

KIC 008246833

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})
008246833-01	OBS	No	0.880474	131.576769	94.9	3.295	13.1	11.3	2.17	7328	2.45	28074.99
008246833-02	OBS	No	1.234643	131.518406	249.1	14.816	11.2	24.3	2.17	7328	4.31	17887.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008246833-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008246833-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

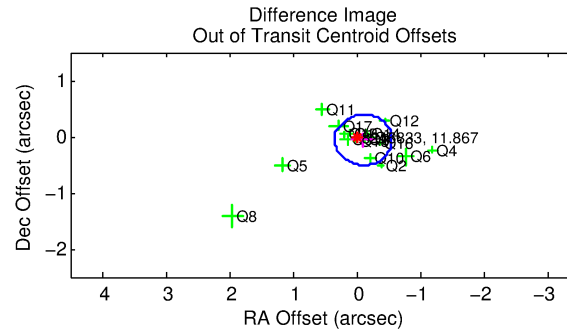
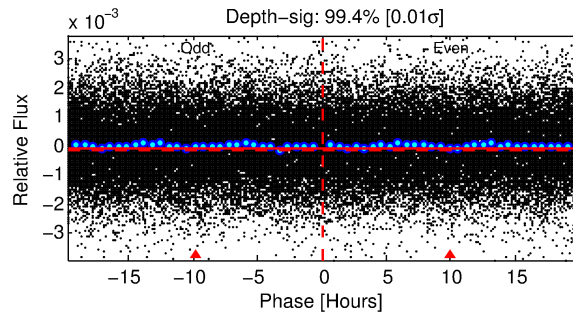
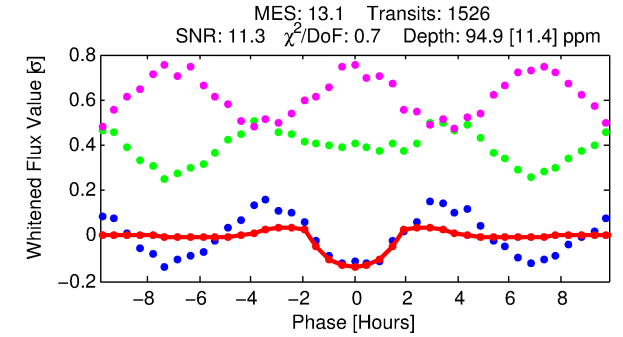
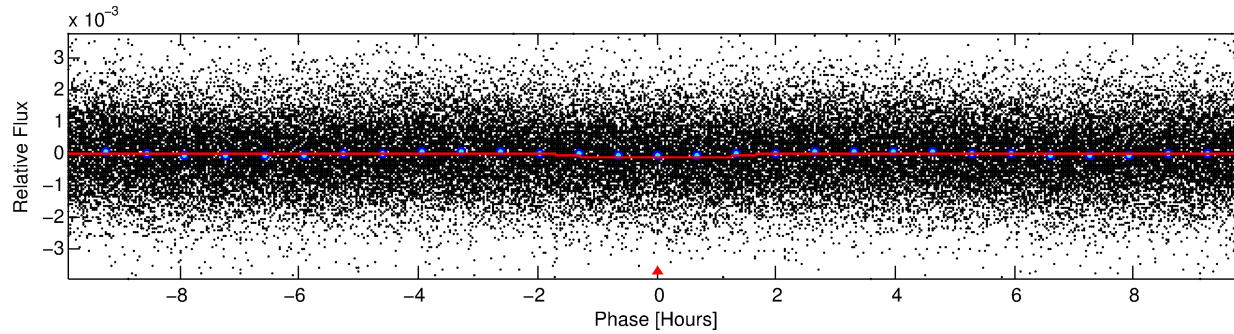
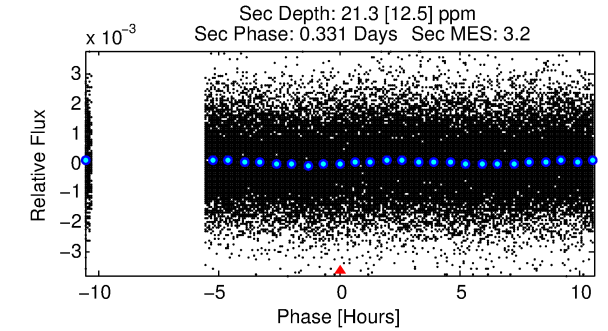
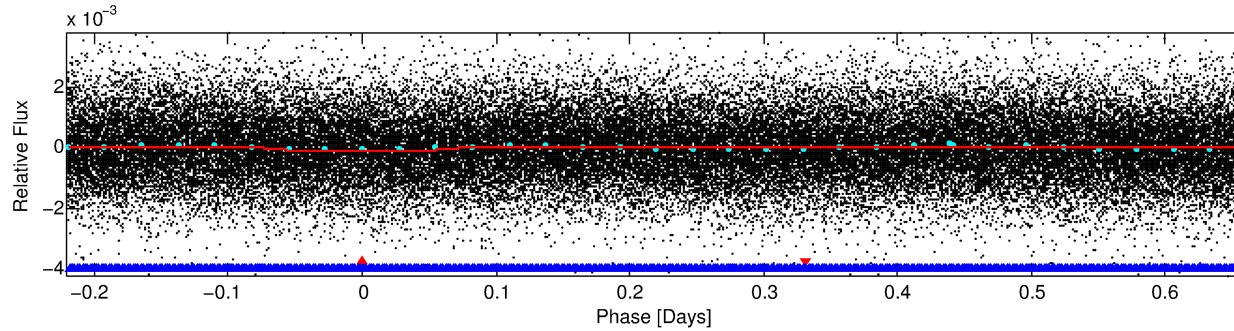
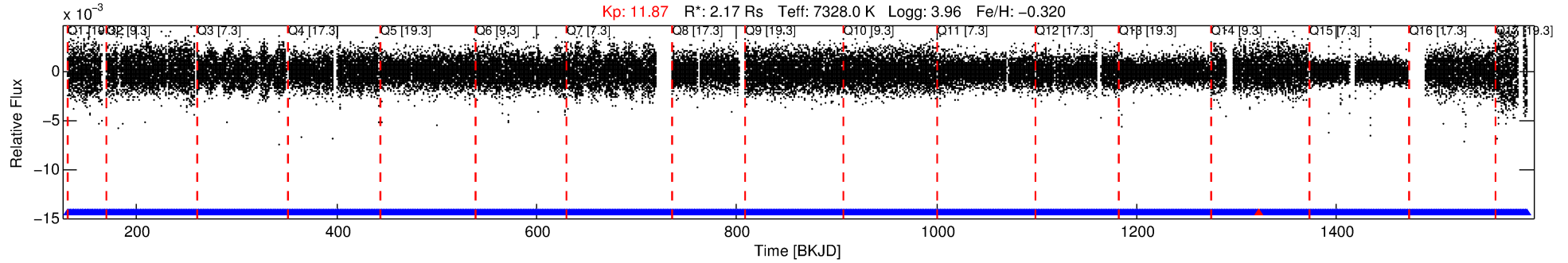
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008246833-01

No Significant Match Found

DV One-Page Summary

KIC: 8246833 Candidate: 1 of 2 Period: 0.880 d



DV Fit Results:

Period = 0.88047 [0.00001] d
Epoch = 131.5768 [0.0034] BKJD
Rp/R* = 0.0104 [0.0058]
a/R* = 1.33 [2.00]
b = 0.90 [0.75]
Seff = 28074.99 [14854.53]
Teq = 3301 [437] K
Rp = 2.45 [1.63] Re
a = 0.0208 [0.0068] AU
Ag = 0.85 [1.15] [-0.14σ]
Teffp = 4893 [1553] K [0.99σ]

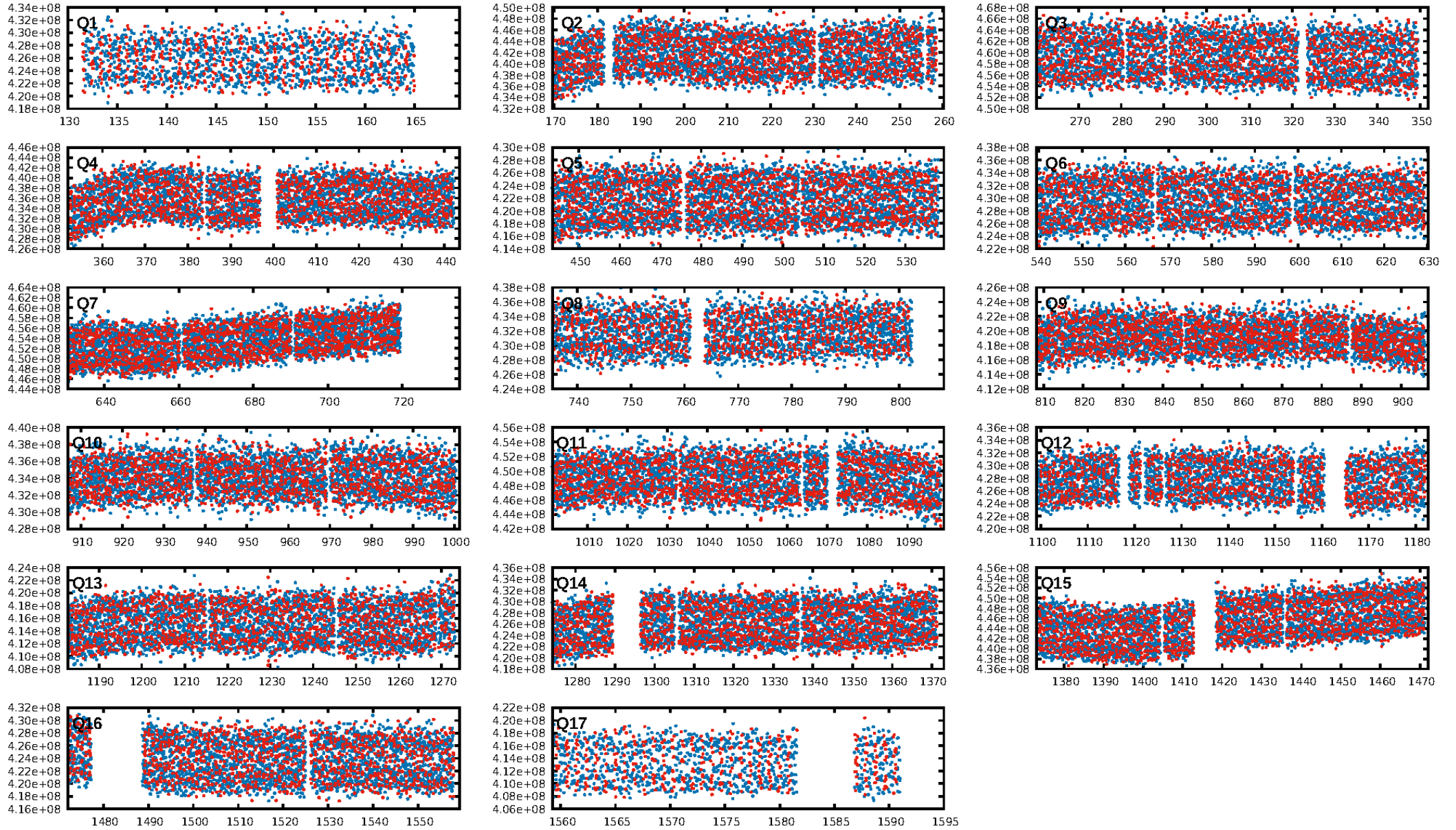
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 42.5% [0.56σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1456/1457]
GhostDiagnostic-chr: 0.9148
Centroid-sig: 78.0%
Centroid-so: 0.111 arcsec [1.34σ]
OotOffset-rm: 0.123 arcsec [0.82σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.169 arcsec [0.96σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 0.00 [0/17]

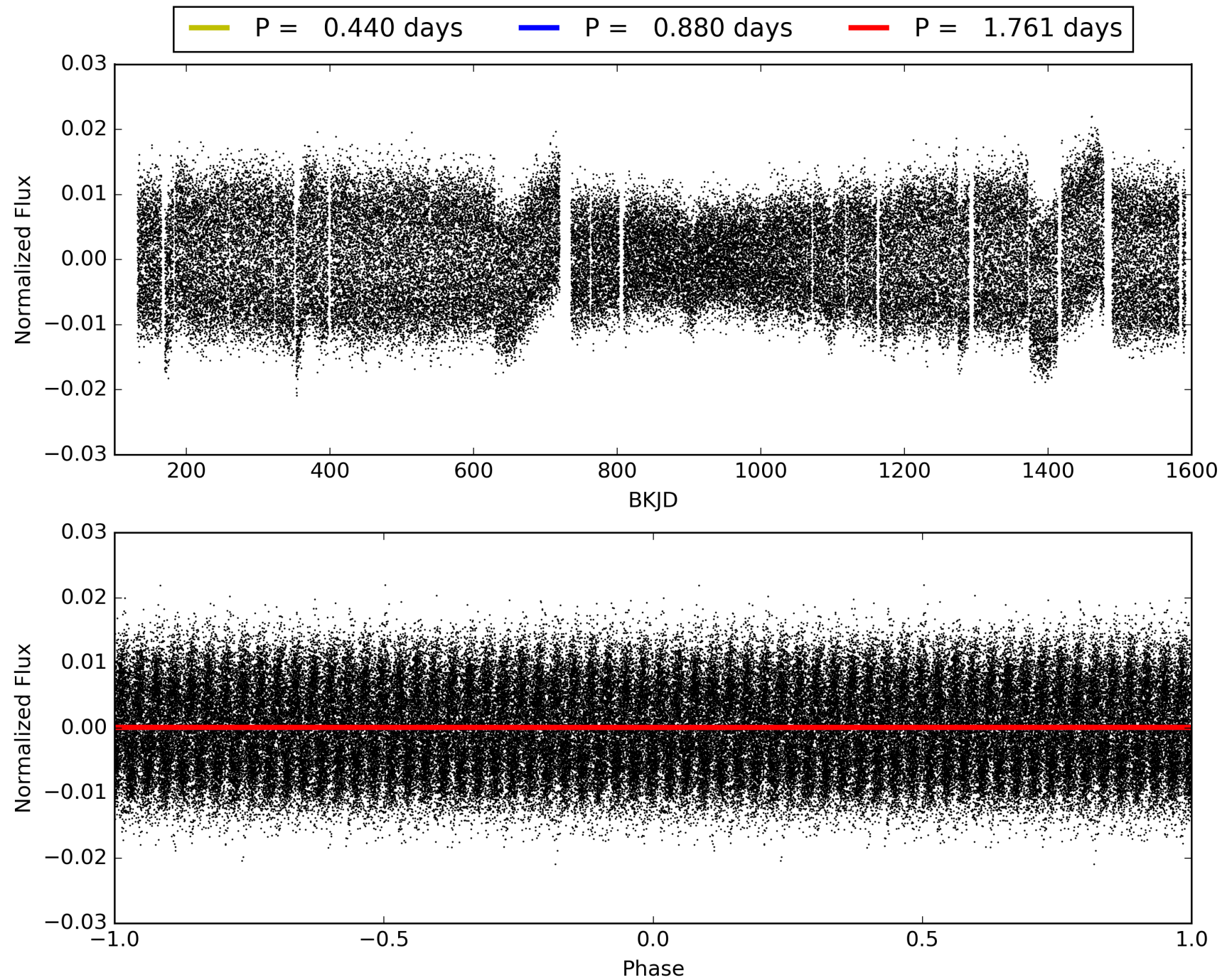
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:10:33 Z

