

KIC 001849235

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})
001849235-01	OBS	No	0.937079	131.597271	200.0	3.043	10.7	6.9	1.67	6477	2.74	10930.64
001849235-02	OBS	No	0.937105	131.927146	884.7	1.038	12.6	17.3	1.67	6477	5.85	10930.24
001849235-03	OBS	No	4.685458	132.200323	730.7	2.098	10.1	9.9	1.67	6477	4.83	1278.43
001849235-04	OBS	No	0.520614	131.535994	166.5	1.500	9.4	-1.0	1.67	6477	2.17	23932.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001849235-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
001849235-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—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.

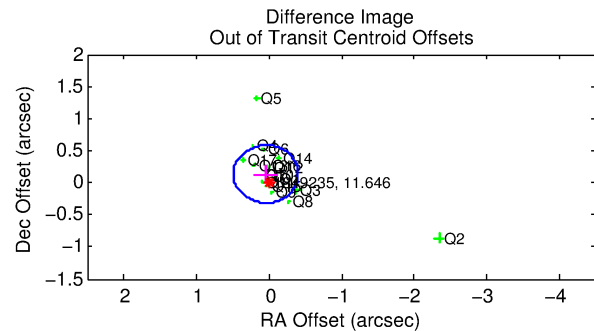
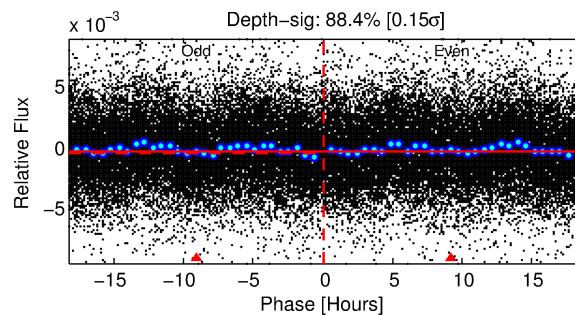
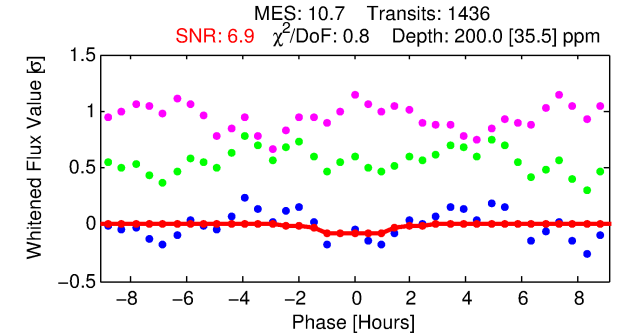
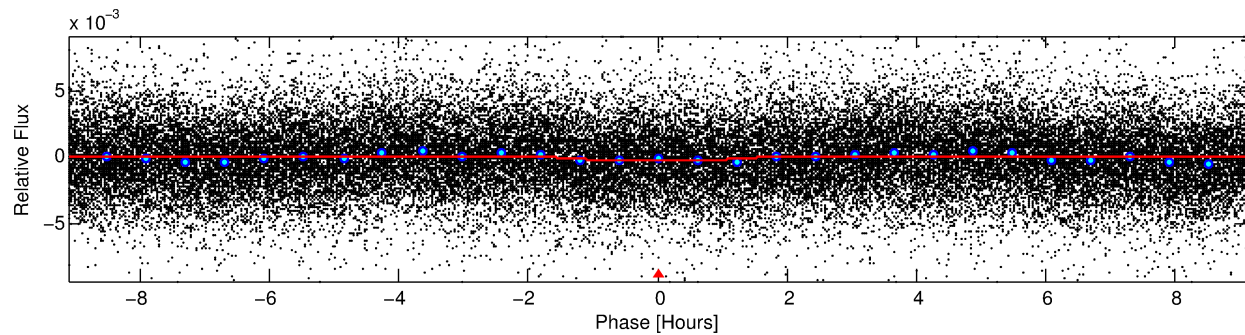
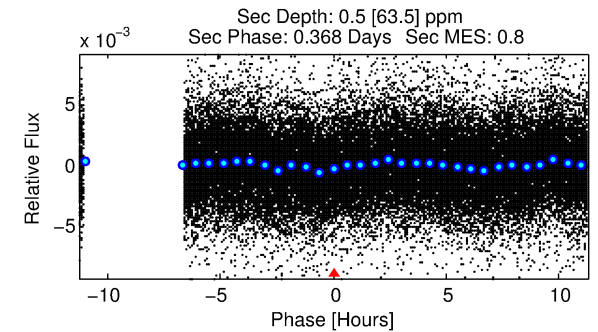
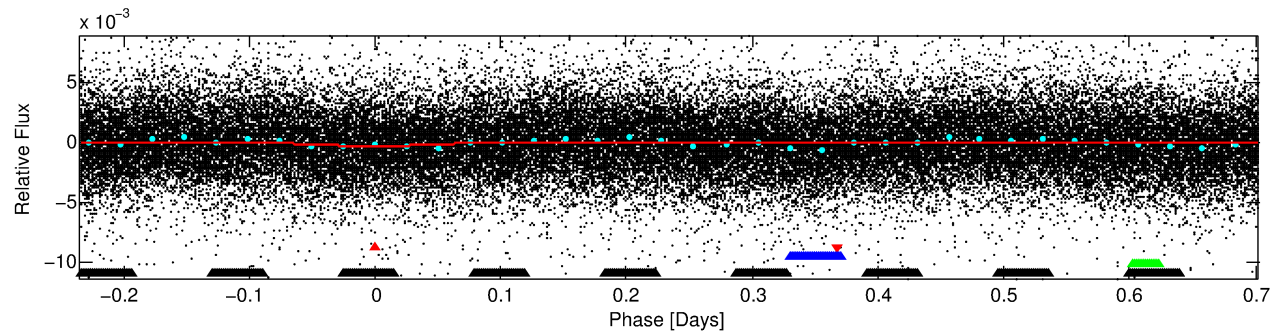
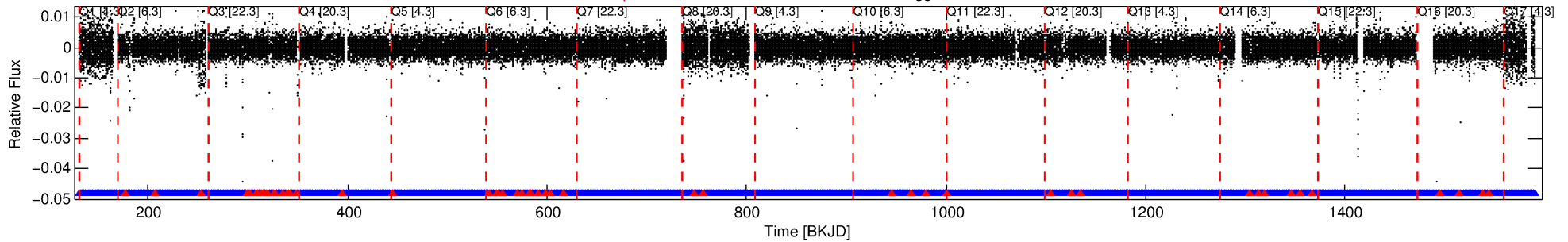
Ephemeris Match Information For 001849235-01

