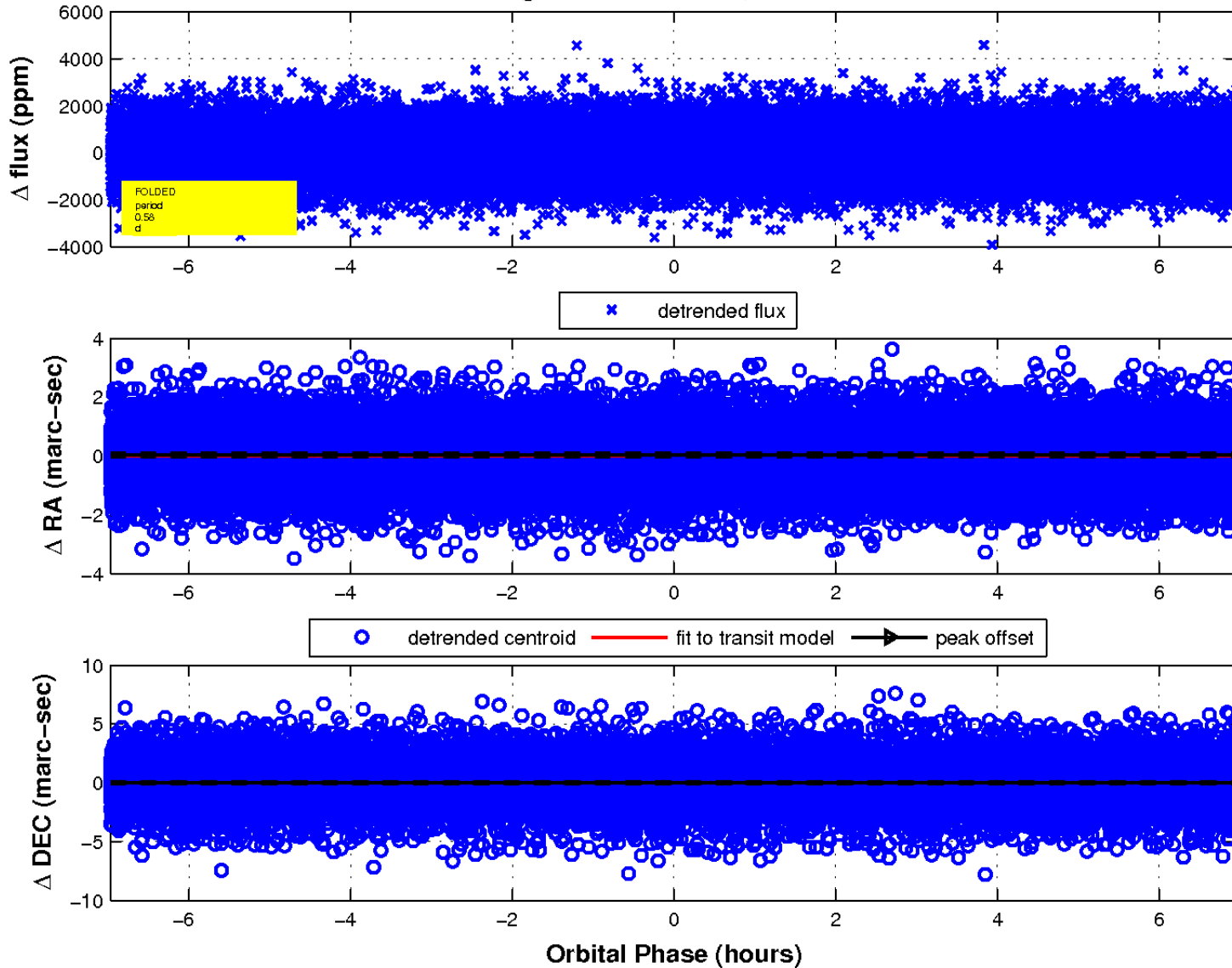
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