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

TCE 008246833-01, PDC Light Curves

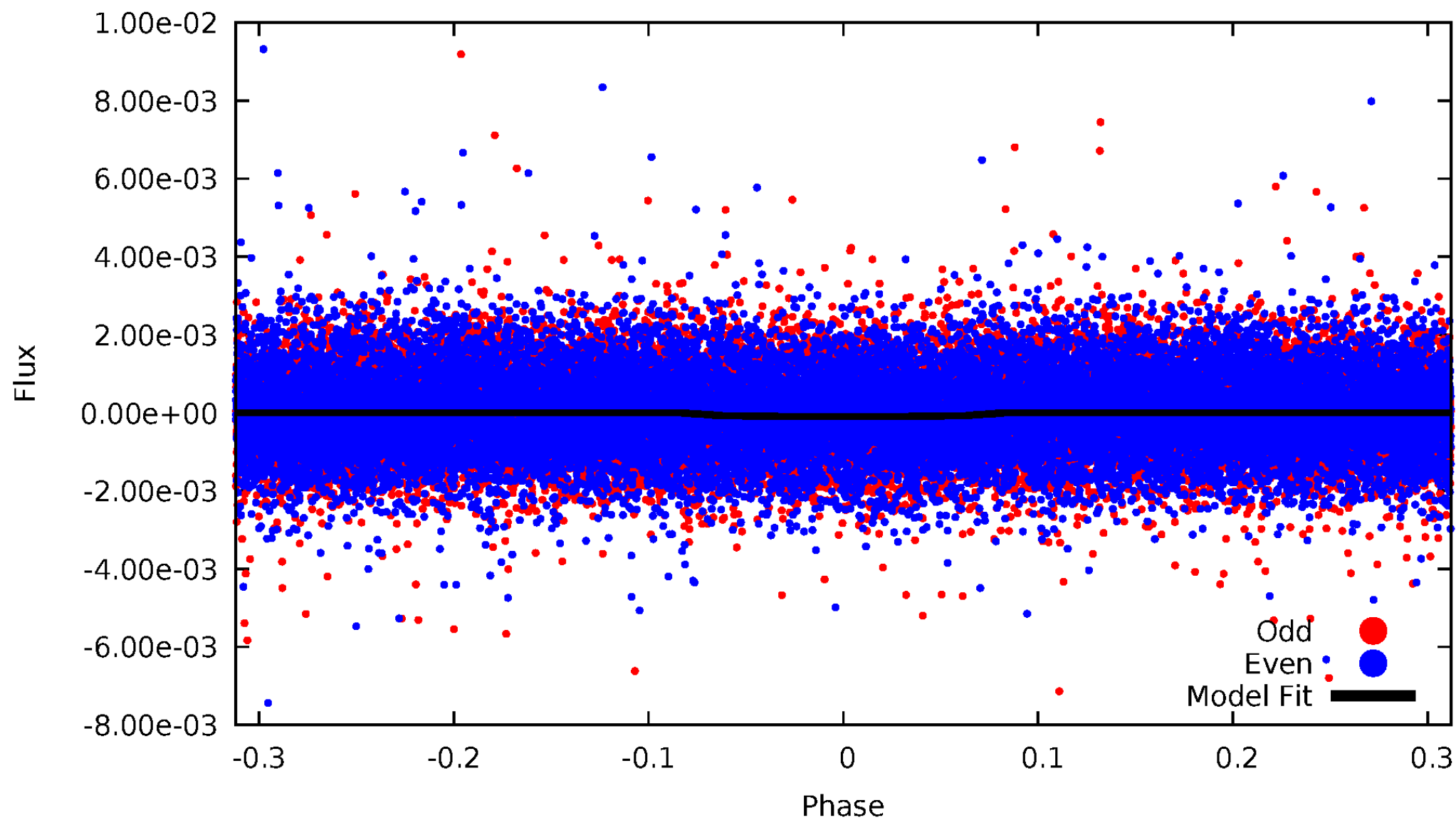


TCE 008246833-01



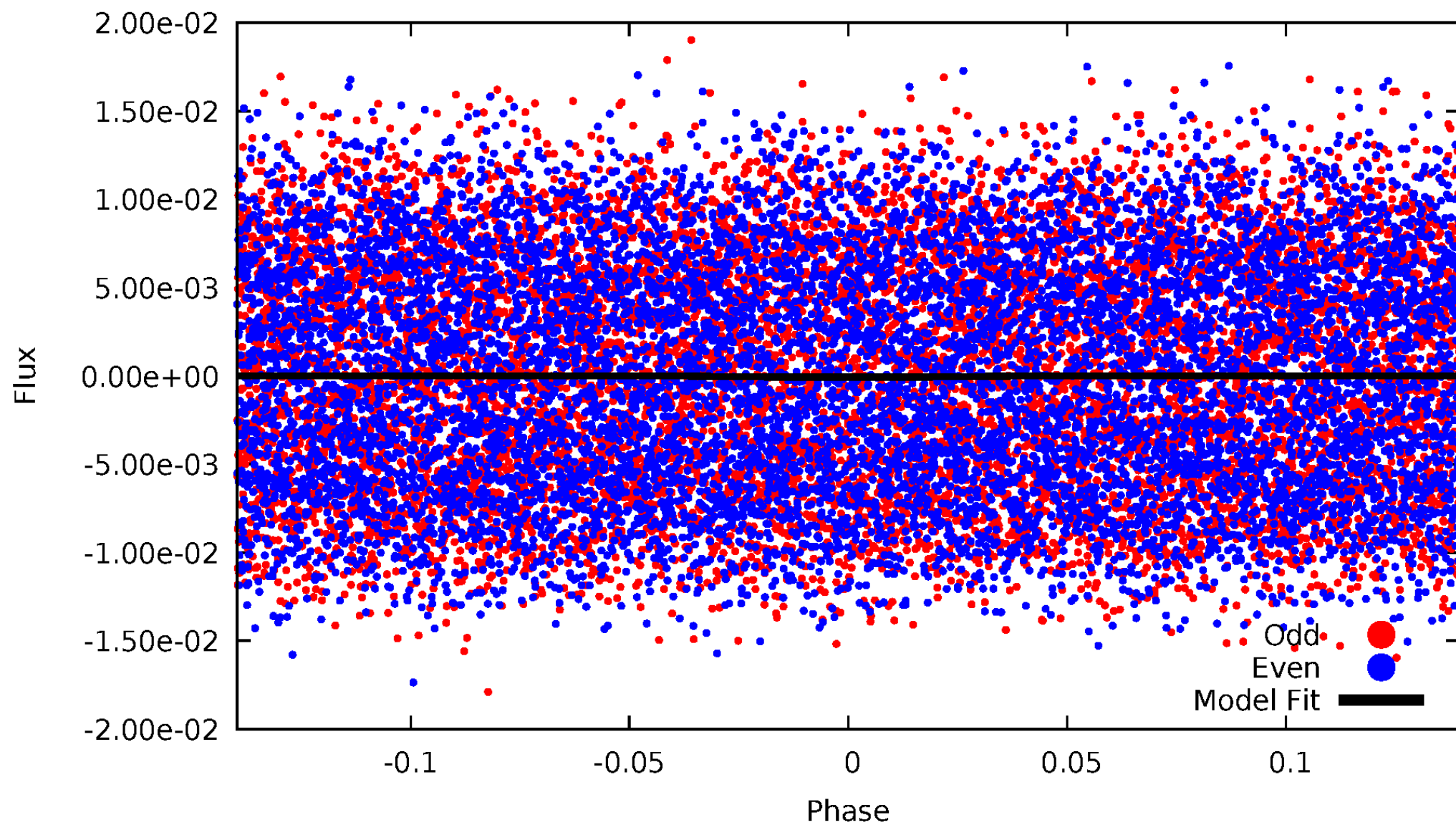
DV Odd/Even

TCE 008246833-01



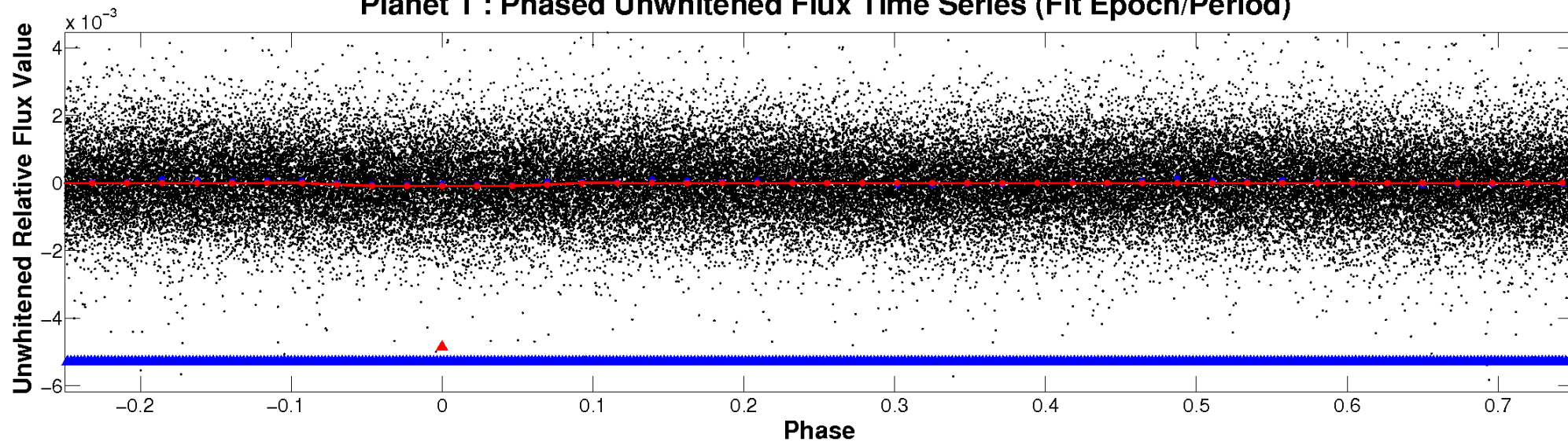
ALT Odd/Even

TCE 008246833-01

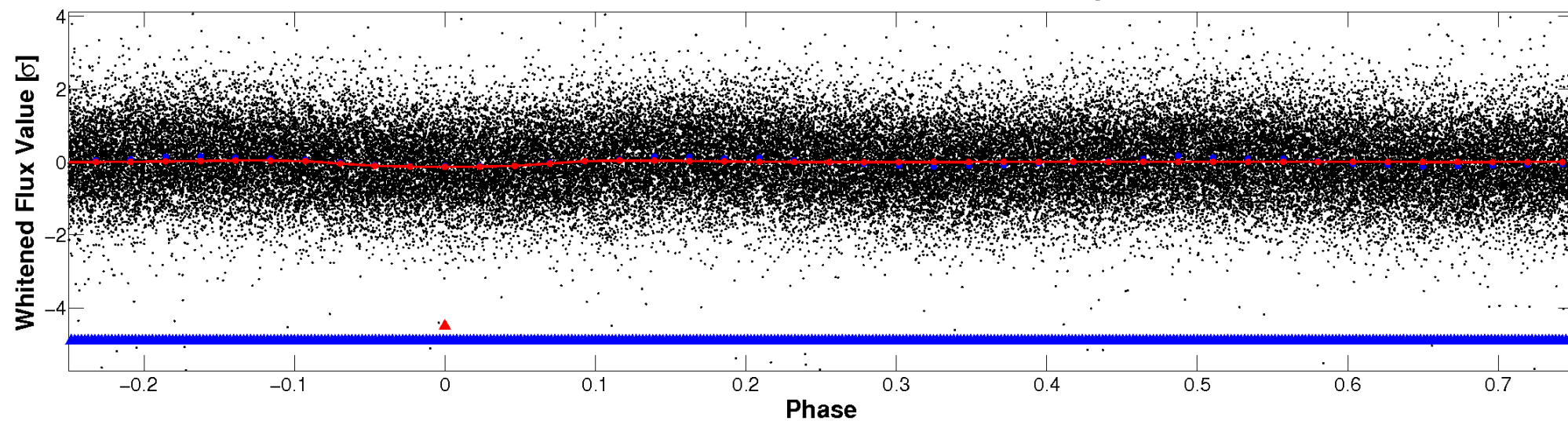


Non-Whitened Vs. Whitened Light Curve

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

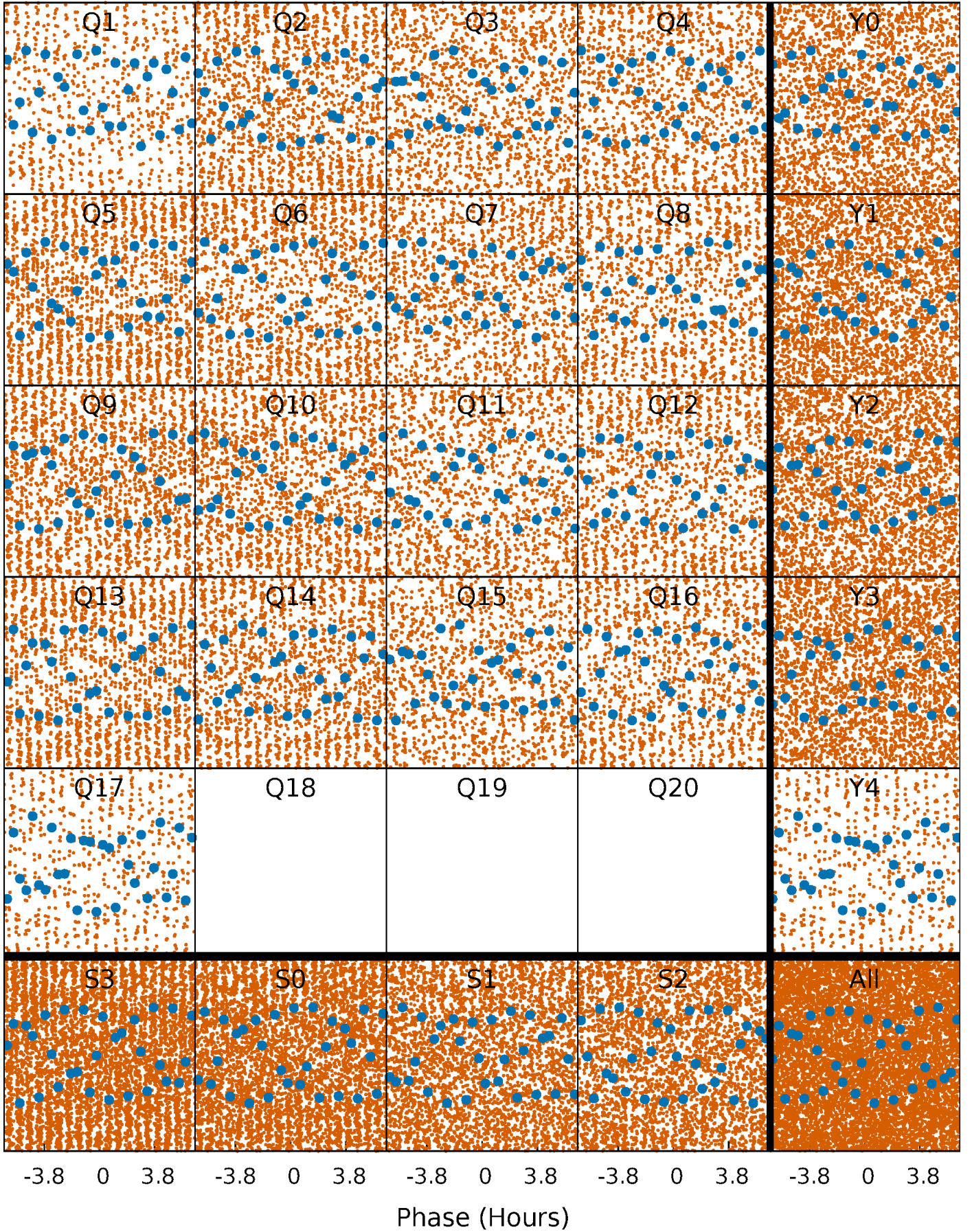


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



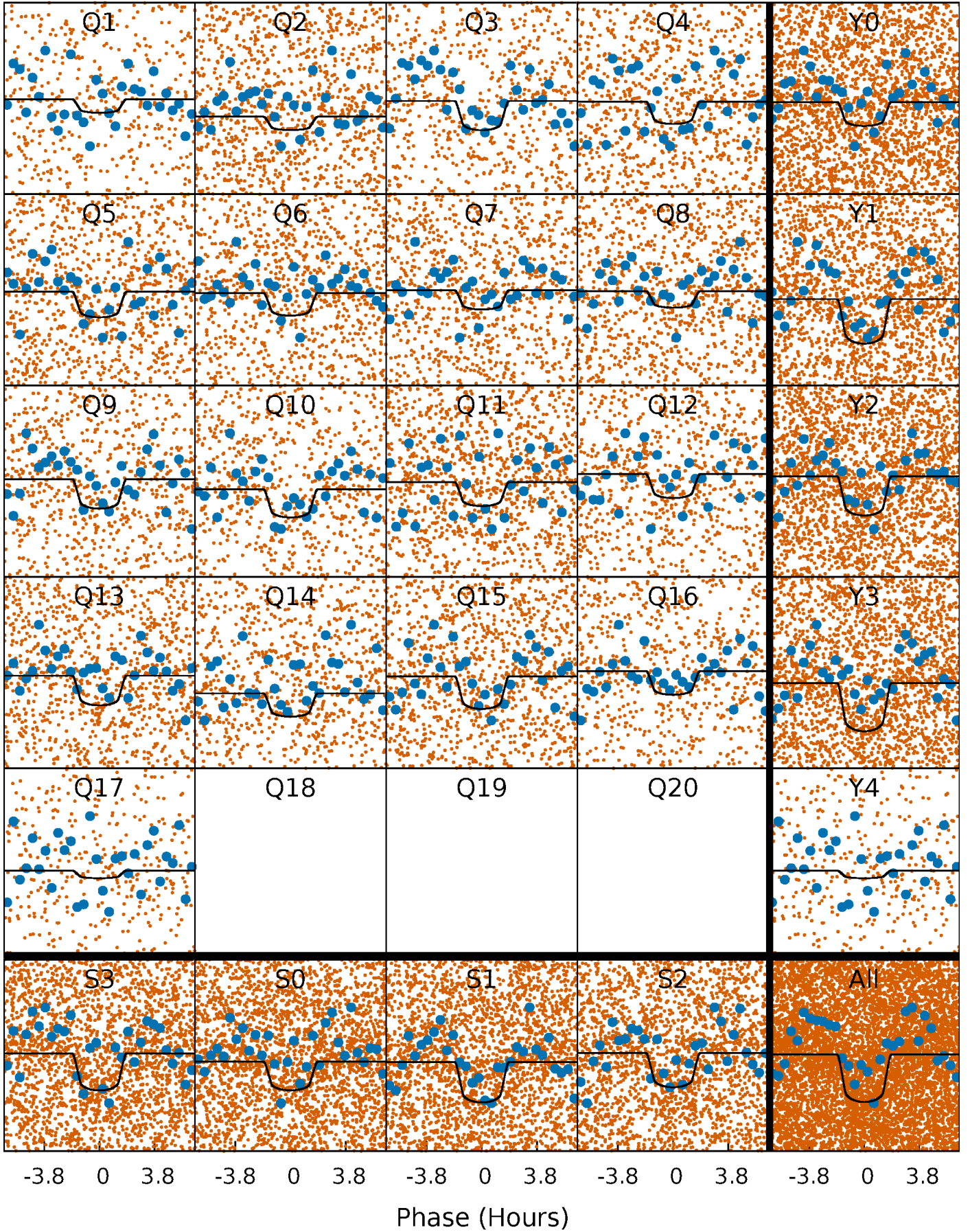
PDC Quarter-Phased Transit Curves

TCE 008246833-01 P= 0.880474 Days $T_0=131.576769$ (BKJD)



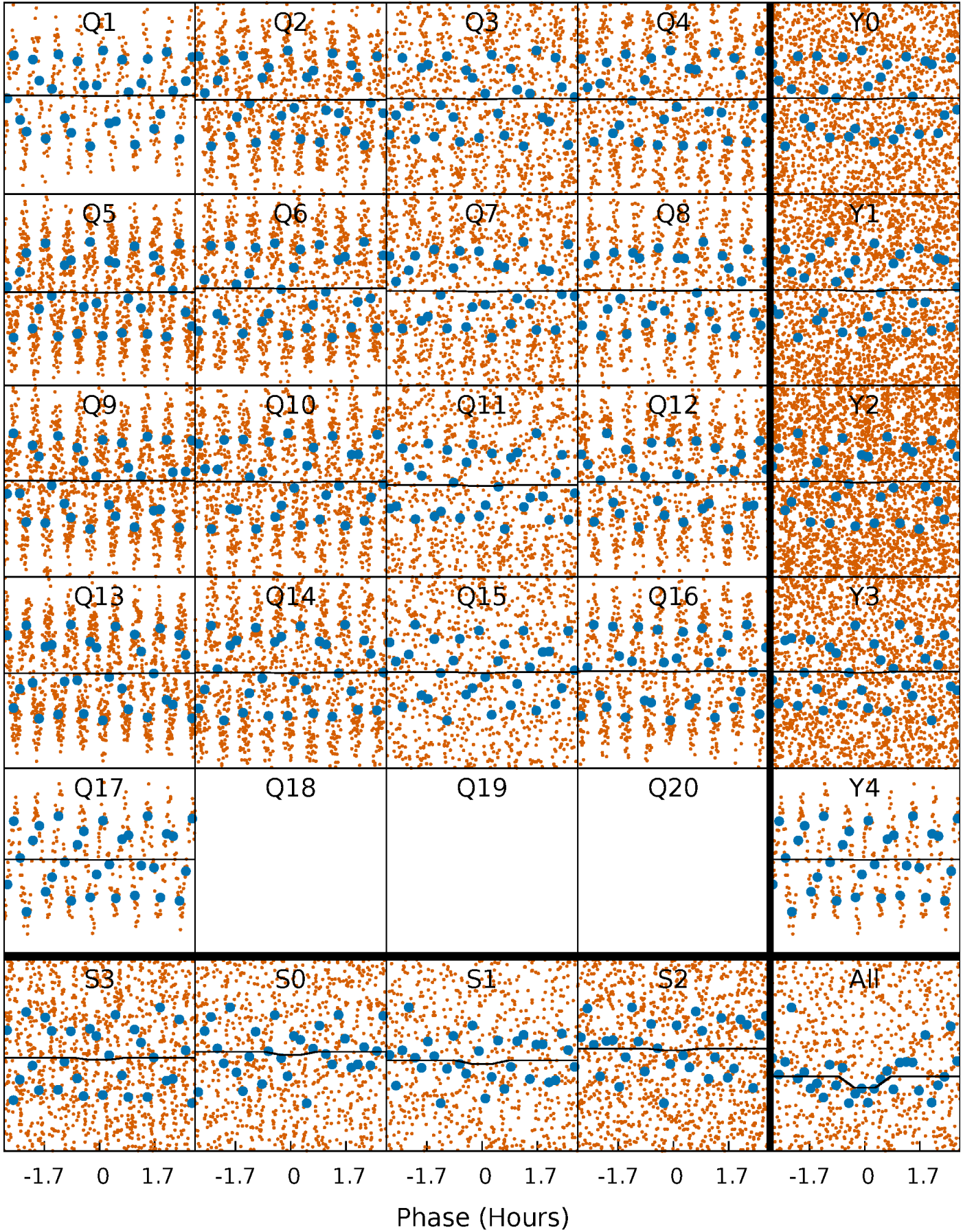
DV Quarter-Phased Transit Curves

TCE 008246833-01 P= 0.880474 Days $T_0=131.576769$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

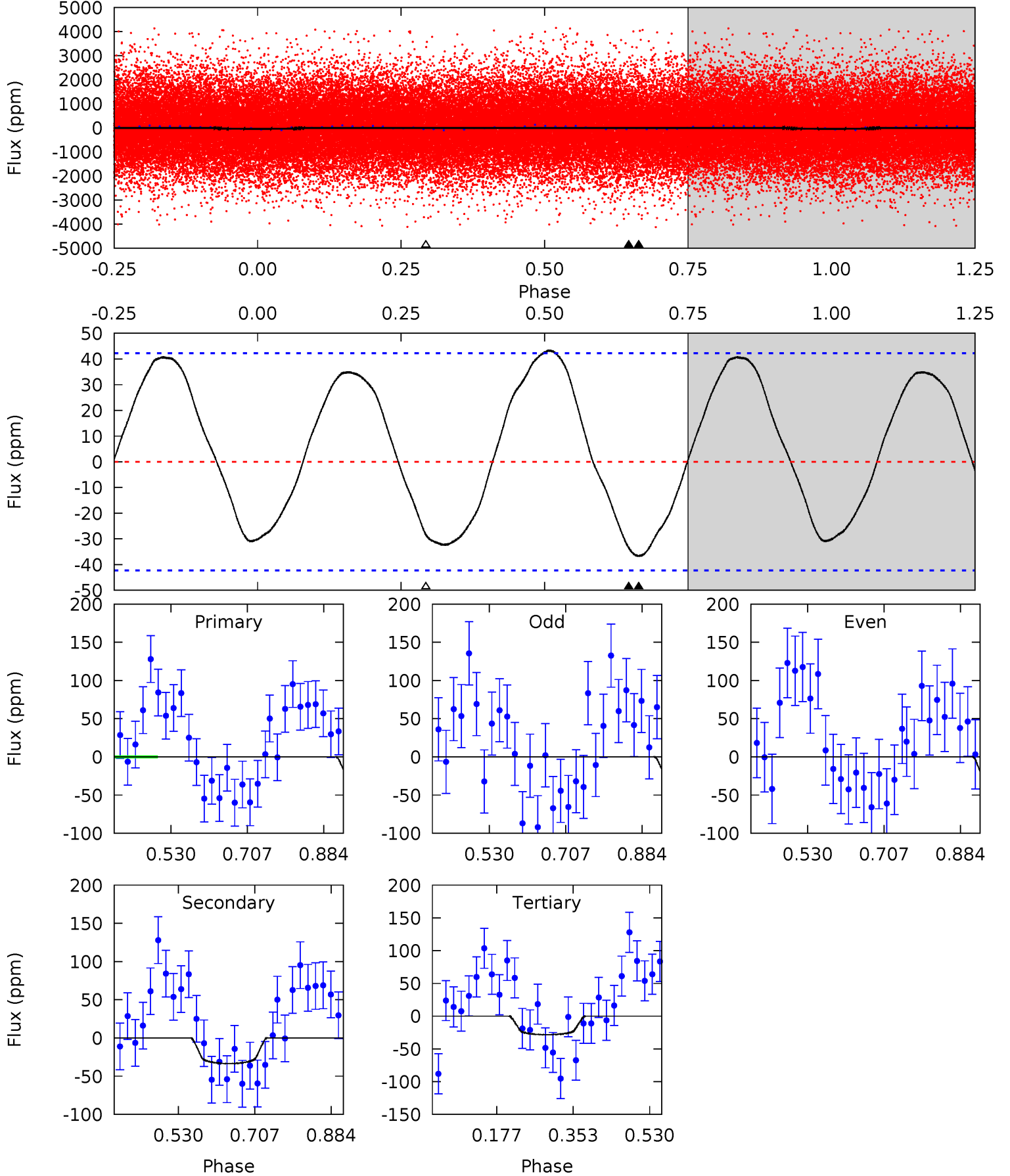
TCE 008246833-01 P= 0.880500 Days $T_0=131.563958$ (BKJD)