No Significant Match Found

DV One-Page Summary

KIC: 1849235 Candidate: 1 of 4 Period: 0.937 d

Kp: 11.65 R*: 1.67 Rs Teff: 6477.0 K Logg: 4.08 Fe/H: -0.200



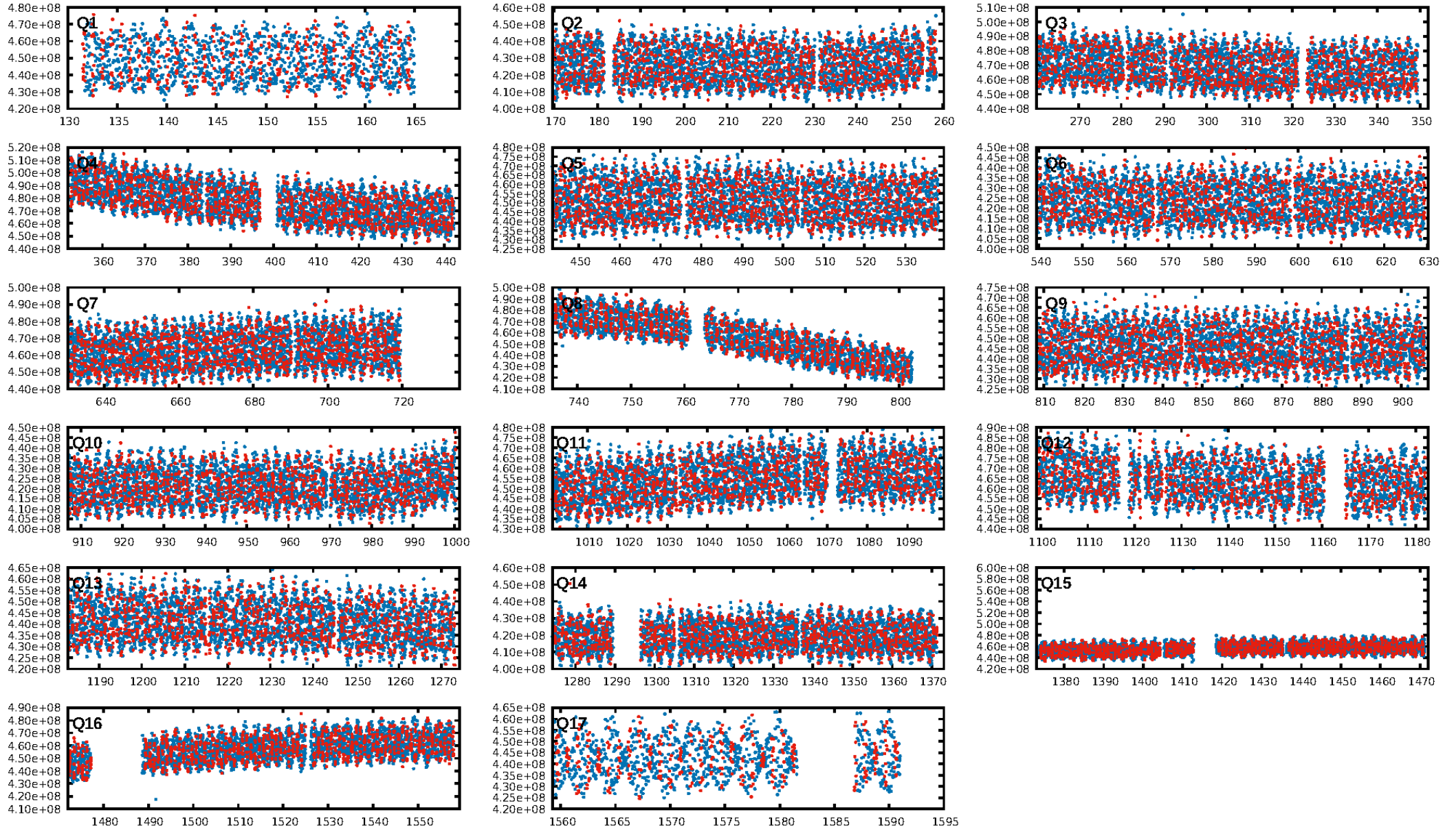
DV Fit Results:

Period = 0.93708 [0.00002] d
Epoch = 131.5973 [0.0053] BKJD
Rp/R* = 0.0151 [0.0084]
a/R* = 1.47 [2.48]
b = 0.89 [0.72]
Seff = 10930.64 [5074.62]
Teff = 2607 [303] K
Rp = 2.74 [1.73] Re
a = 0.0200 [0.0056] AU
Ag = 0.01 [1.86] [-0.53]
Teffp = 1373 [47496] K [-0.03]