DV Model-Shift Uniqueness Test

008246833-01, P = 0.880474 Days, E = 130.696295 Days

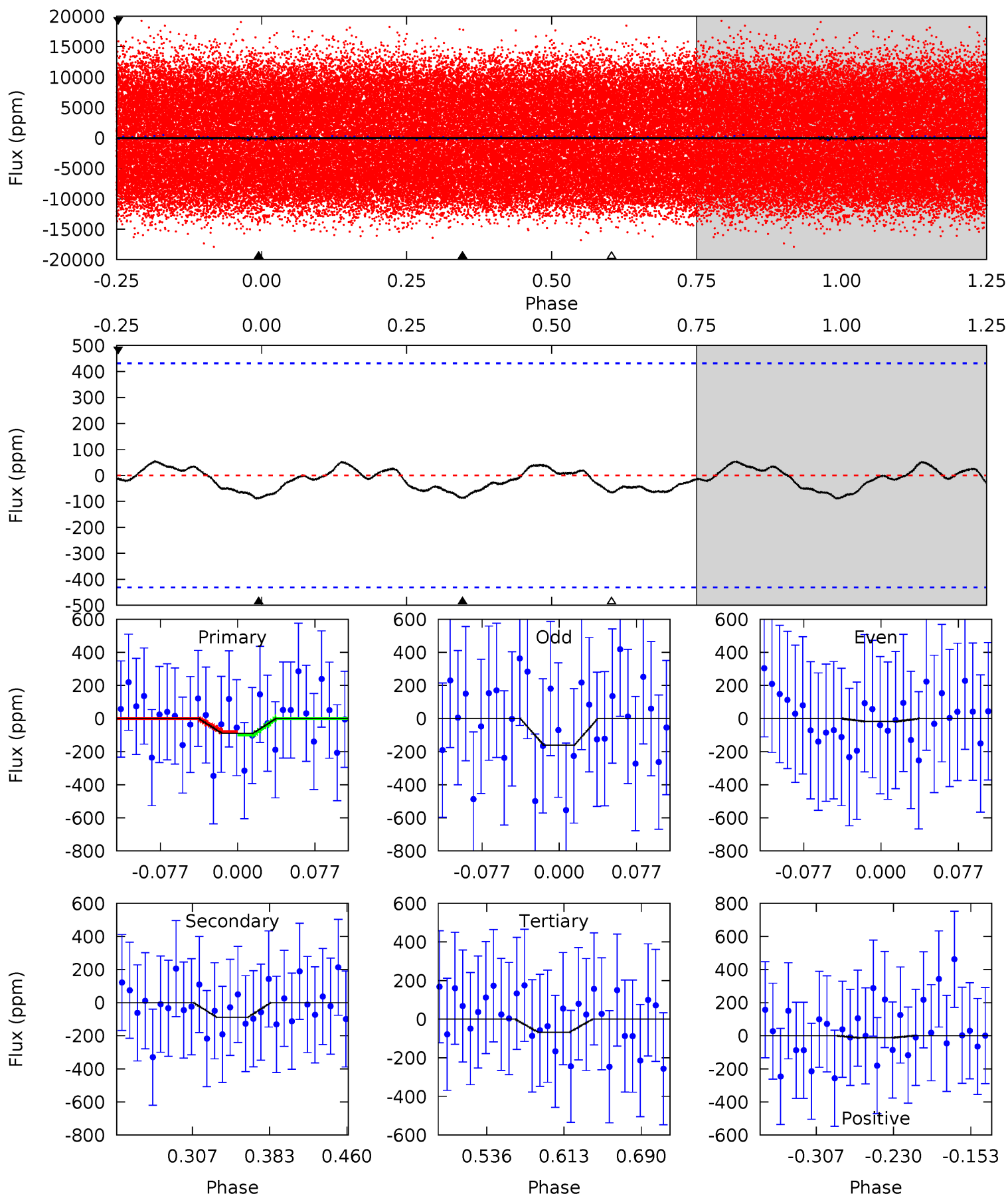
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.86	3.52	2.98	0	4.44	1.35	2.54	0.88	3.86	0.54	3.52	0.38	1.32	0.54	0.56



Alt Model-Shift Uniqueness Test

008246833-01, P = 0.880500 Days, E = 130.683458 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.95	0.95	0.73	-0.13	4.62	1.77	0.35	0.23	1.09	0.22	1.08	0.76	0.85	0.38	0.12



Stellar Parameters For KIC 008246833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$3.955^{+0.286}_{-0.132}$	$-0.320^{+0.250}_{-0.350}$	$2.166^{+0.526}_{-0.790}$	$1.541^{+0.215}_{-0.323}$	$0.214^{+0.467}_{-0.094}$
	+3%/-4%	+7%/-3%	+78%/-109%	+24%/-36%	+14%/-21%	+219%/-44%
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 008246833-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-33 ± 10	$2.32^{+1.35}_{-1.24}$	4523^{+336}_{-417}	4986^{+2869}_{-1126}	$1.339^{+4.994}_{-0.796}$
Alt.	-89 ± 93	$1.89^{+1.38}_{-1.11}$	4536^{+346}_{-382}	7391^{+6746}_{-10955}	$5.102^{+23.470}_{-4.967}$

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 $A_{obs} \gg 1.0$

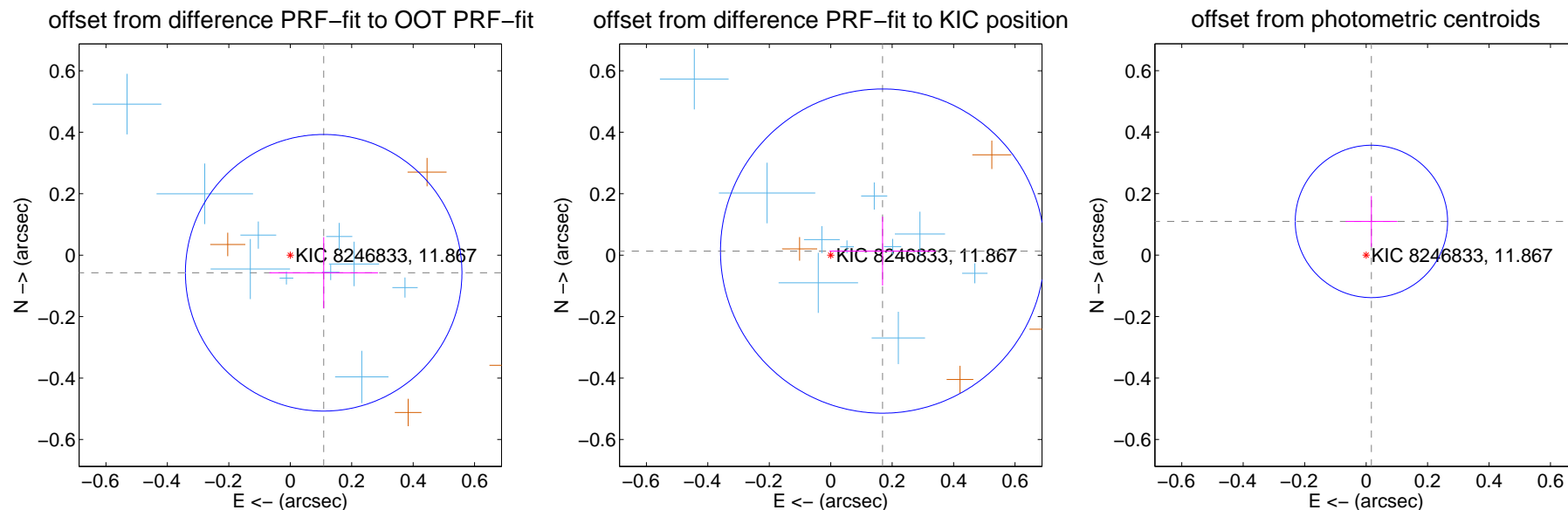
DV Centroid Data

Supplemental centroid analysis for 008246833-01. **Kepler magnitude: 11.87.** Transit SNR 11.32

There are 12 quarters with good PRF difference image offsets

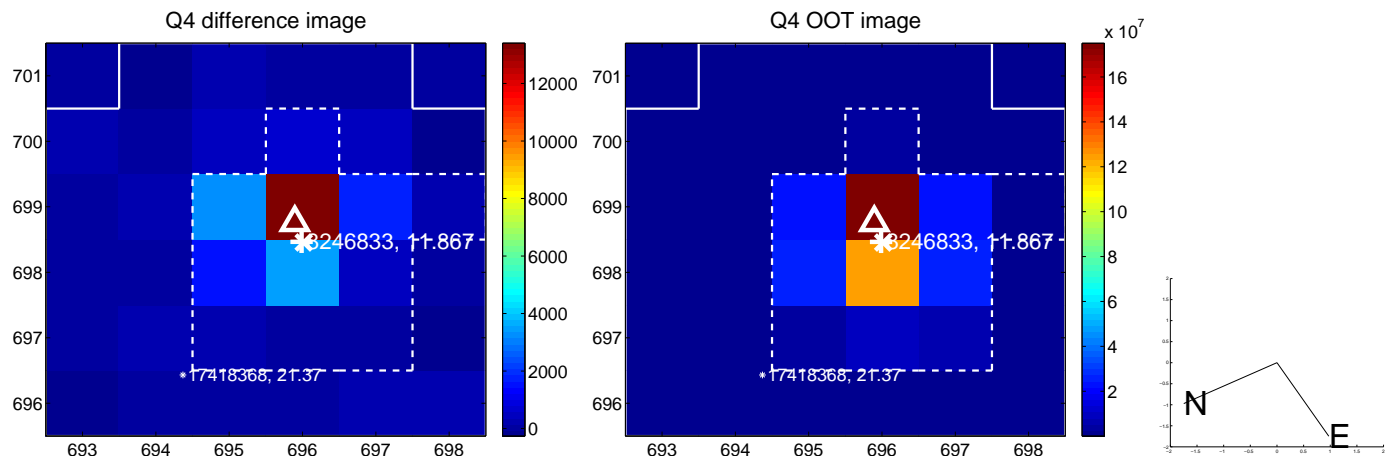
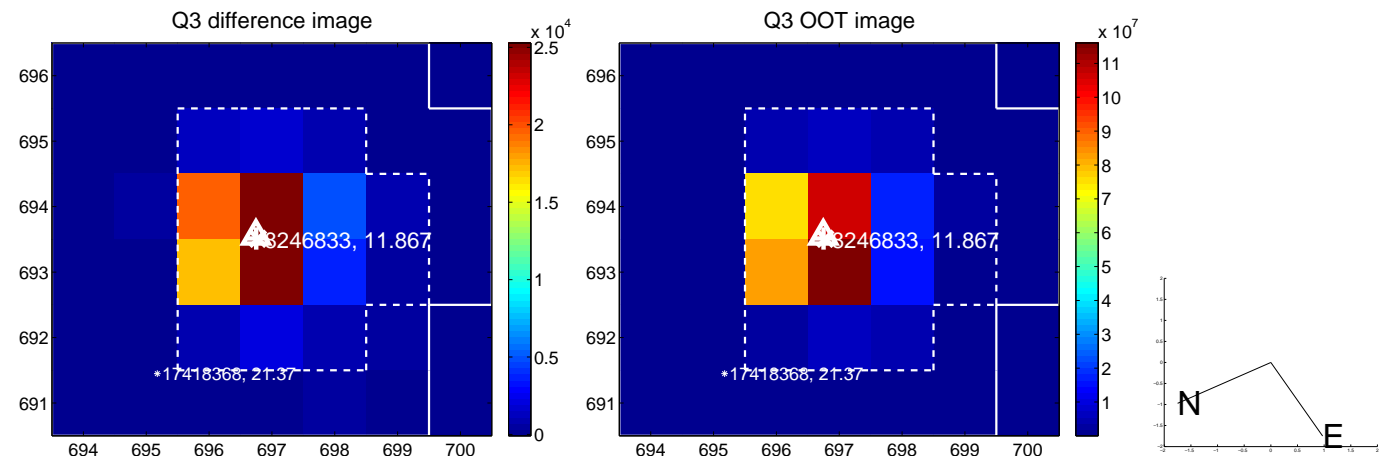
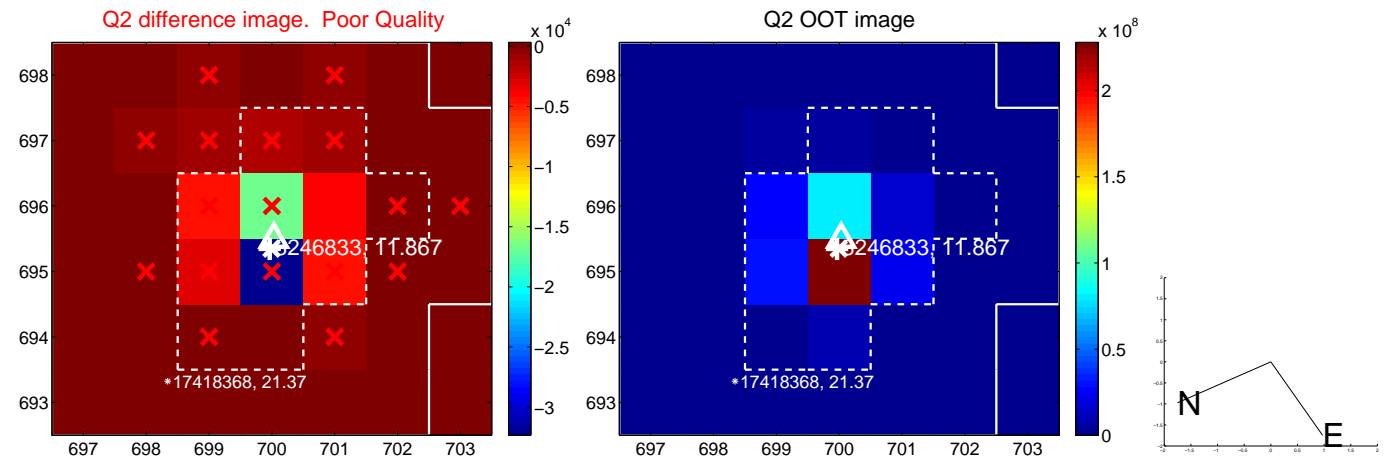
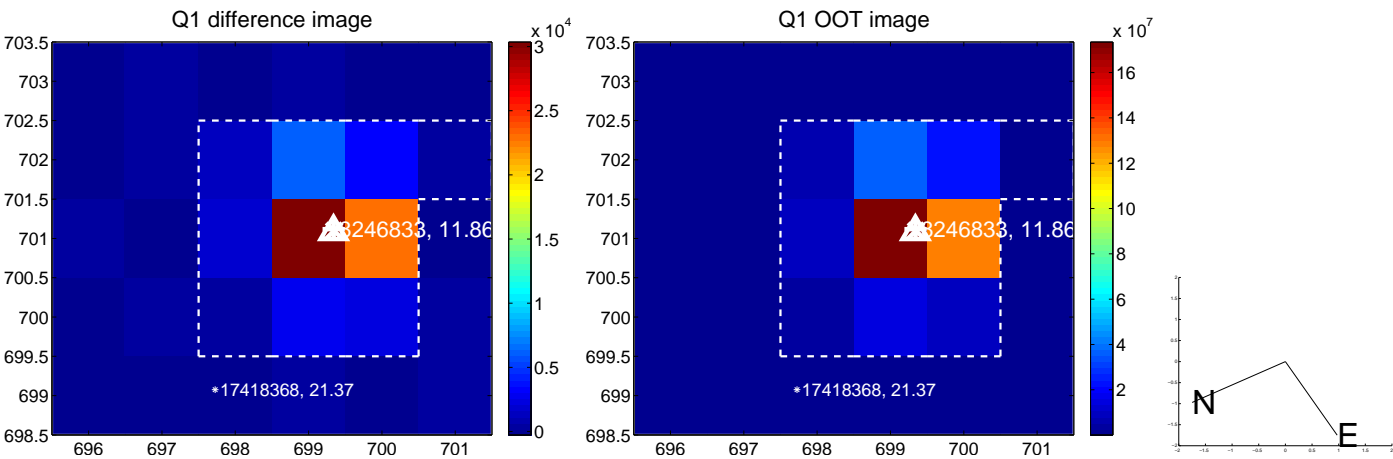
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.123 ± 0.150	0.82	-0.109 ± 0.177	-0.057 ± 0.116
PRF-fit source offset from KIC position	0.169 ± 0.176	0.96	-0.169 ± 0.173	0.013 ± 0.112
photometric centroid source offset	0.11 ± 0.08	1.34	-0.02 ± 0.08	0.11 ± 0.08

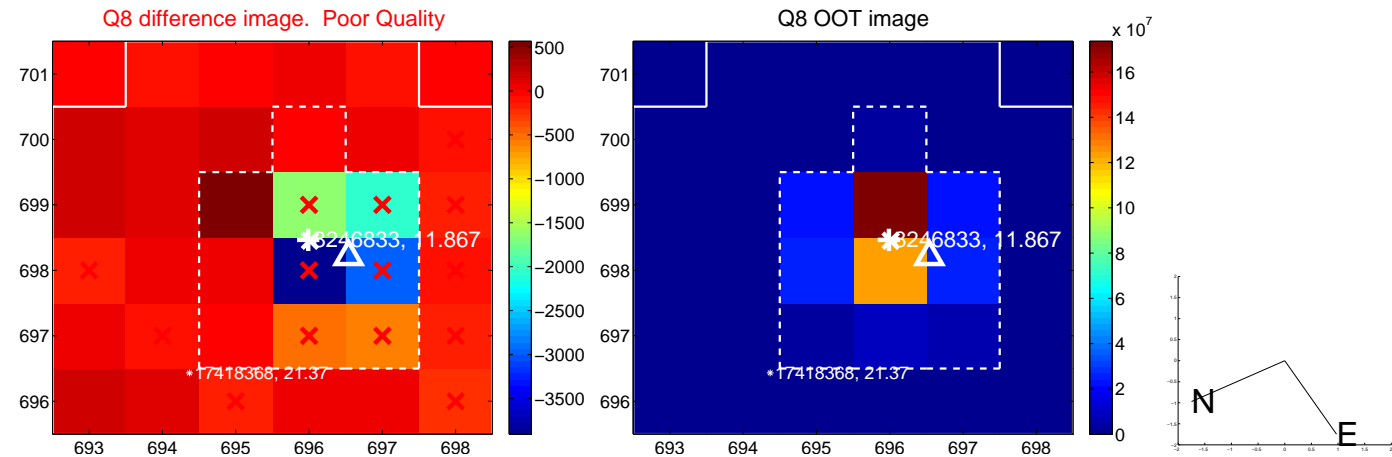
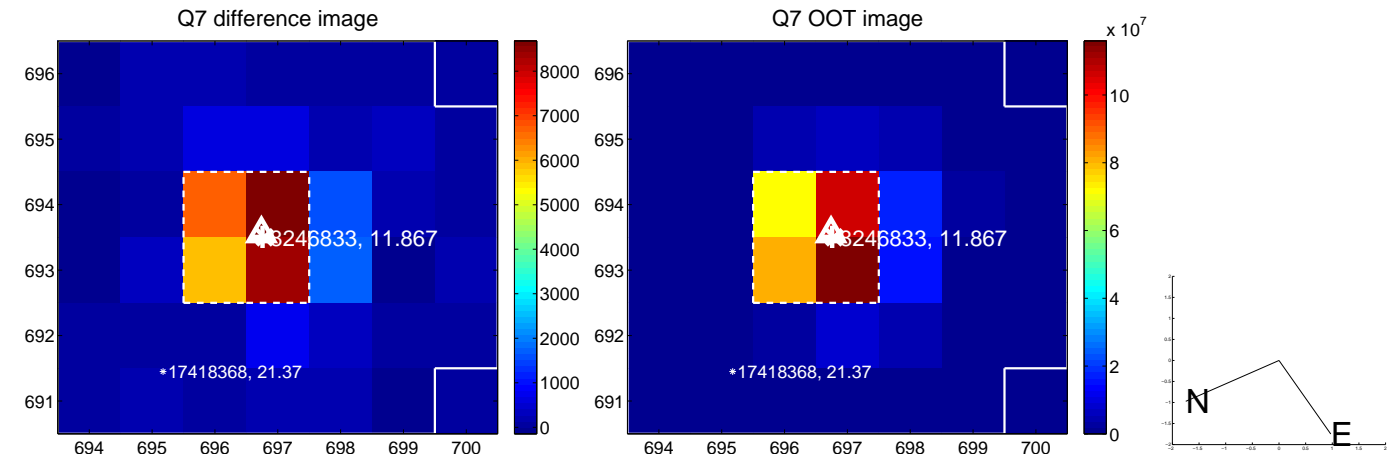
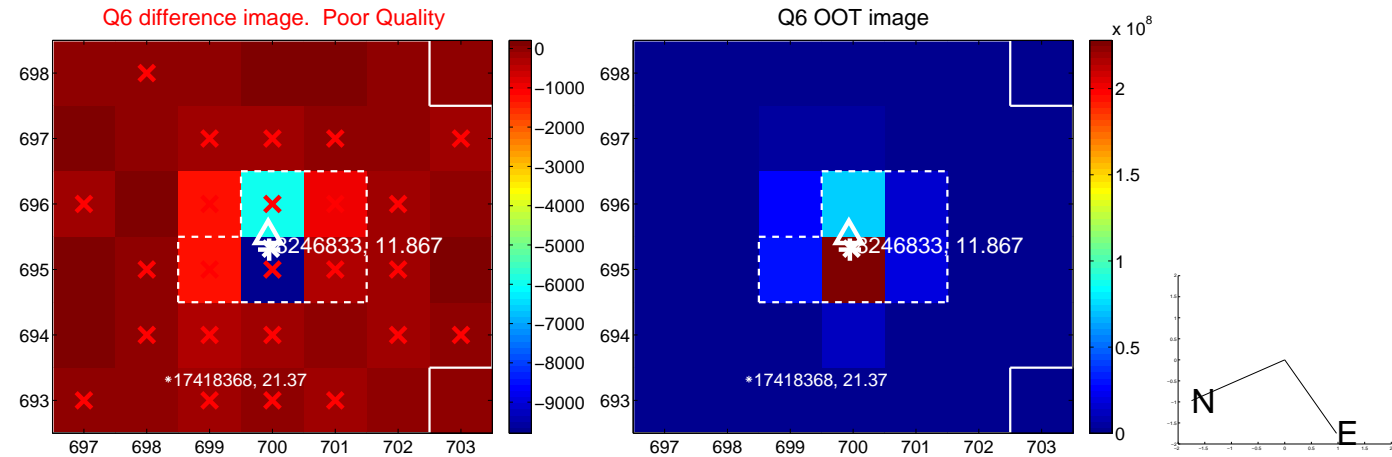
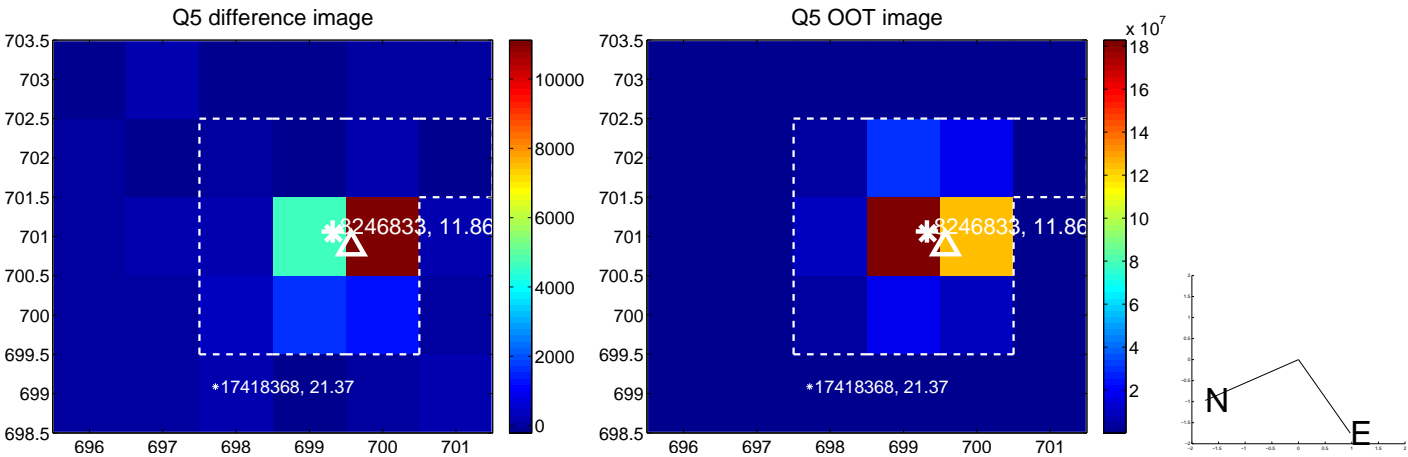


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

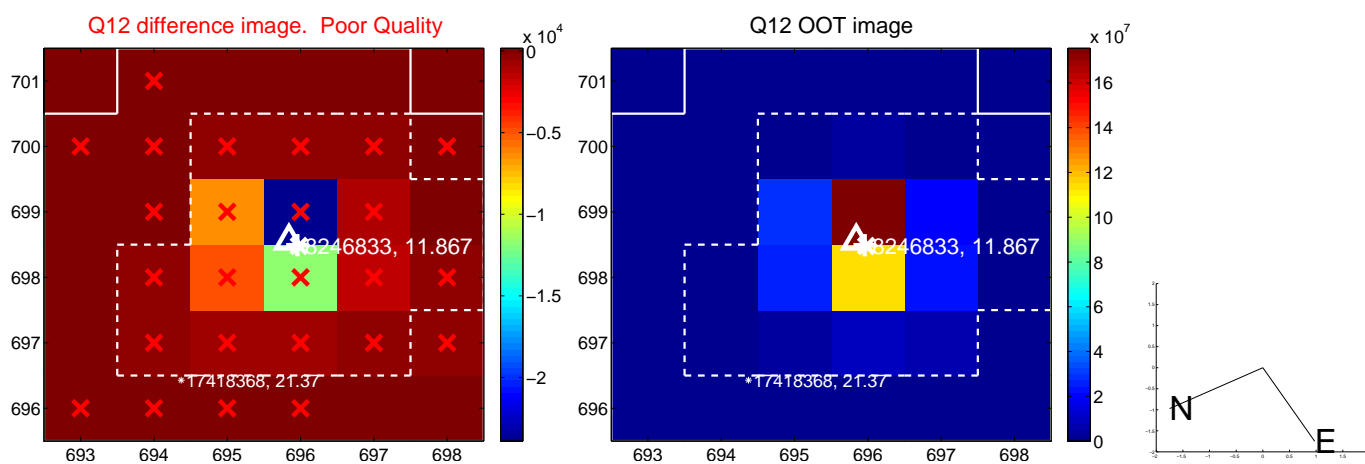
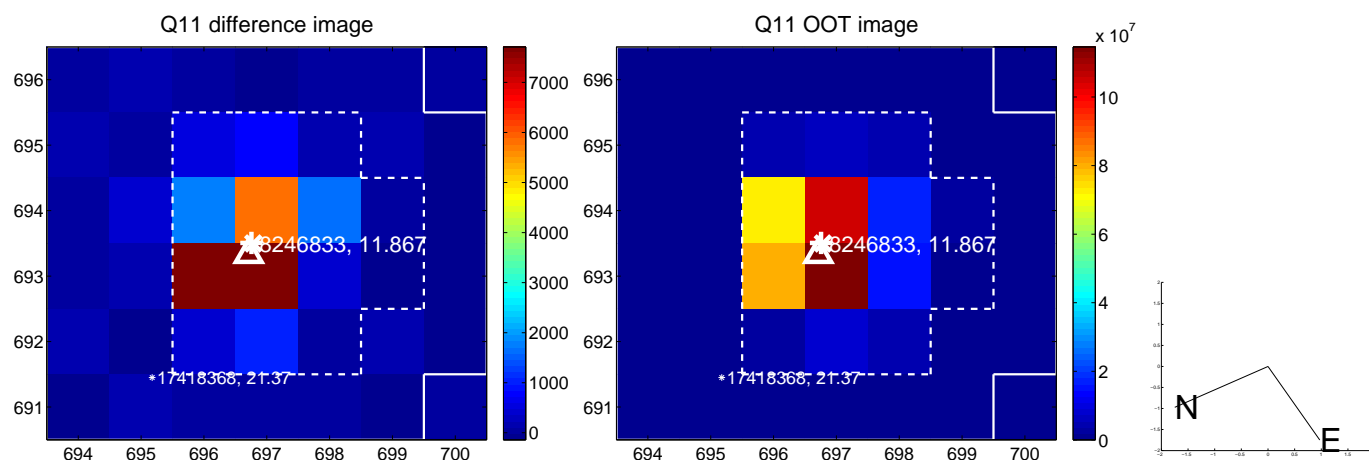
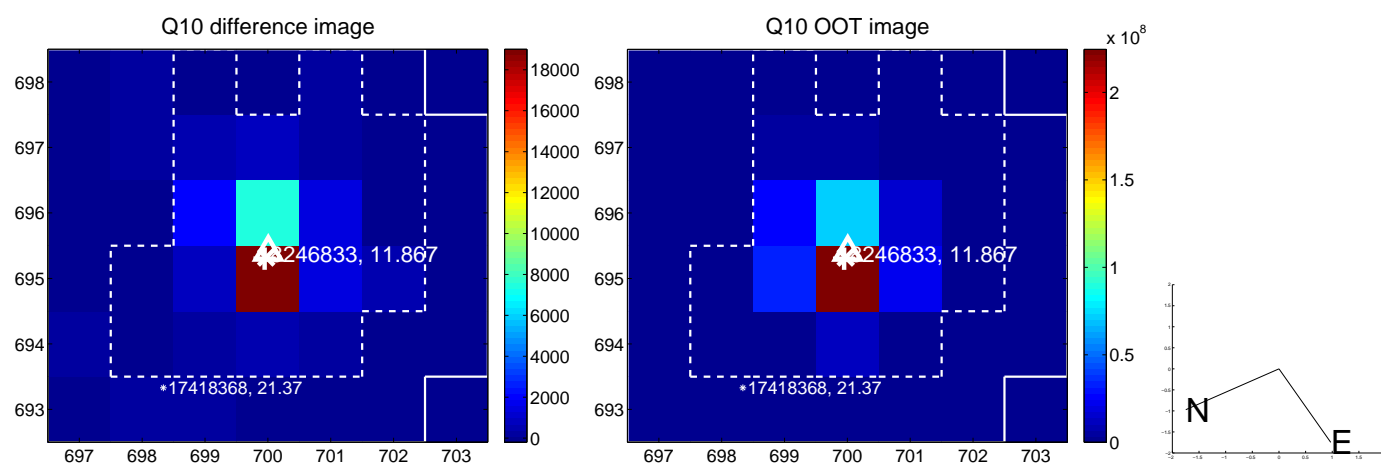
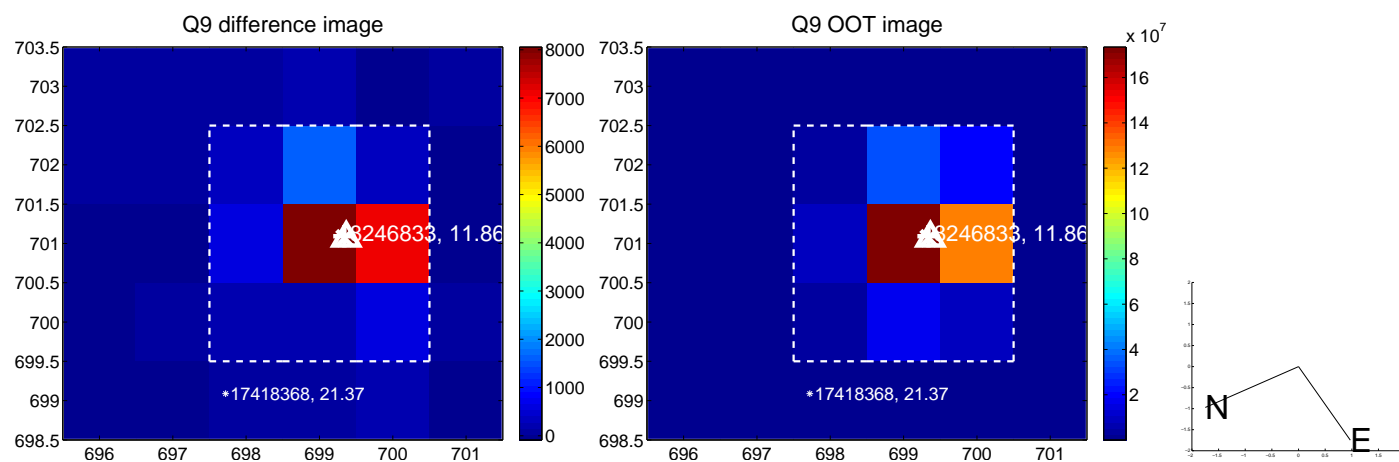
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



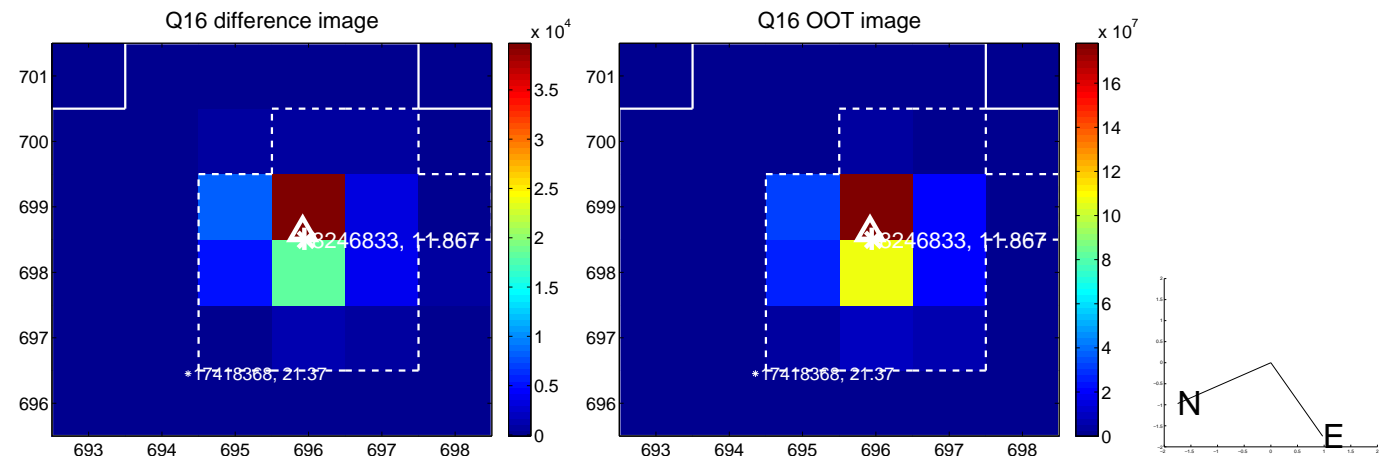
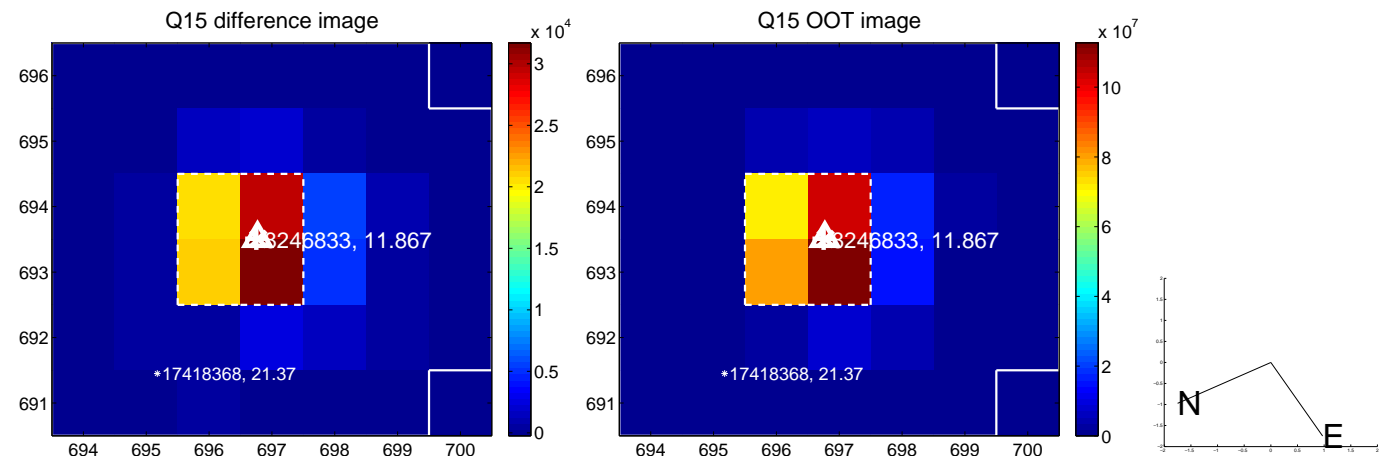
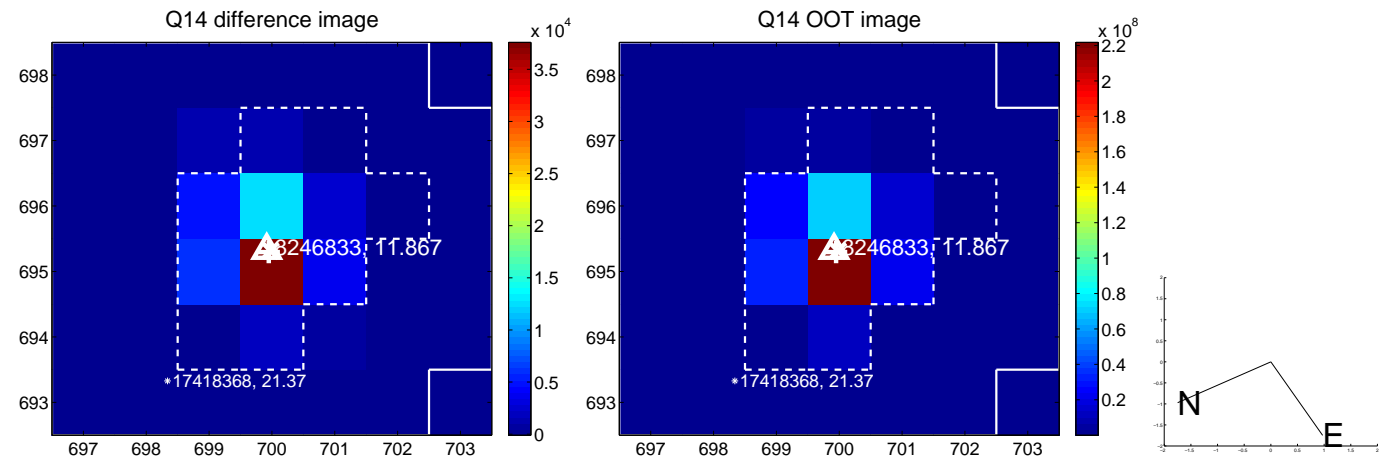
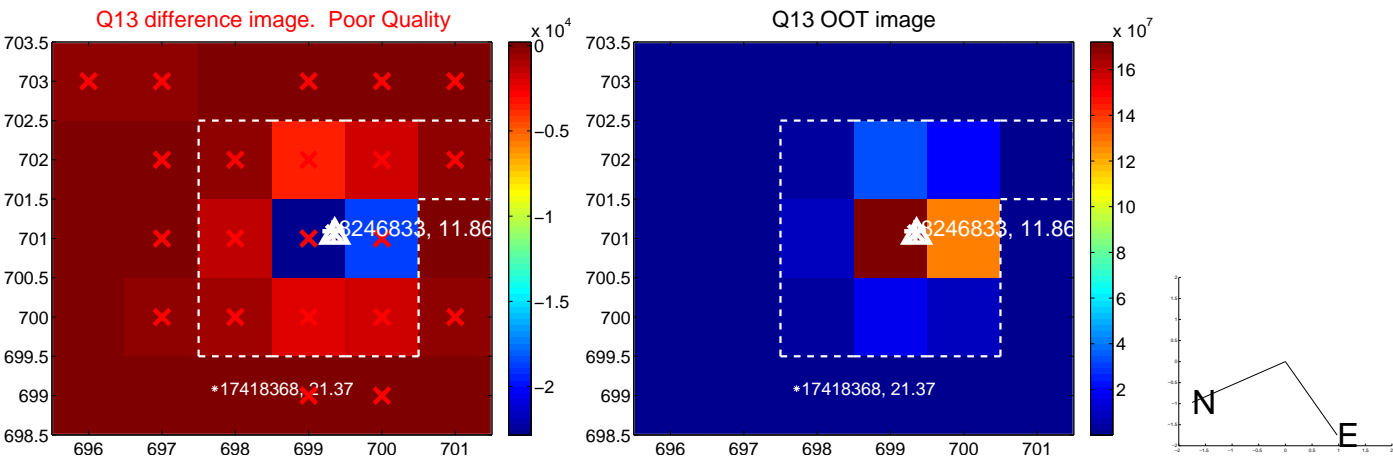
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



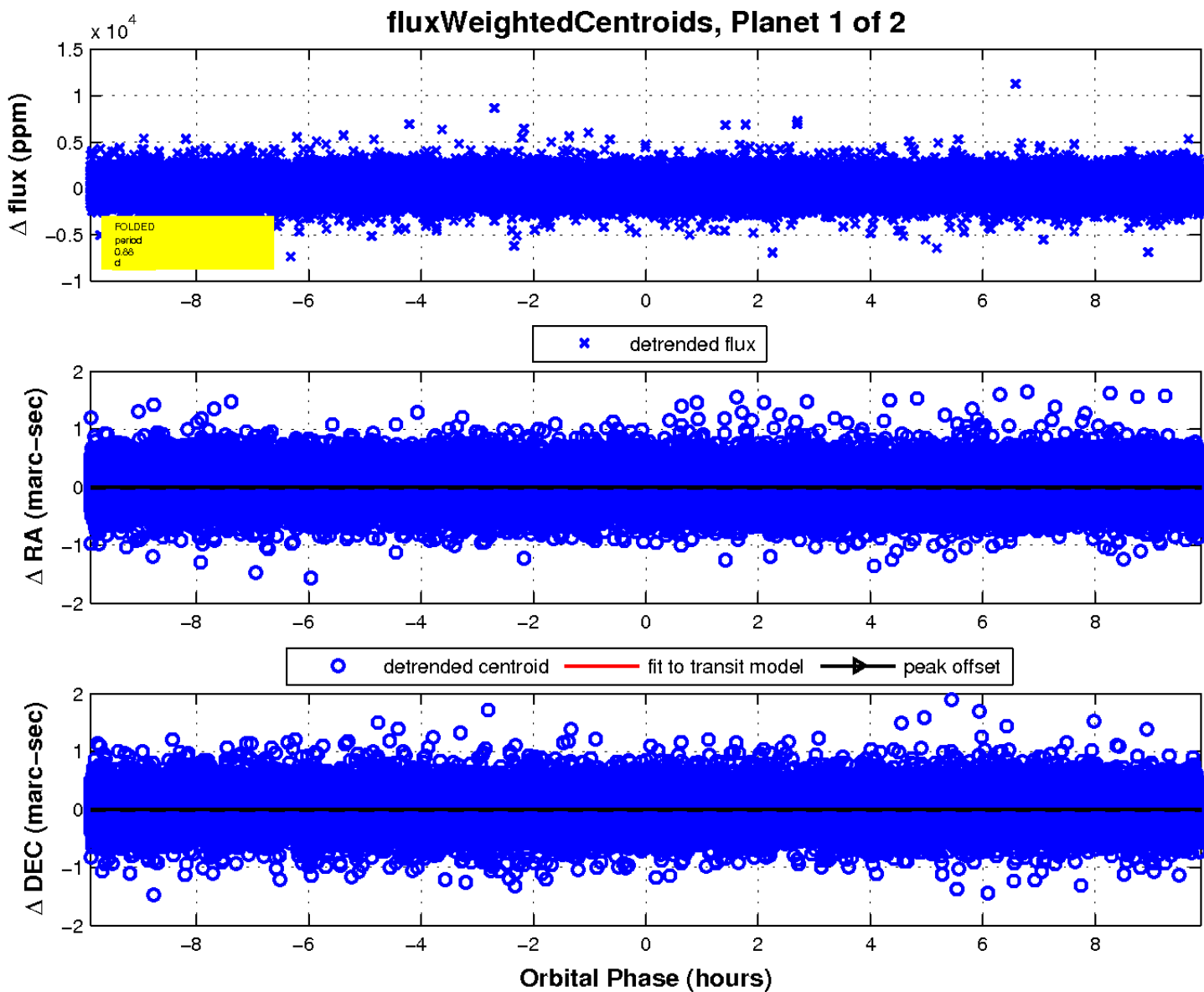
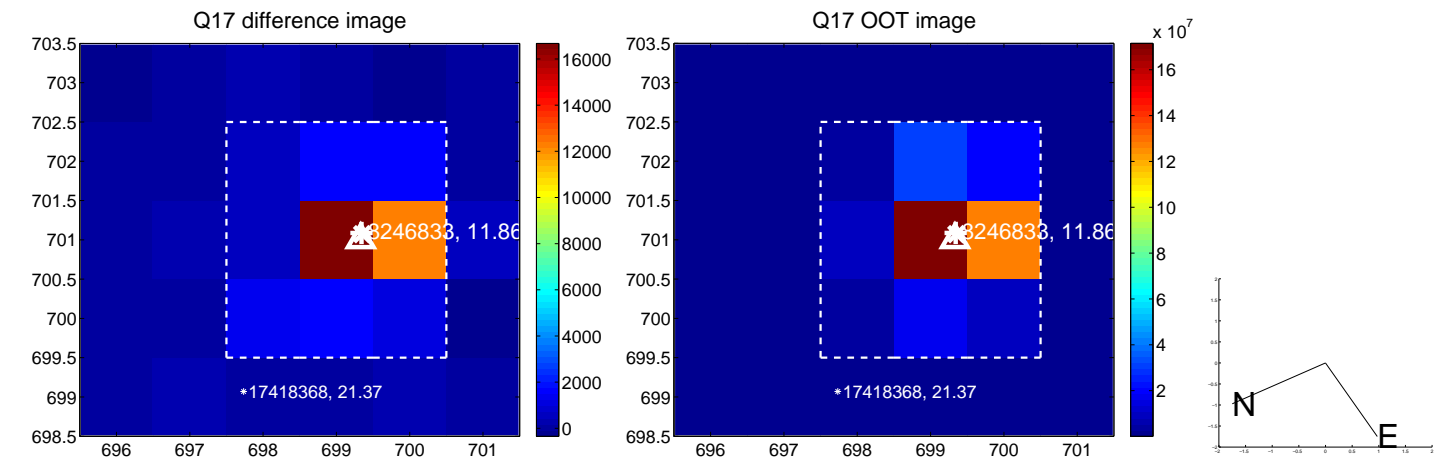
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