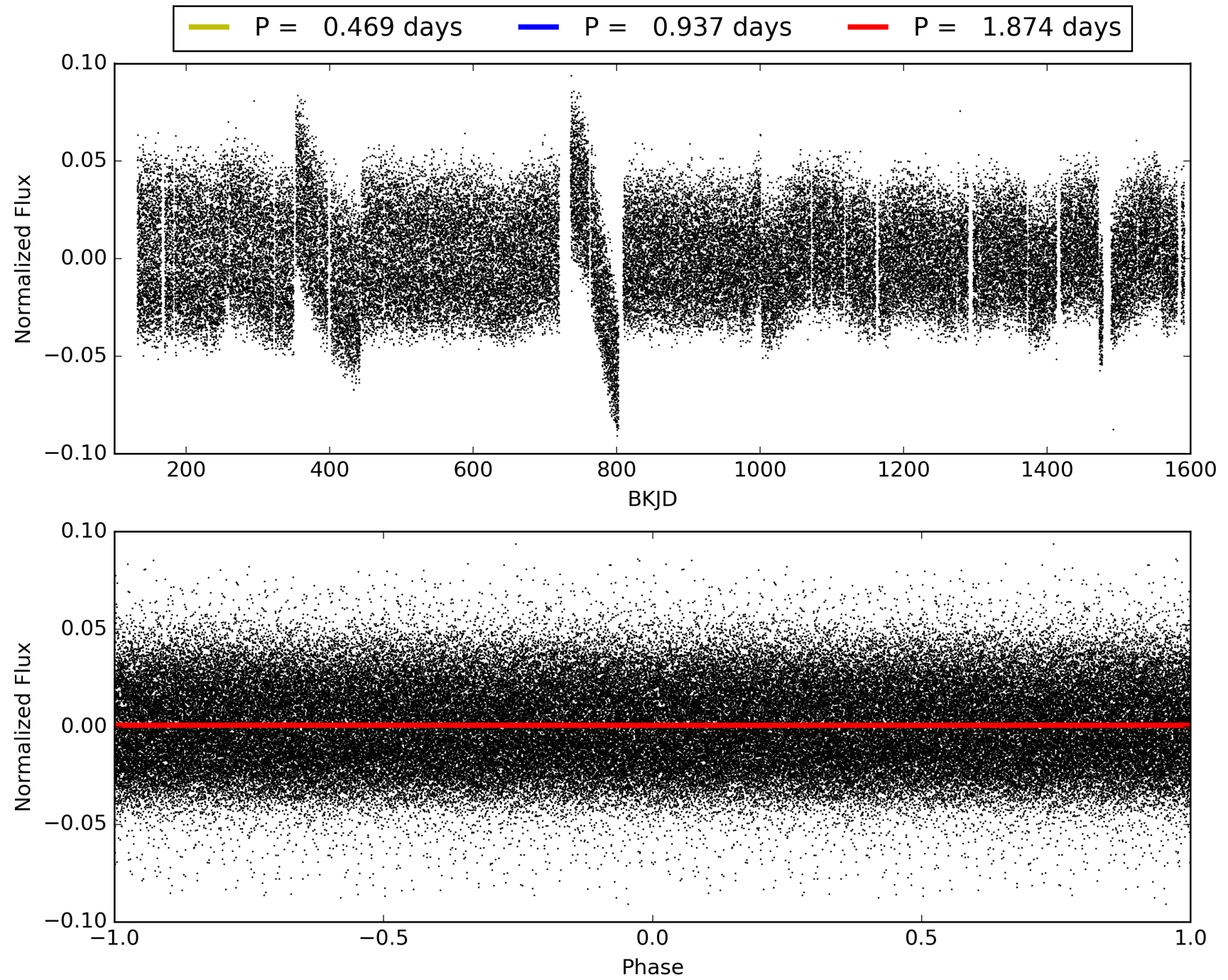
DV Diagnostic Results:

ShortPeriod-sig: 99.7% [2.95]
LongPeriod-sig: 0.0% [0.00]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [1315/1371]
GhostDiagnostic-chr: 1.452
Centroid-sig: 0.0%
Centroid-so: 0.547 arcsec [5.85]
OotOffset-rm: 0.139 arcsec [0.93]
KicOffset-rm: 0.121 arcsec [0.89]
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]