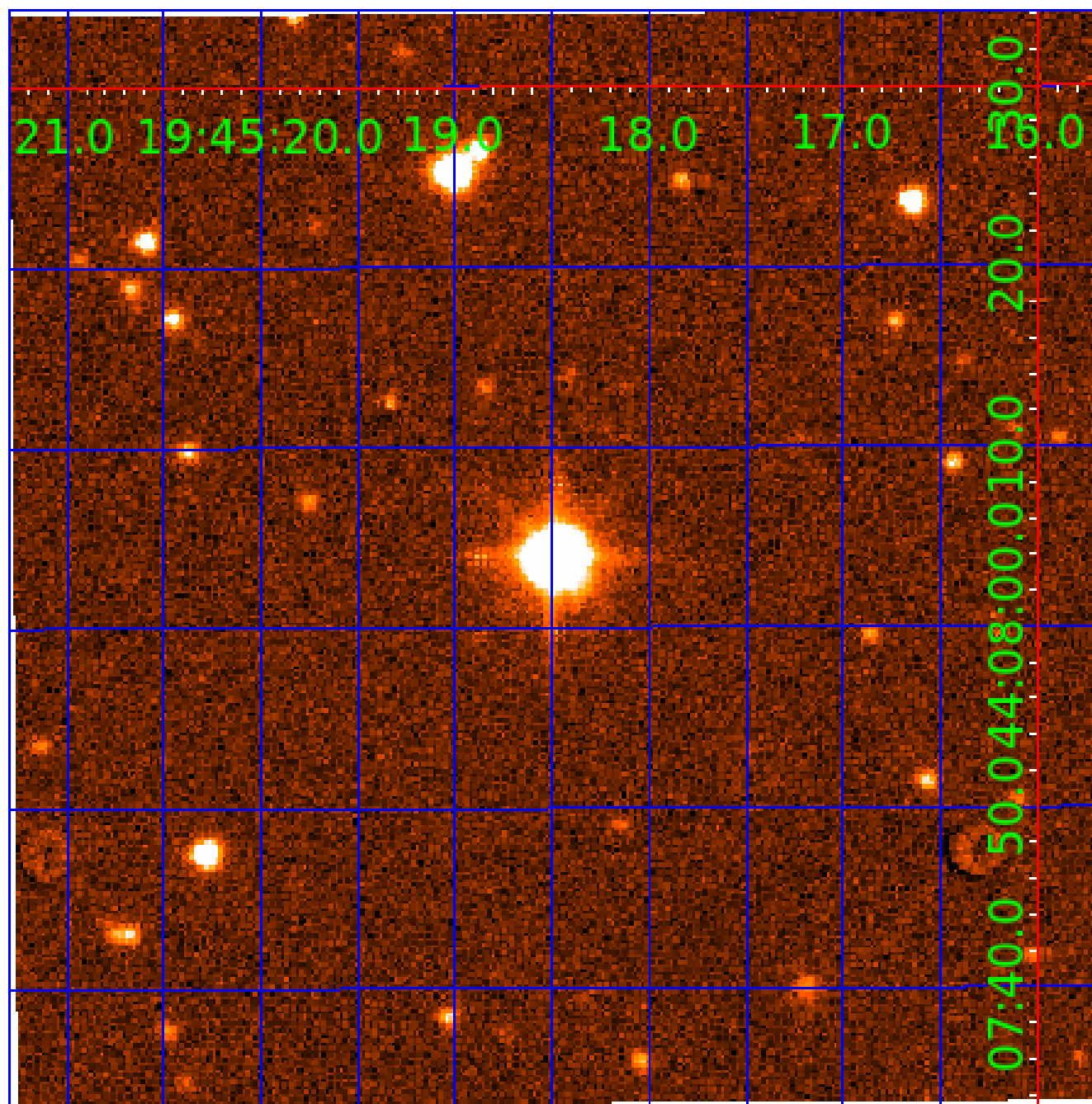


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008246833

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})
008246833-01	OBS	No	0.880474	131.576769	94.9	3.295	13.1	11.3	2.17	7328	2.45	28074.99
008246833-02	OBS	No	1.234643	131.518406	249.1	14.816	11.2	24.3	2.17	7328	4.31	17887.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008246833-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008246833-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

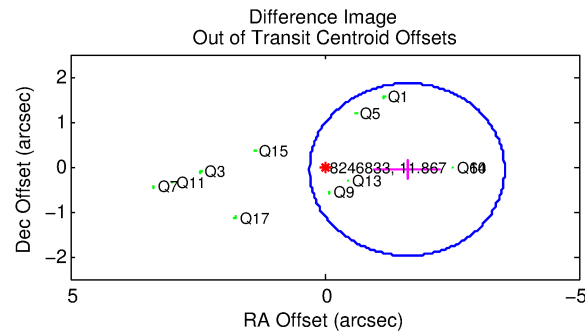
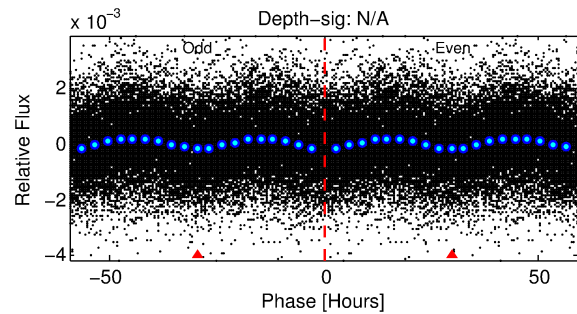
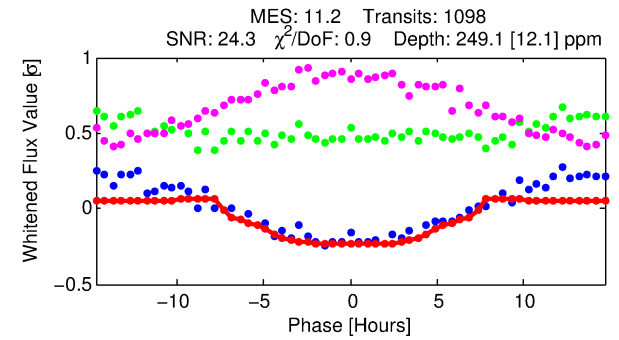
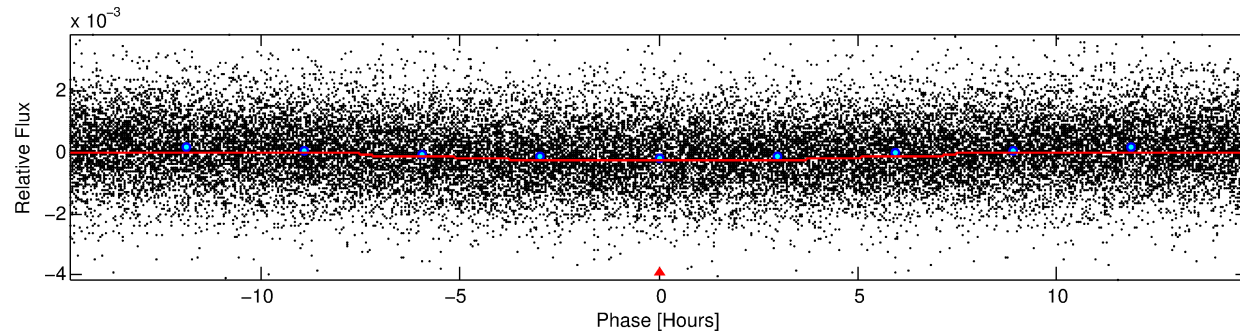
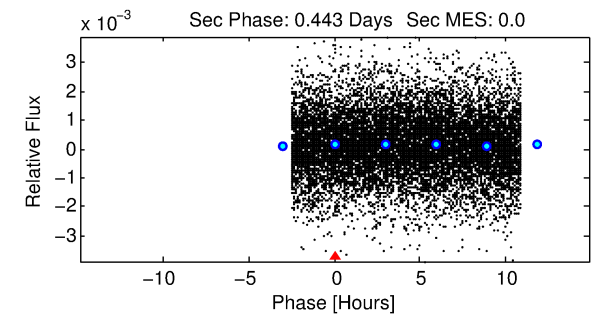
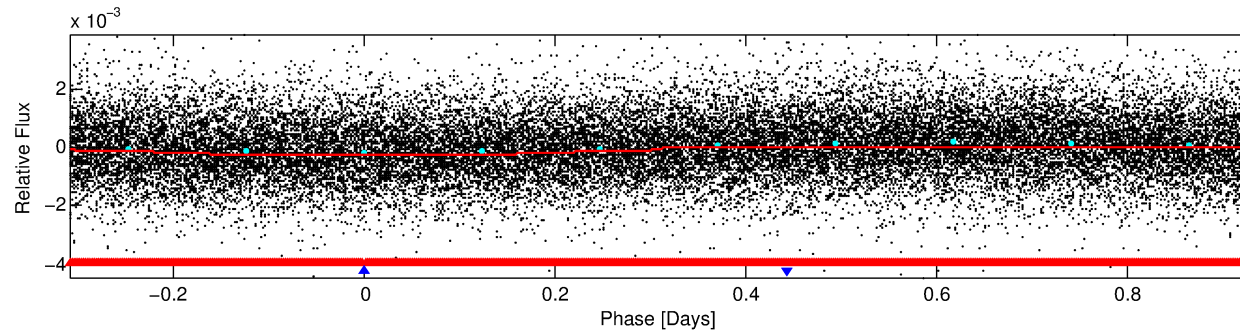
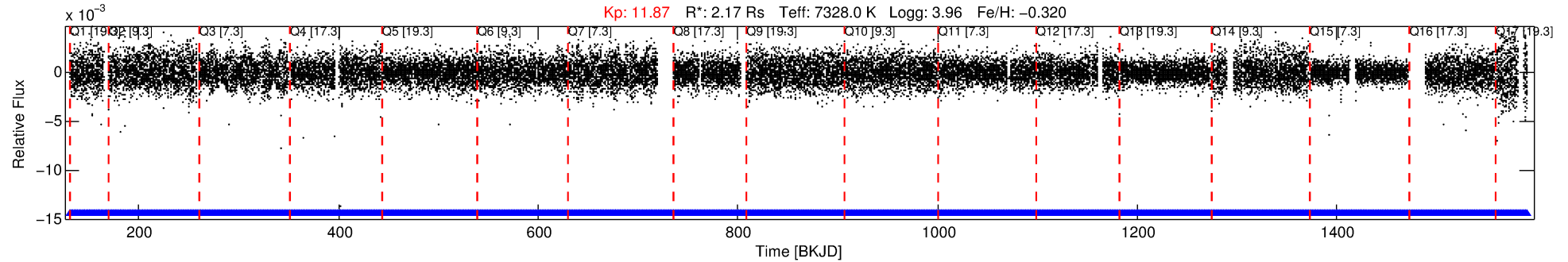
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008246833-02

No Significant Match Found

DV One-Page Summary

KIC: 8246833 Candidate: 2 of 2 Period: 1.235 d



DV Fit Results:

Period = 1.23464 [0.00001] d
Epoch = 131.5184 [0.0058] BKJD
Rp/R* = 0.0182 [0.0006]
a/R* = 1.00 [0.00]
b = 0.97 [0.01]
Seff = 17887.66 [9464.39]
Teq = 2949 [390] K
Rp = 4.31 [1.58] Re
a = 0.0260 [0.0085] AU
Ag = N/A
Teffp = N/A

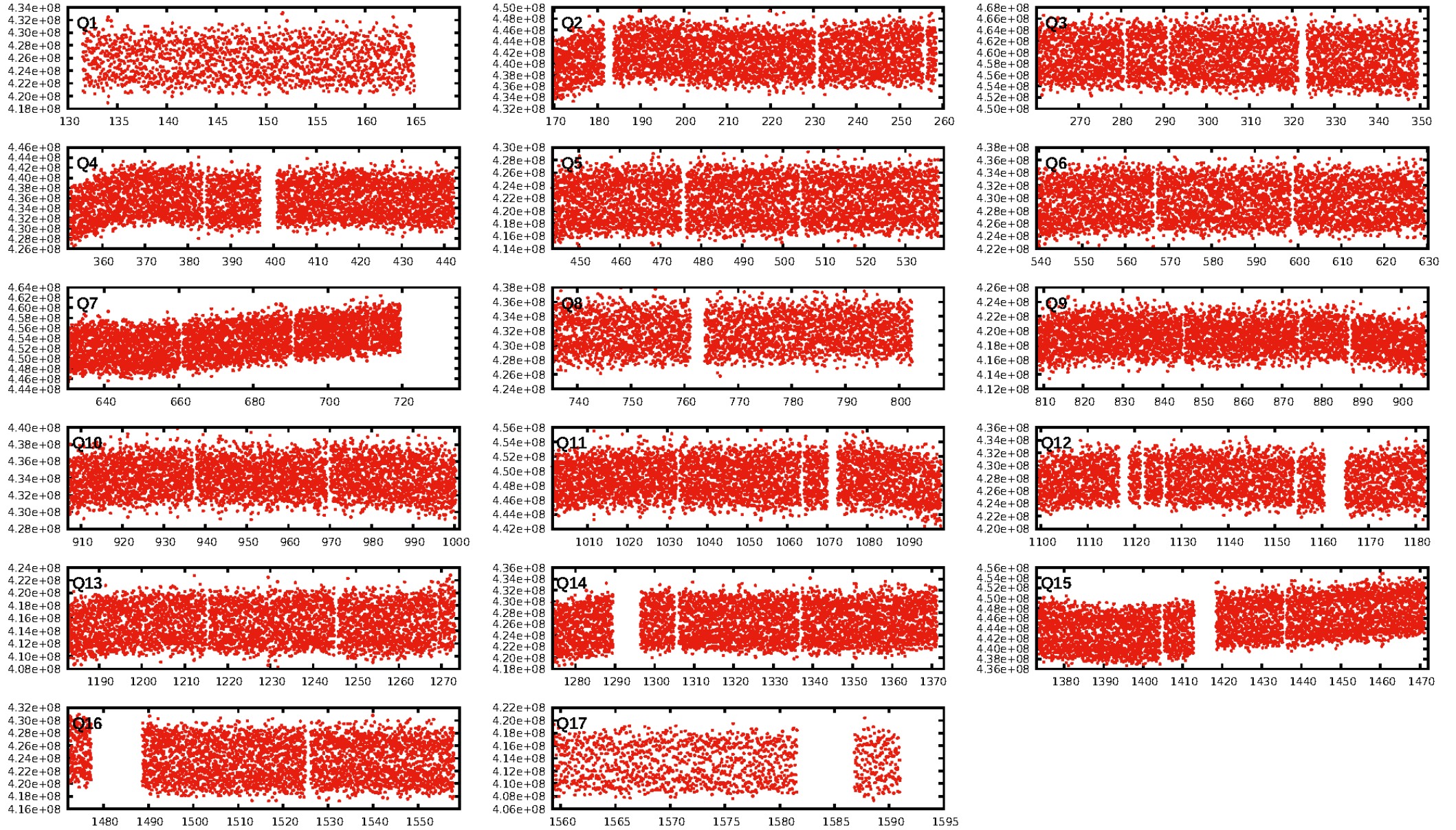
DV Diagnostic Results:

ShortPeriod-sig: 42.5% [0.56σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1048/1048]
GhostDiagnostic-chr: 1.554
Centroid-sig: 0.1%
Centroid-so: 0.110 arcsec [4.70σ]
OotOffset-rm: 1.622 arcsec [2.53σ]
KicOffset-rm: 1.645 arcsec [2.72σ]
OotOffset-st: 3/4/0/5 [12]
KicOffset-st: 3/4/0/5 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 0.00 [0/17]

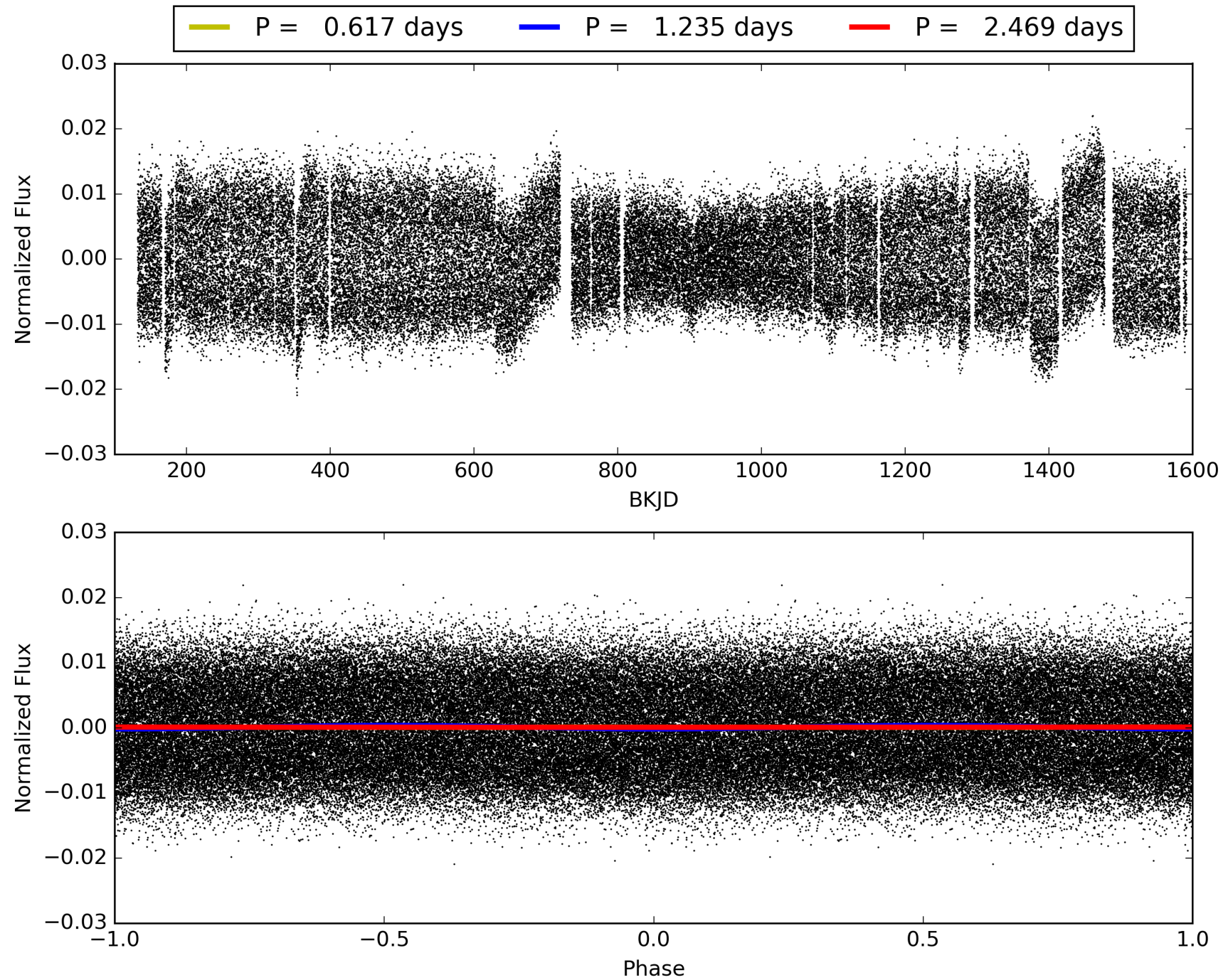
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:10:50 Z

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

TCE 008246833-02, PDC Light Curves

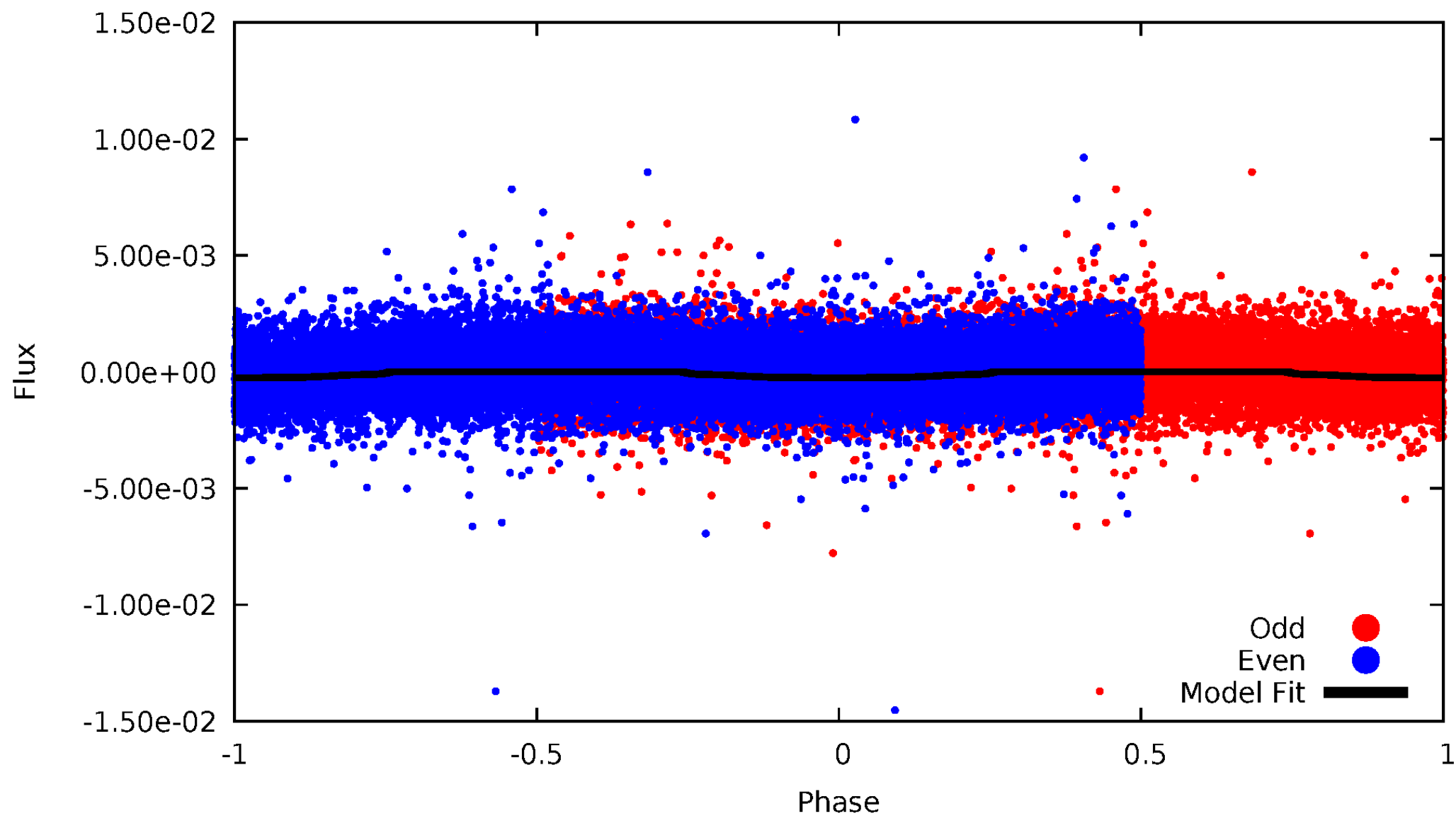


TCE 008246833-02



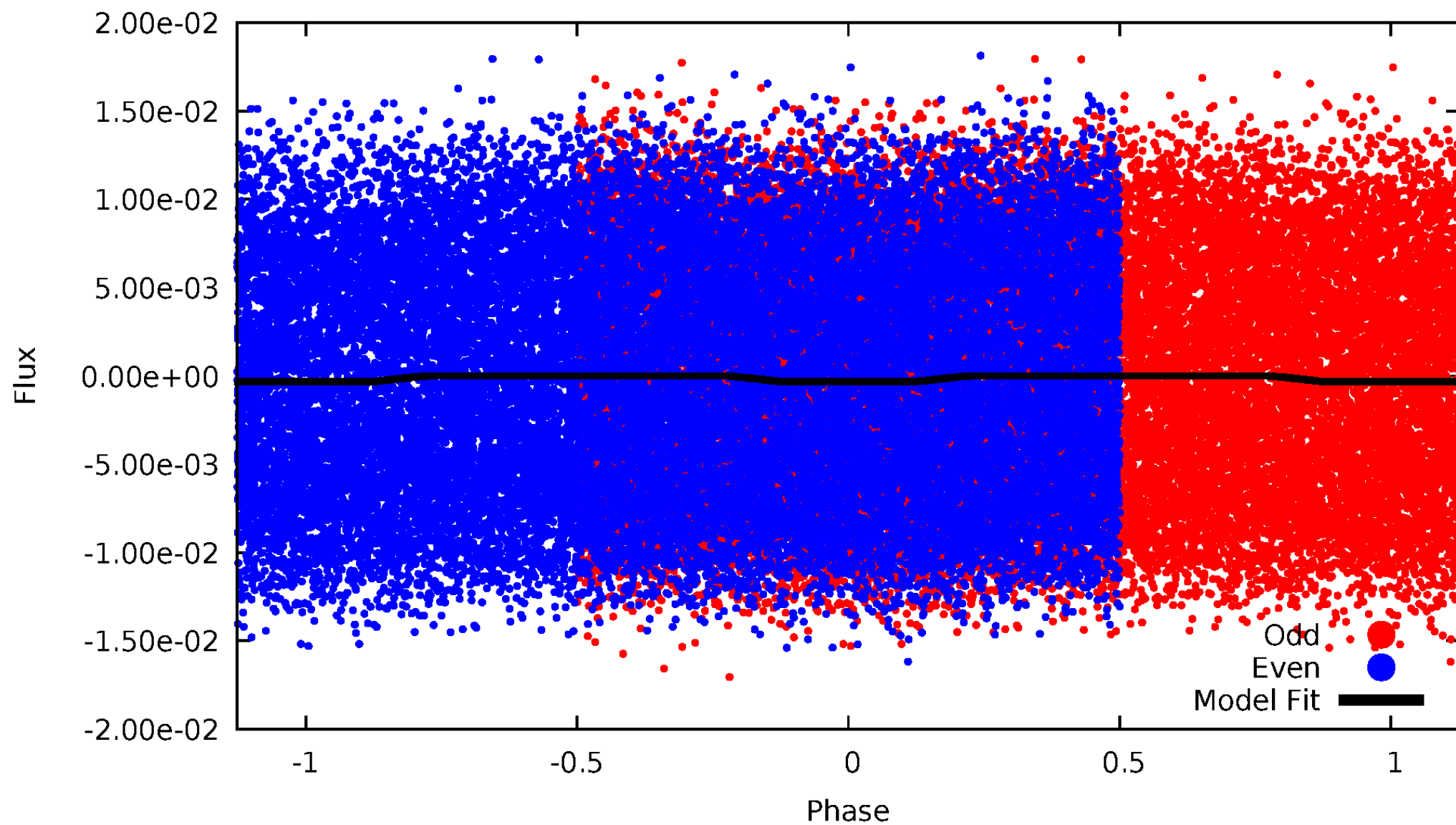
DV Odd/Even

TCE 008246833-02



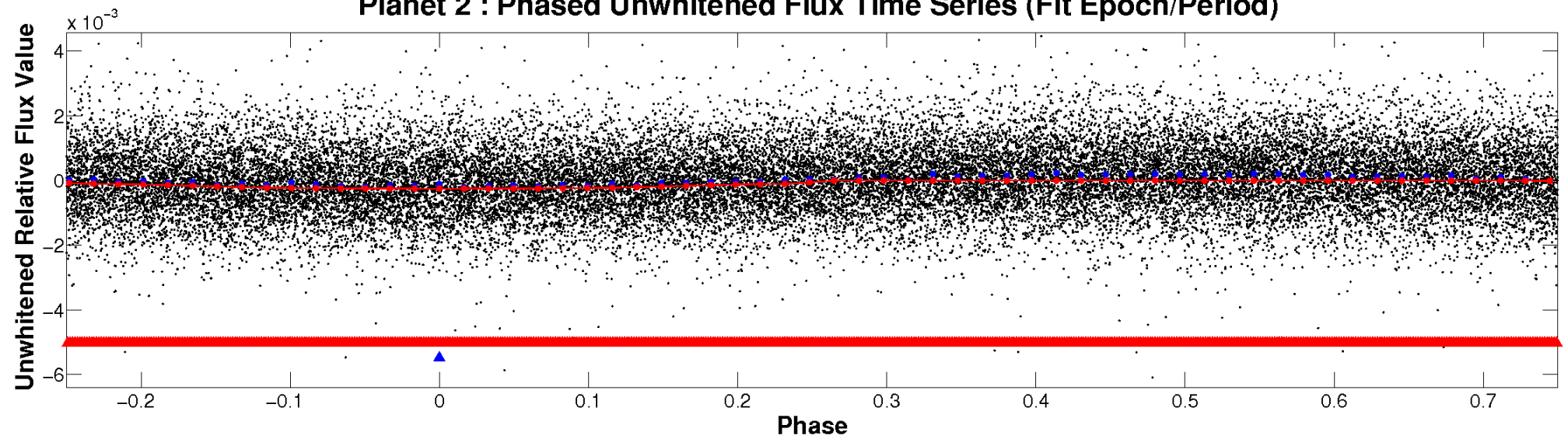
ALT Odd/Even

TCE 008246833-02

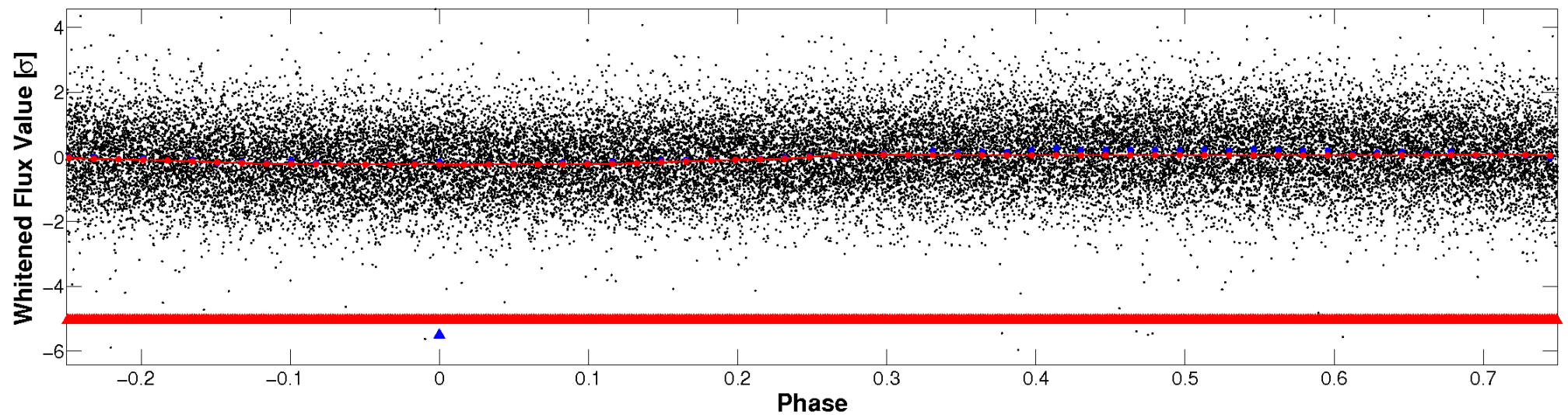


Non-Whitened Vs. Whitened Light Curve

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

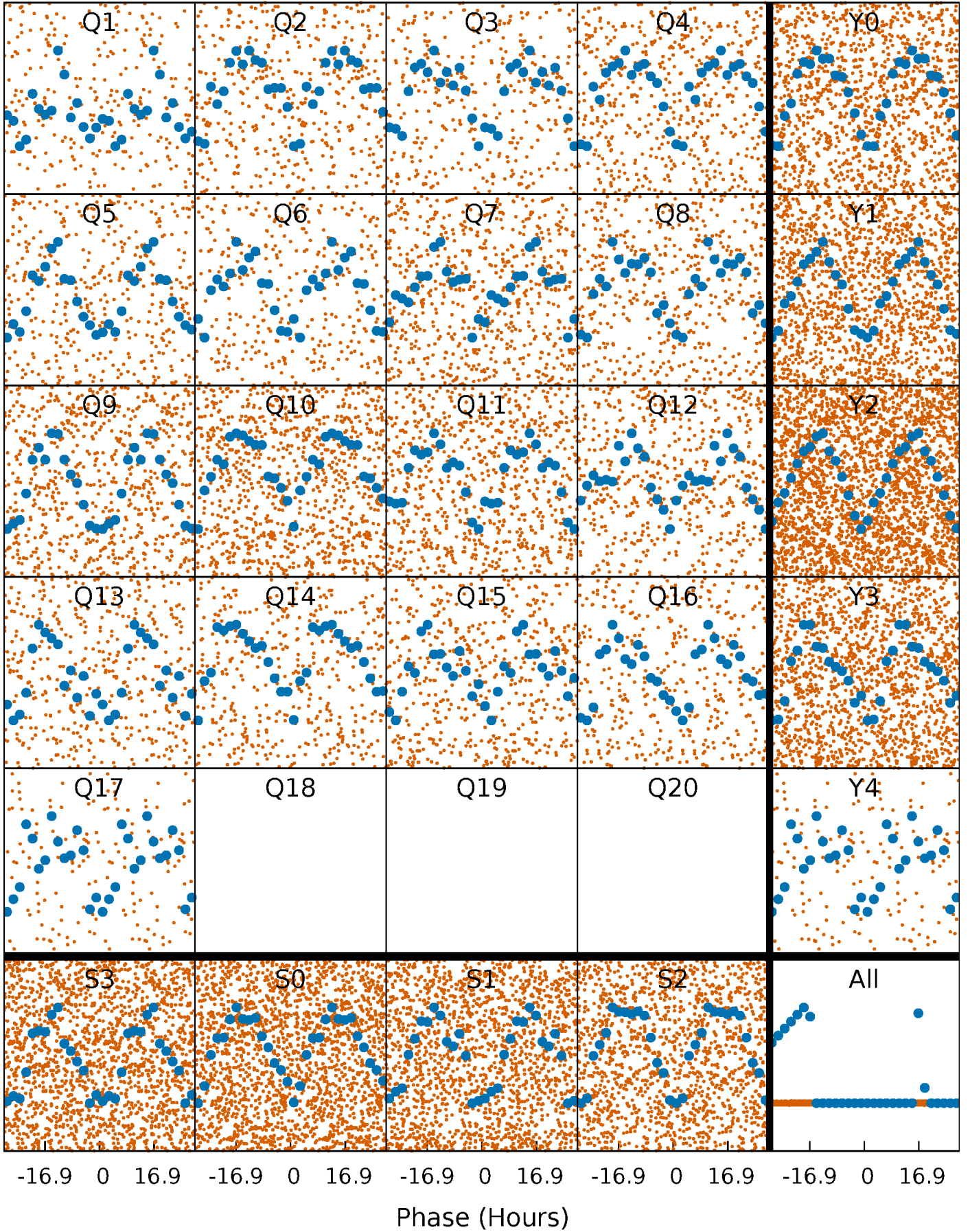


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



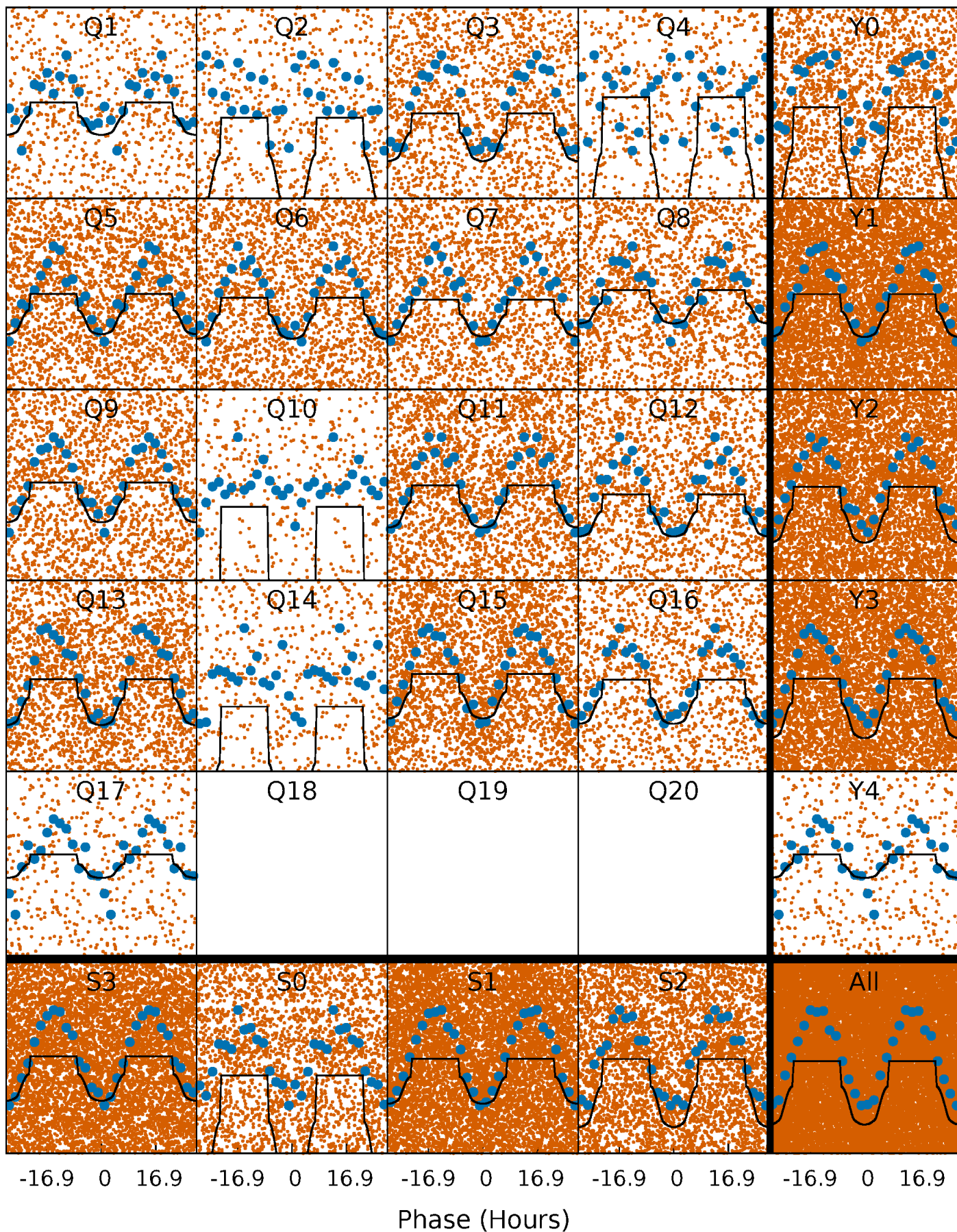
PDC Quarter-Phased Transit Curves

TCE 008246833-02 P= 1.234643 Days $T_0=131.518406$ (BKJD)



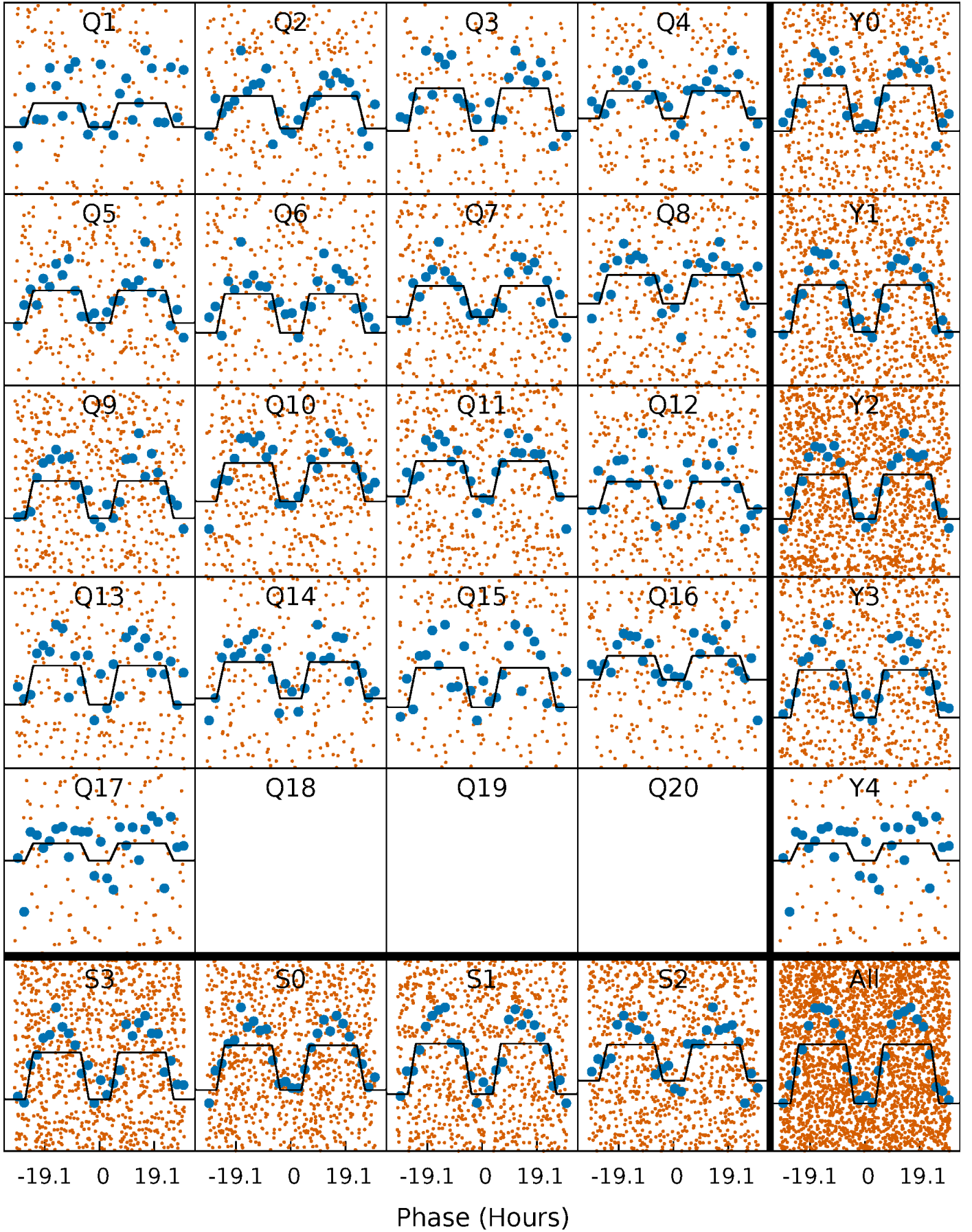
DV Quarter-Phased Transit Curves

TCE 008246833-02 P= 1.234643 Days $T_0=131.518406$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