TCE 001849235-01, PDC Light Curves

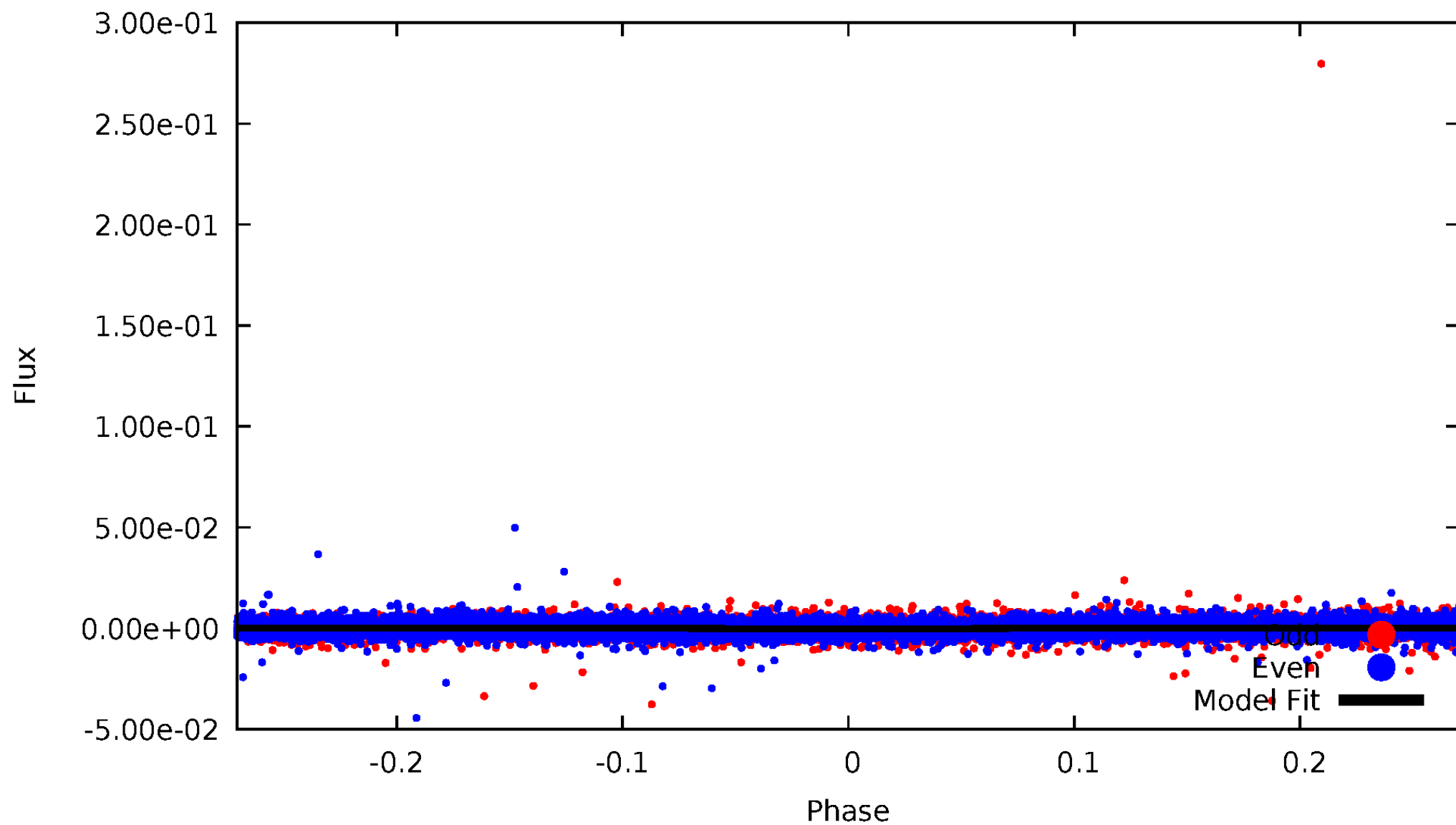


TCE 001849235-01



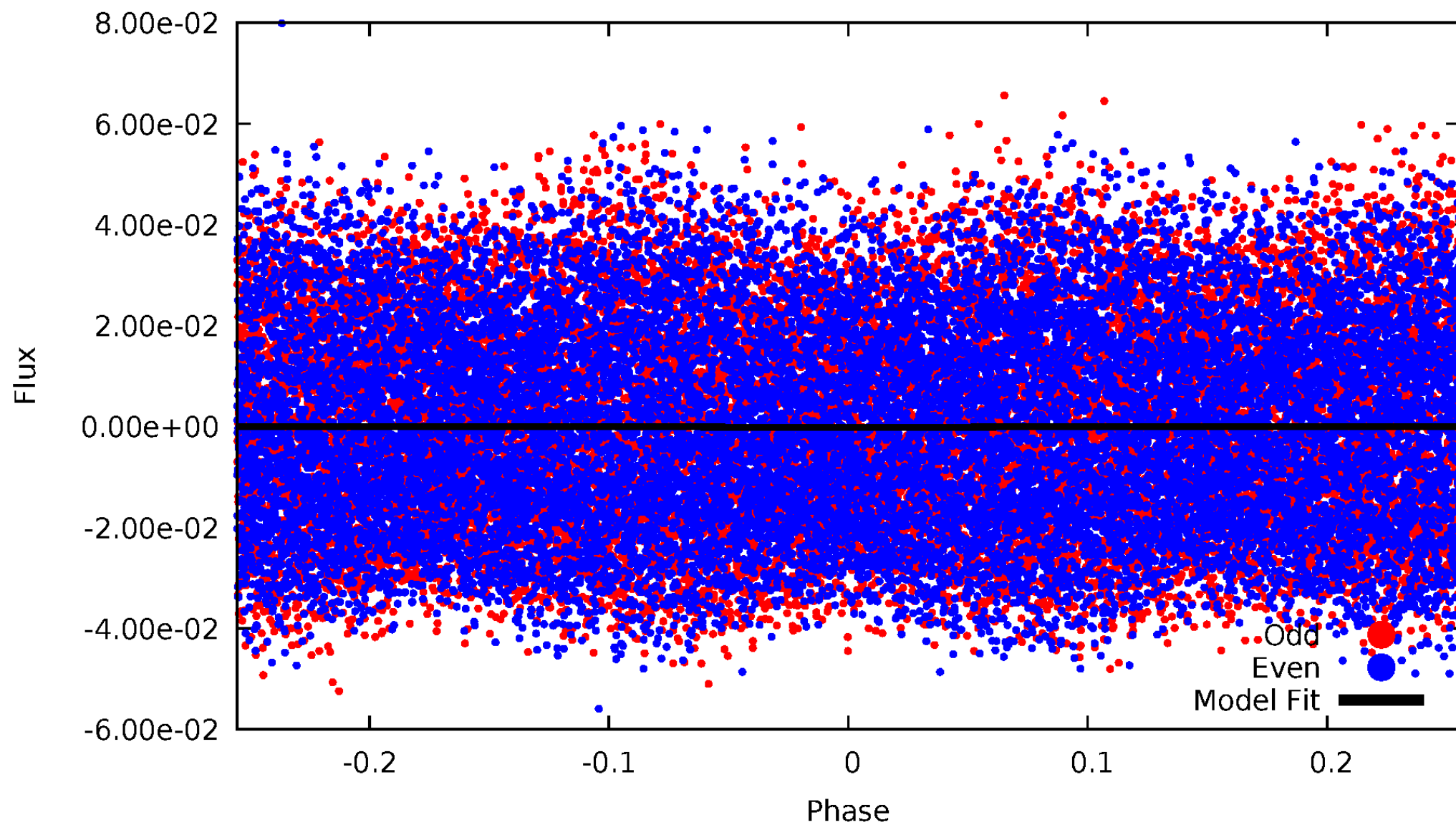