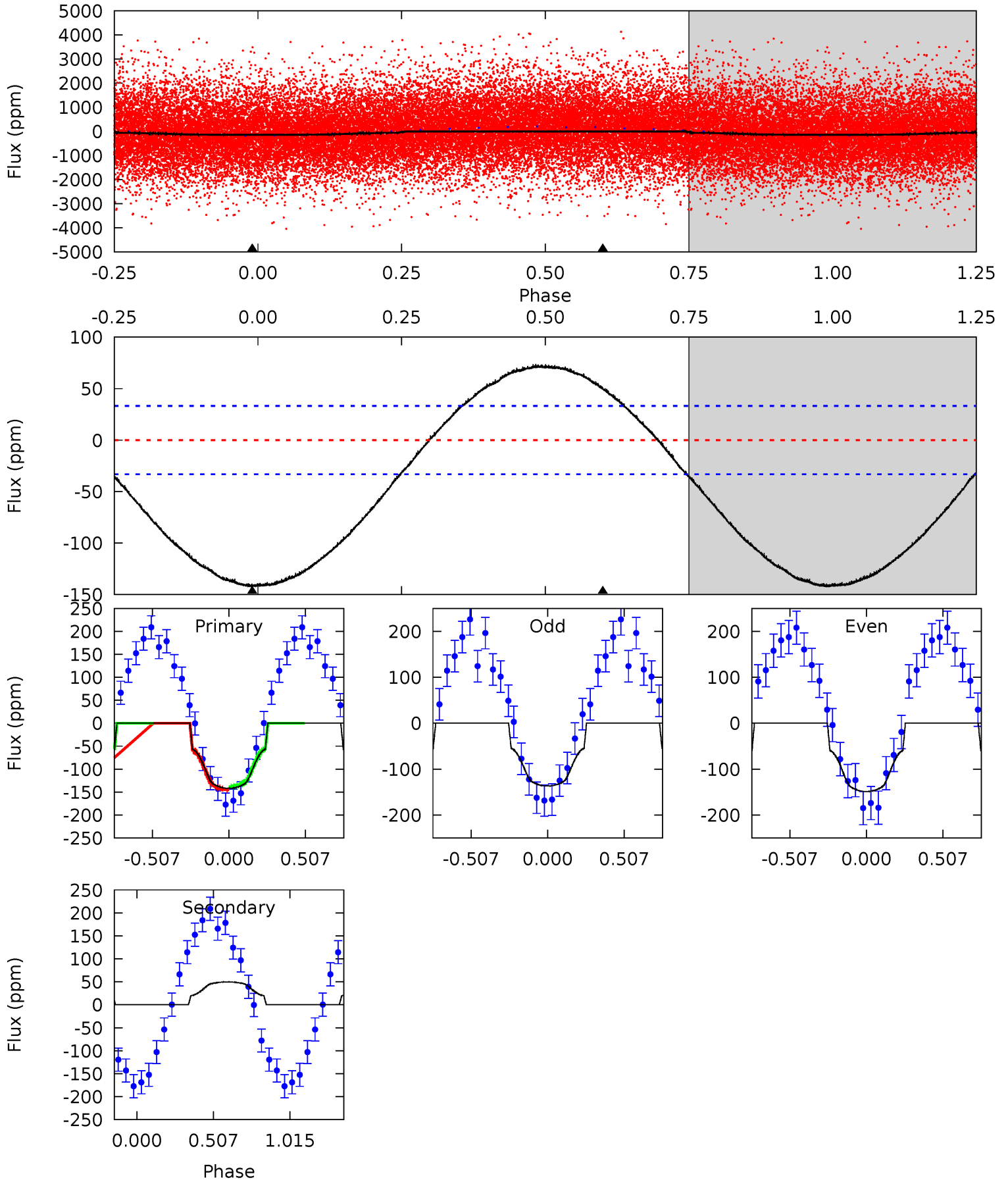
TCE 008246833-02 P= 1.234592 Days $T_0=131.550574$ (BKJD)



DV Model-Shift Uniqueness Test

008246833-02, P = 1.234643 Days, E = 131.518406 Days

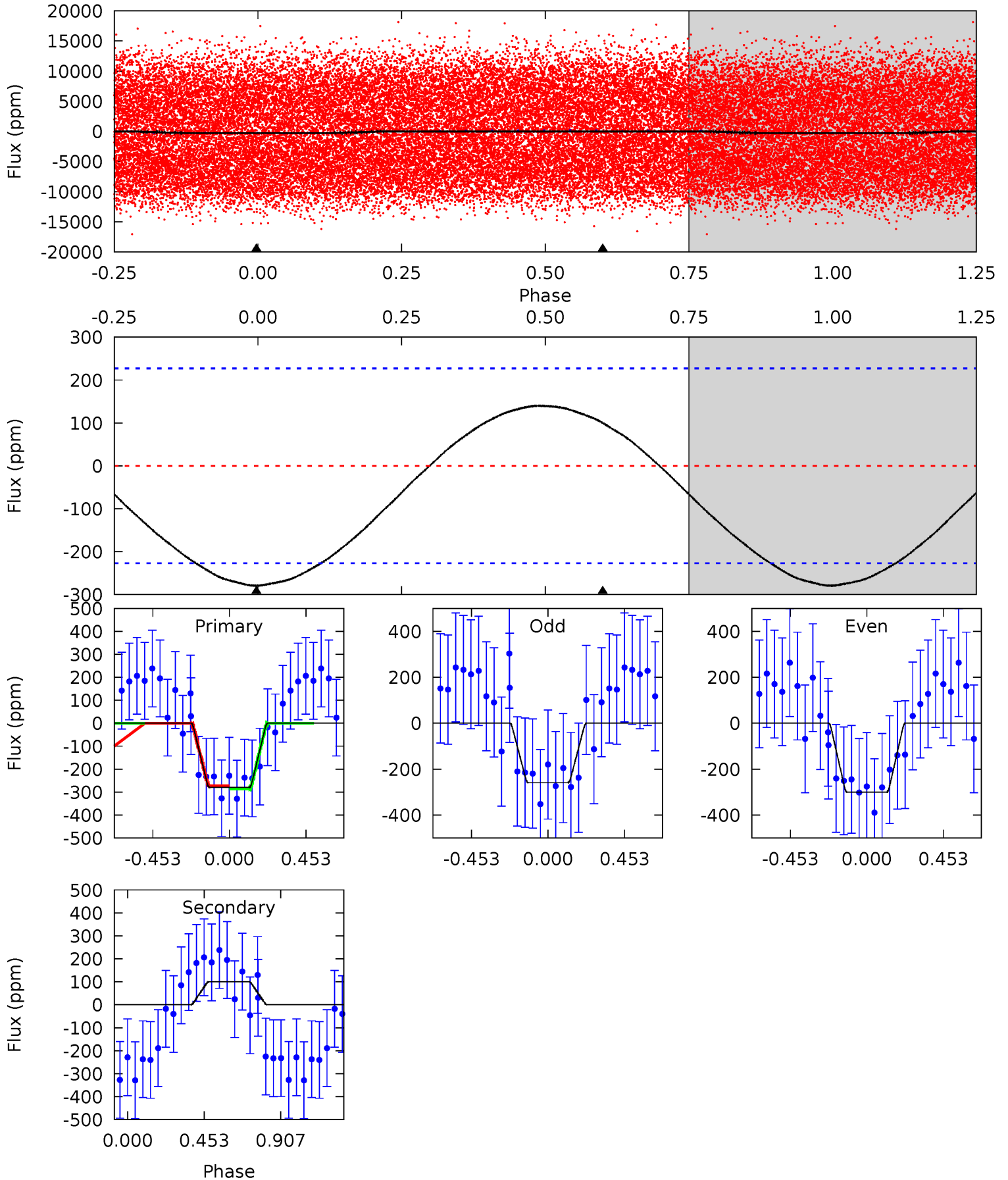
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	-6.30	0	0	4.21	0.66	2.37	18.0	18.0	-6.30	-6.30	0.76	0.96	0.34	0.41



Alt Model-Shift Uniqueness Test

008246833-02, P = 1.234592 Days, E = 131.550574 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.22	-1.87	0	0	4.24	0.75	0.69	5.22	5.22	-1.87	-1.87	0.38	1.46	0.33	0.12



Stellar Parameters For KIC 008246833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$3.955^{+0.286}_{-0.132}$	$-0.320^{+0.250}_{-0.350}$	$2.166^{+0.526}_{-0.790}$	$1.541^{+0.215}_{-0.323}$	$0.214^{+0.467}_{-0.094}$
	+3%/-4%	+7%/-3%	+78%/-109%	+24%/-36%	+14%/-21%	+219%/-44%
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 008246833-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	50 ± 8	$4.23^{+0.61}_{-0.81}$	4048^{+308}_{-367}	-4880^{+189}_{-200}	$-1.036^{+0.281}_{-0.493}$
Alt.	100 ± 54	$4.05^{+0.57}_{-0.77}$	4036^{+315}_{-389}	-5614^{+718}_{-579}	$-2.318^{+1.245}_{-1.665}$

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

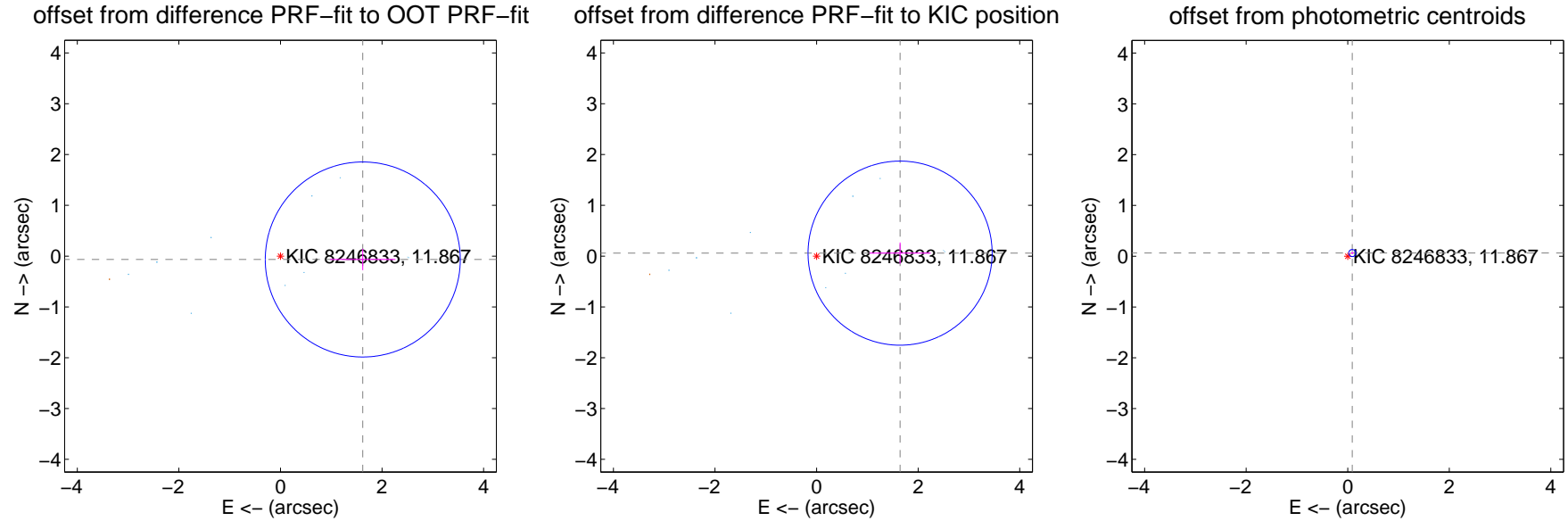
DV Centroid Data

Supplemental centroid analysis for 008246833-02. **Kepler magnitude: 11.87.** Transit SNR 24.28

There are 11 quarters with good PRF difference image offsets

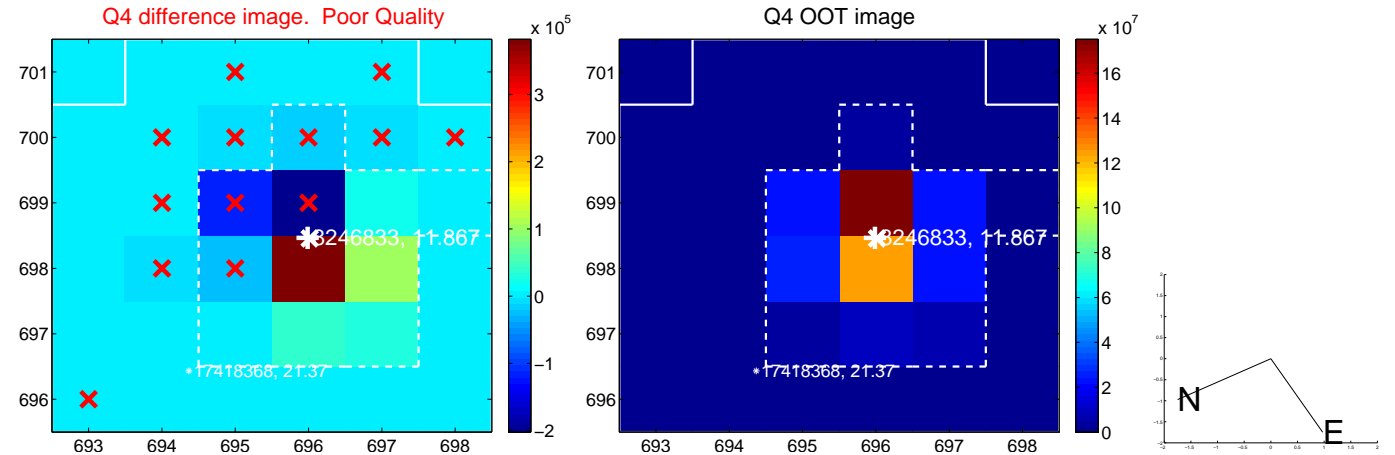
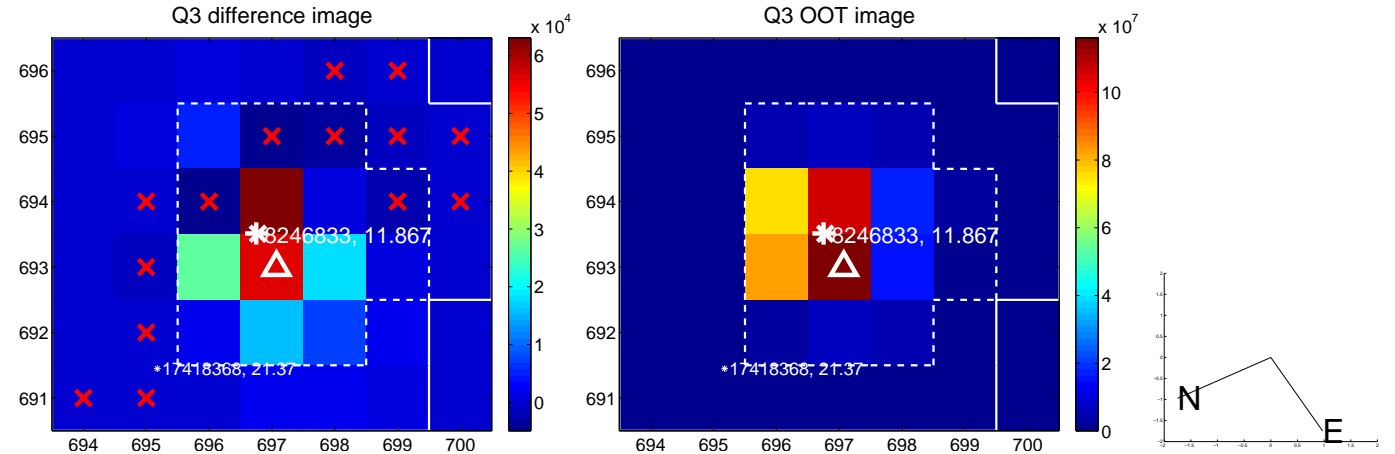
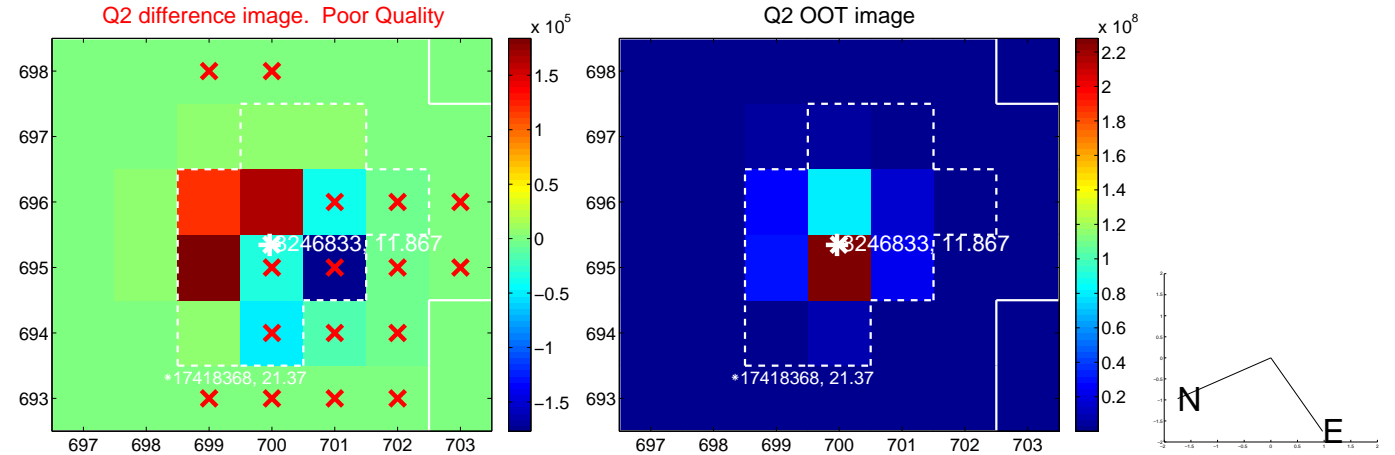
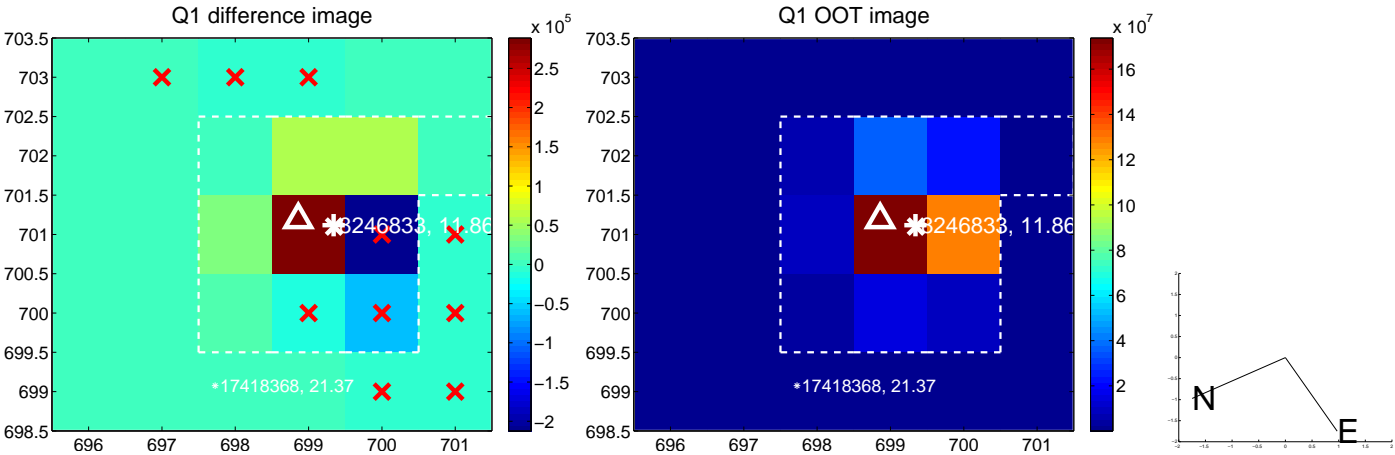
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.622 ± 0.640	2.53	-1.620 ± 0.644	-0.066 ± 0.211
PRF-fit source offset from KIC position	1.645 ± 0.604	2.72	-1.644 ± 0.602	0.059 ± 0.209
photometric centroid source offset	0.11 ± 0.02	4.70	-0.09 ± 0.02	0.06 ± 0.02

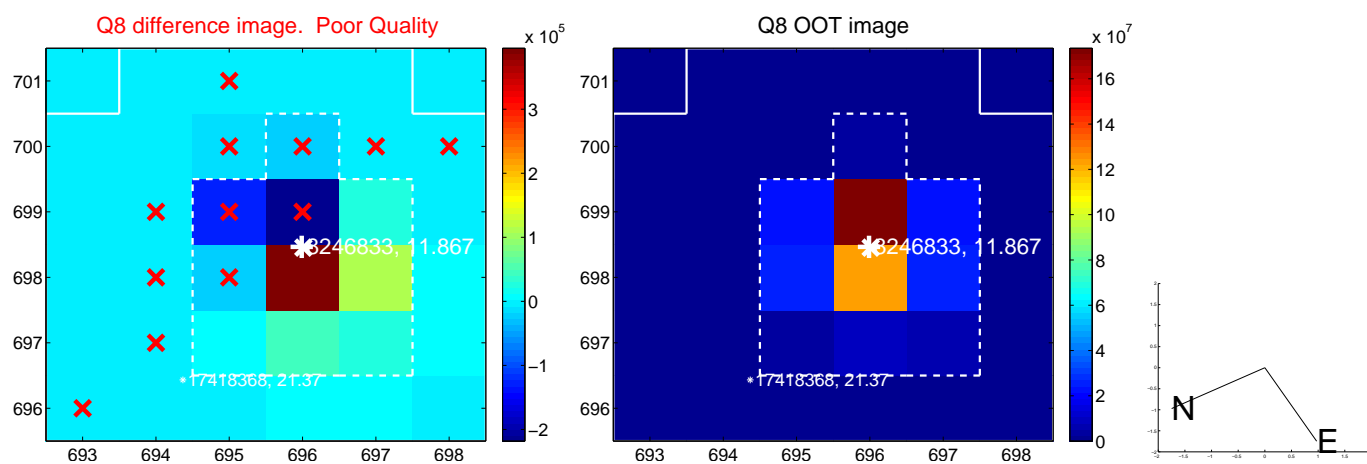
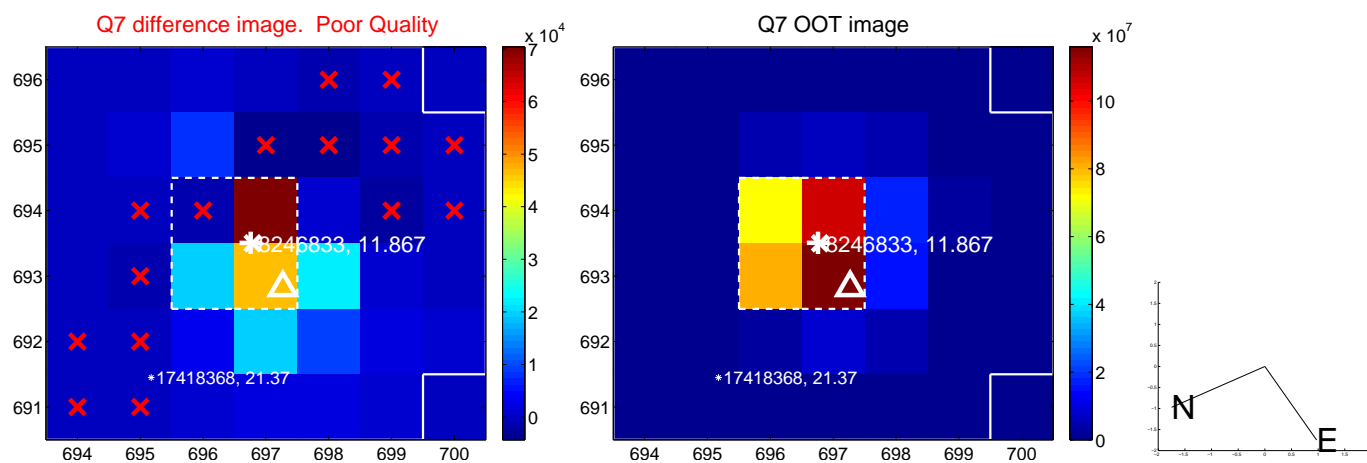
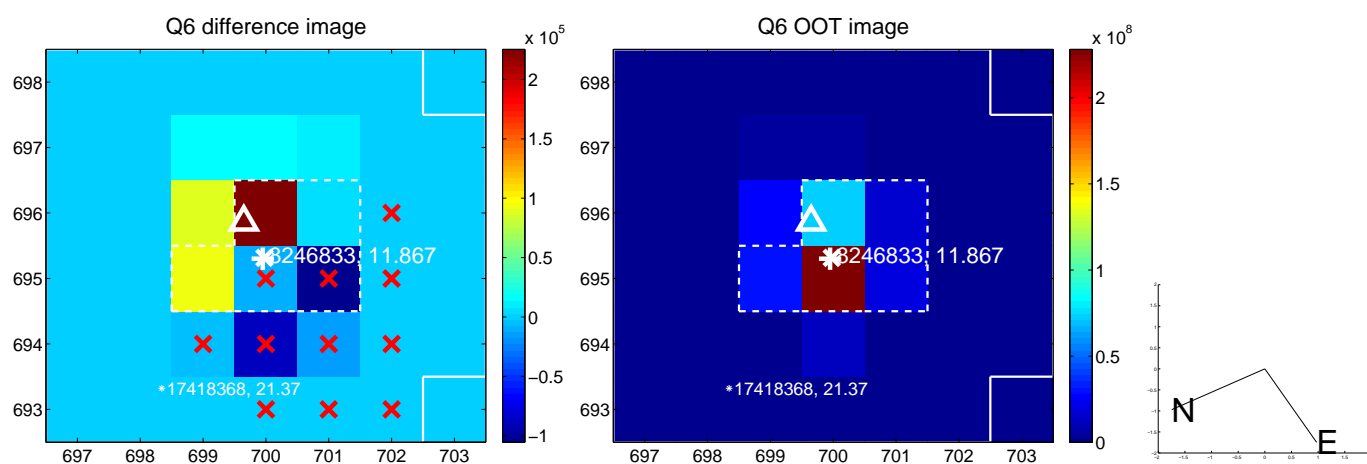
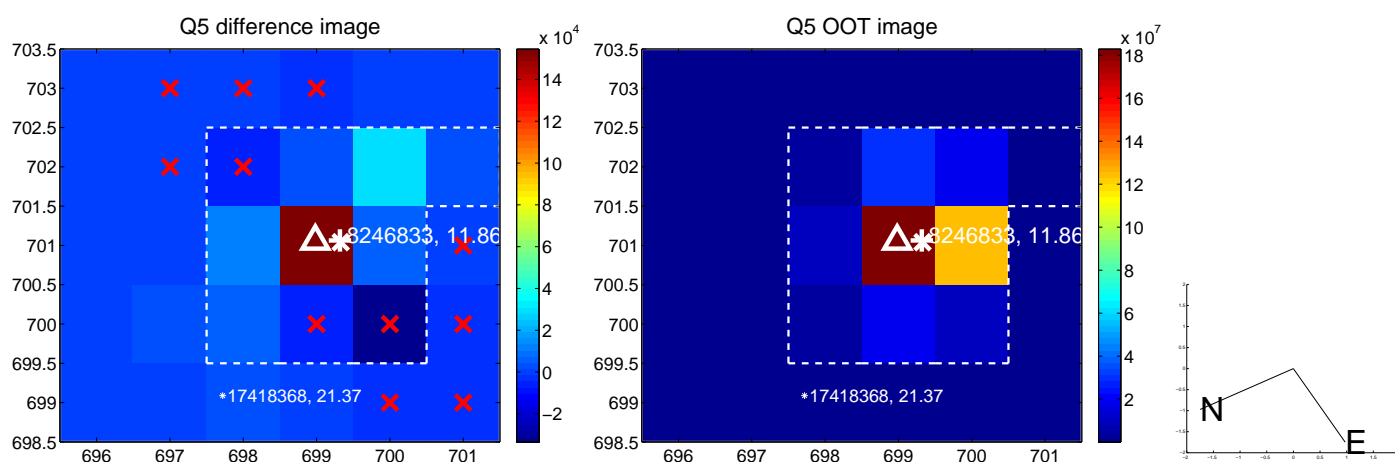


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

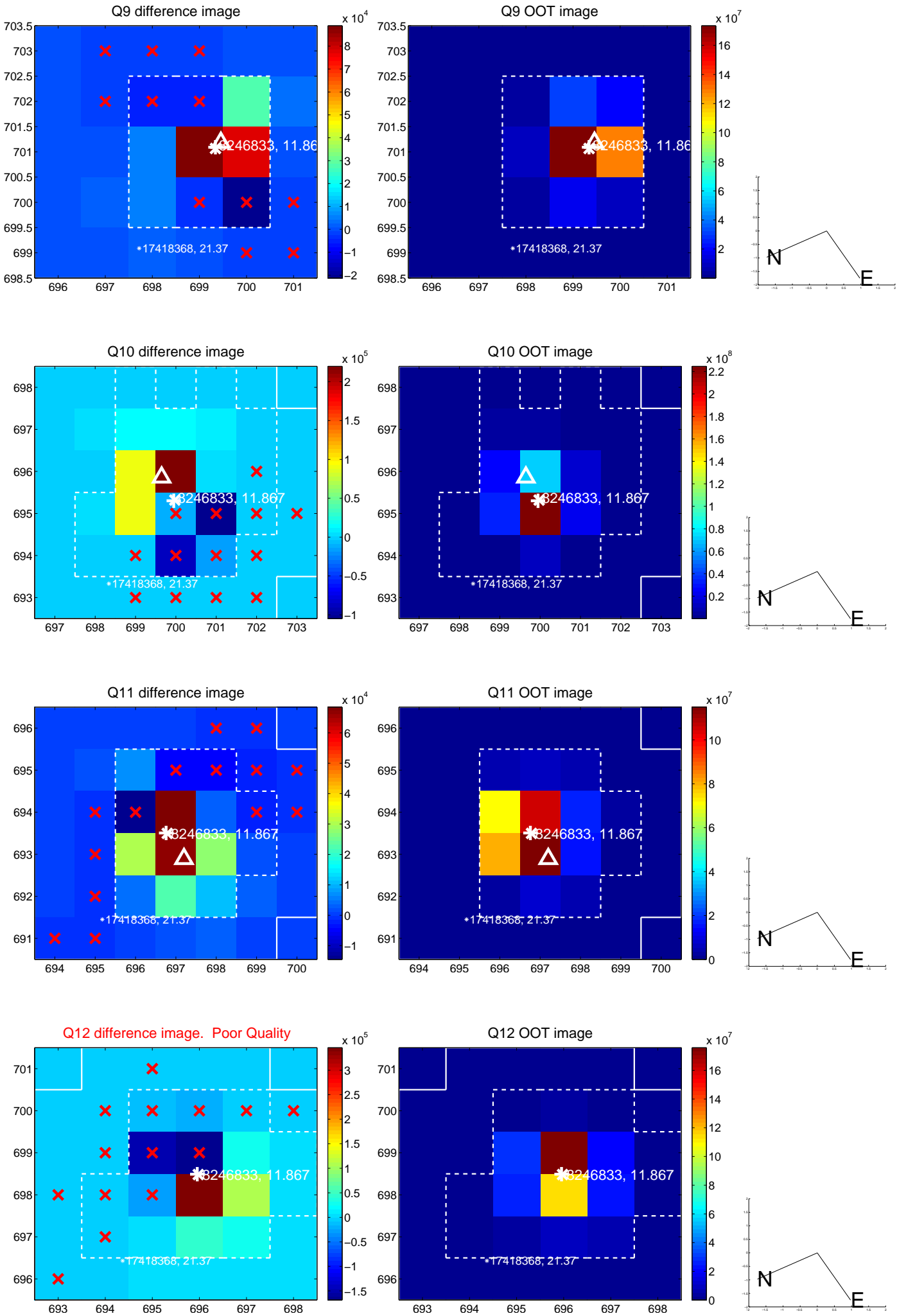
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



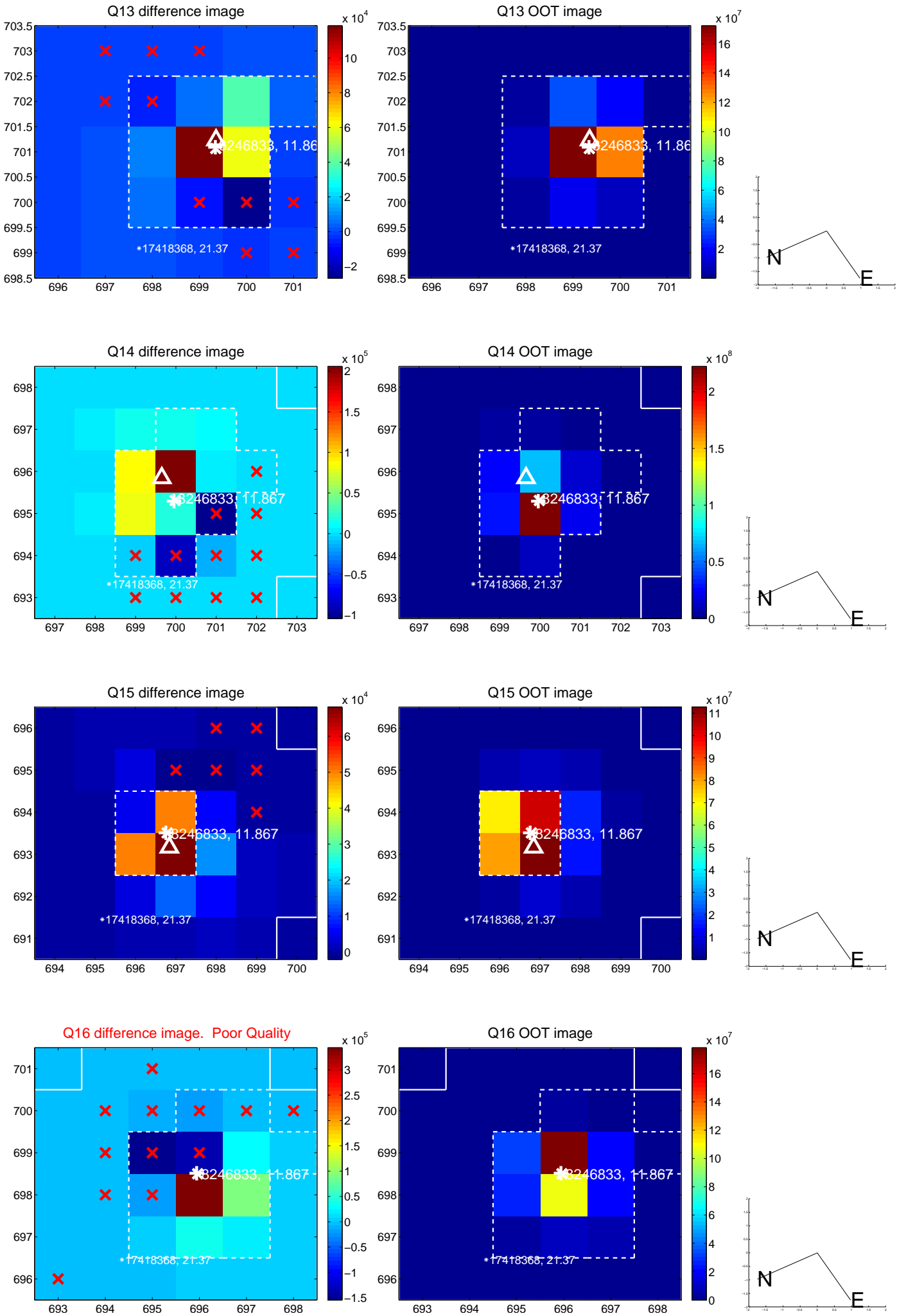
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



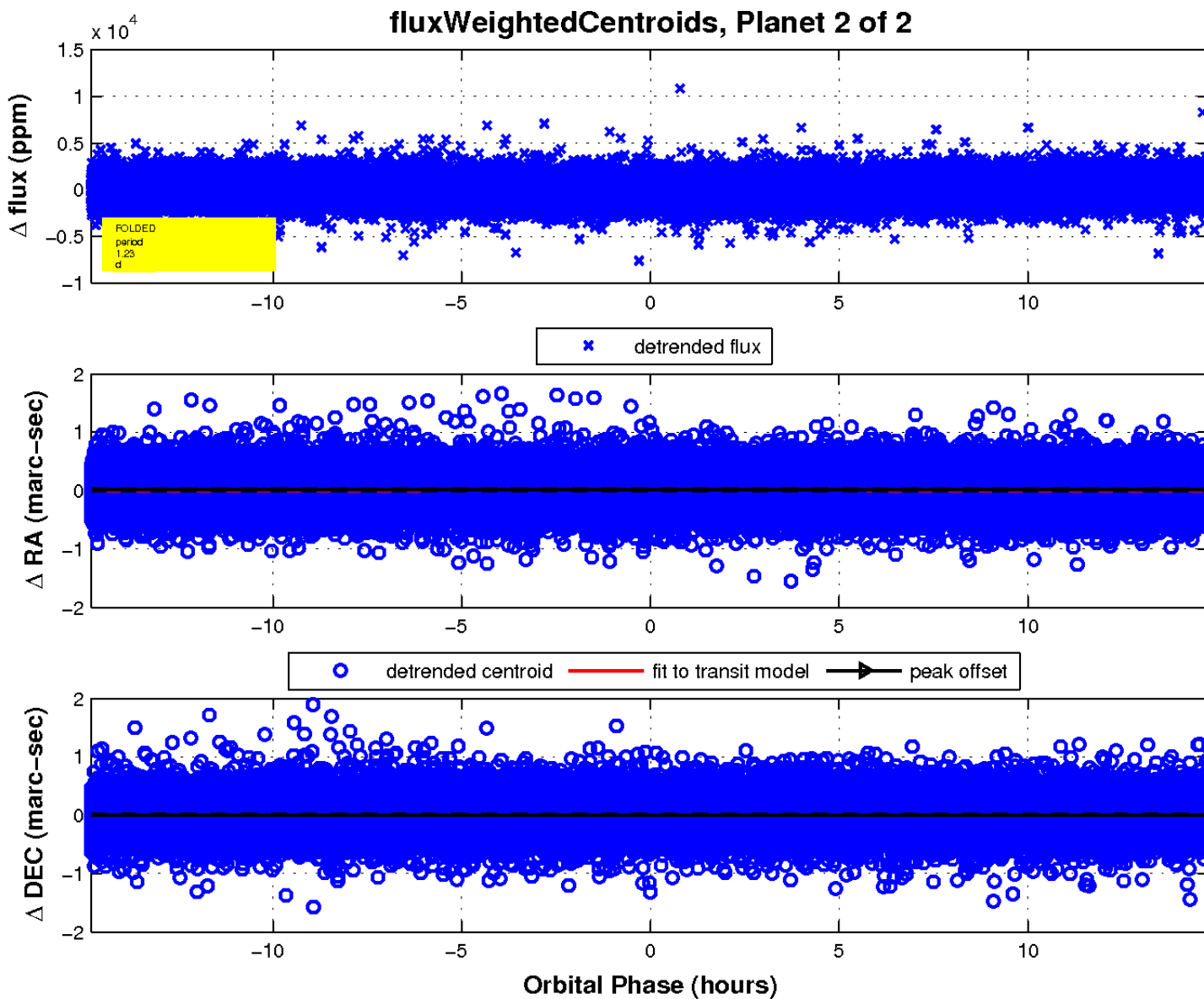
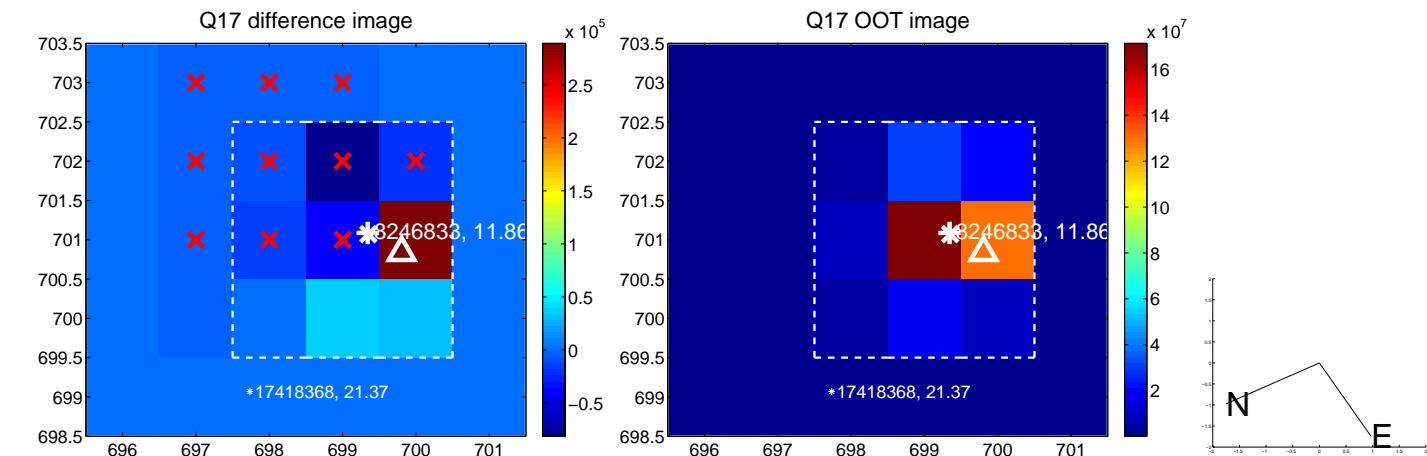
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