DV Odd/Even

TCE 001849235-01



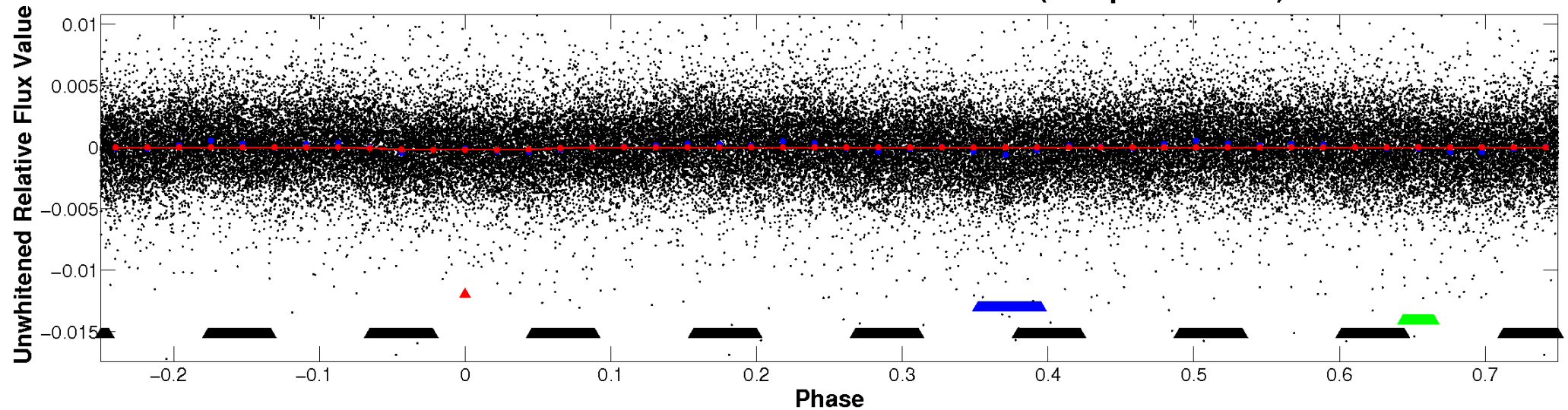
ALT Odd/Even

TCE 001849235-01

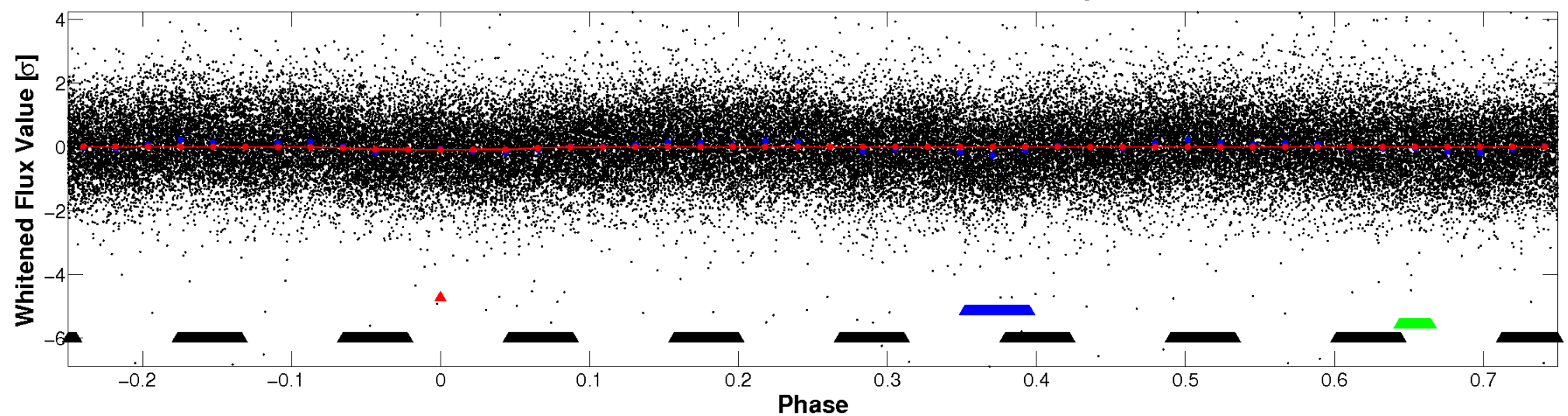


Non-Whitened Vs. Whitened Light Curve

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

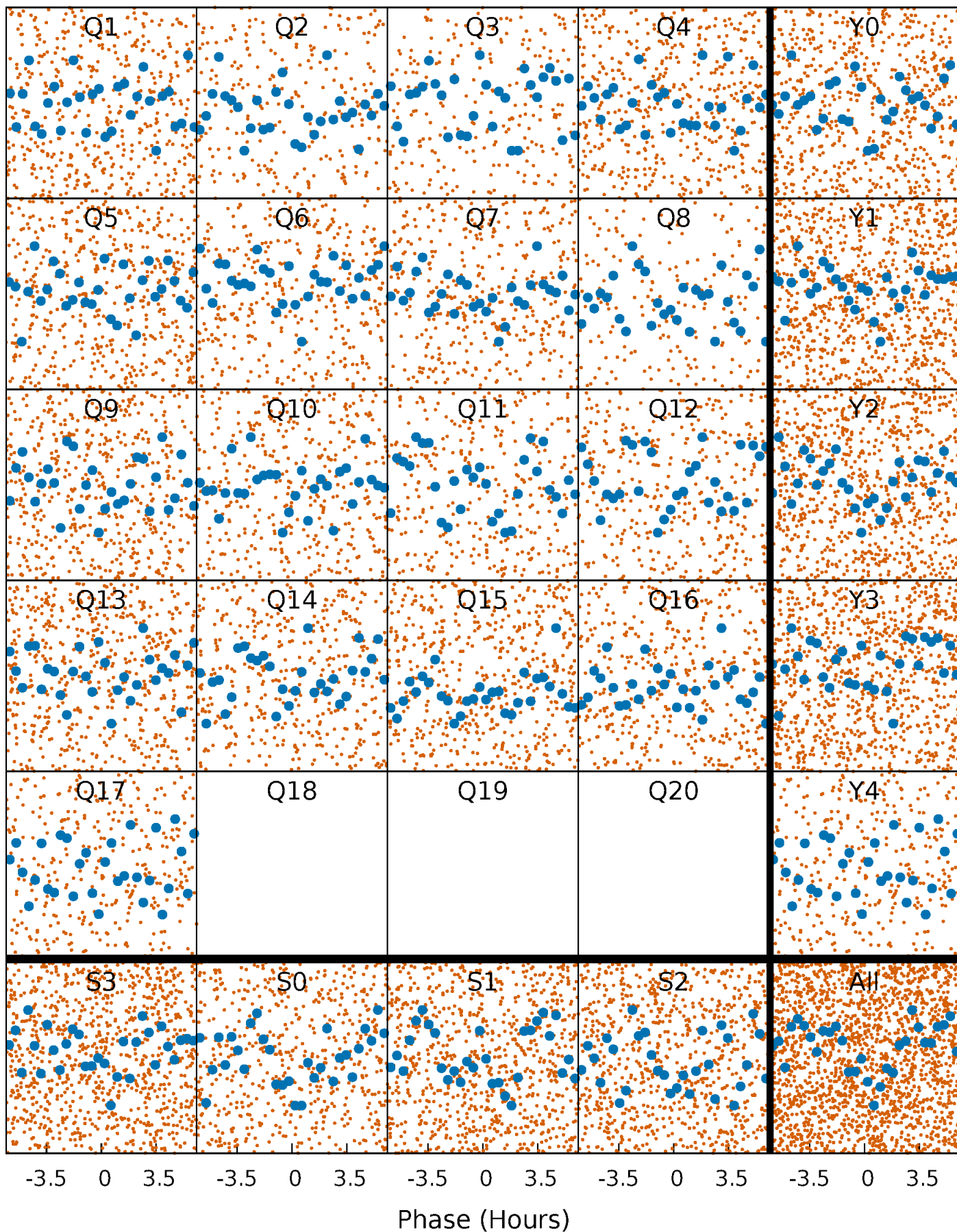


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



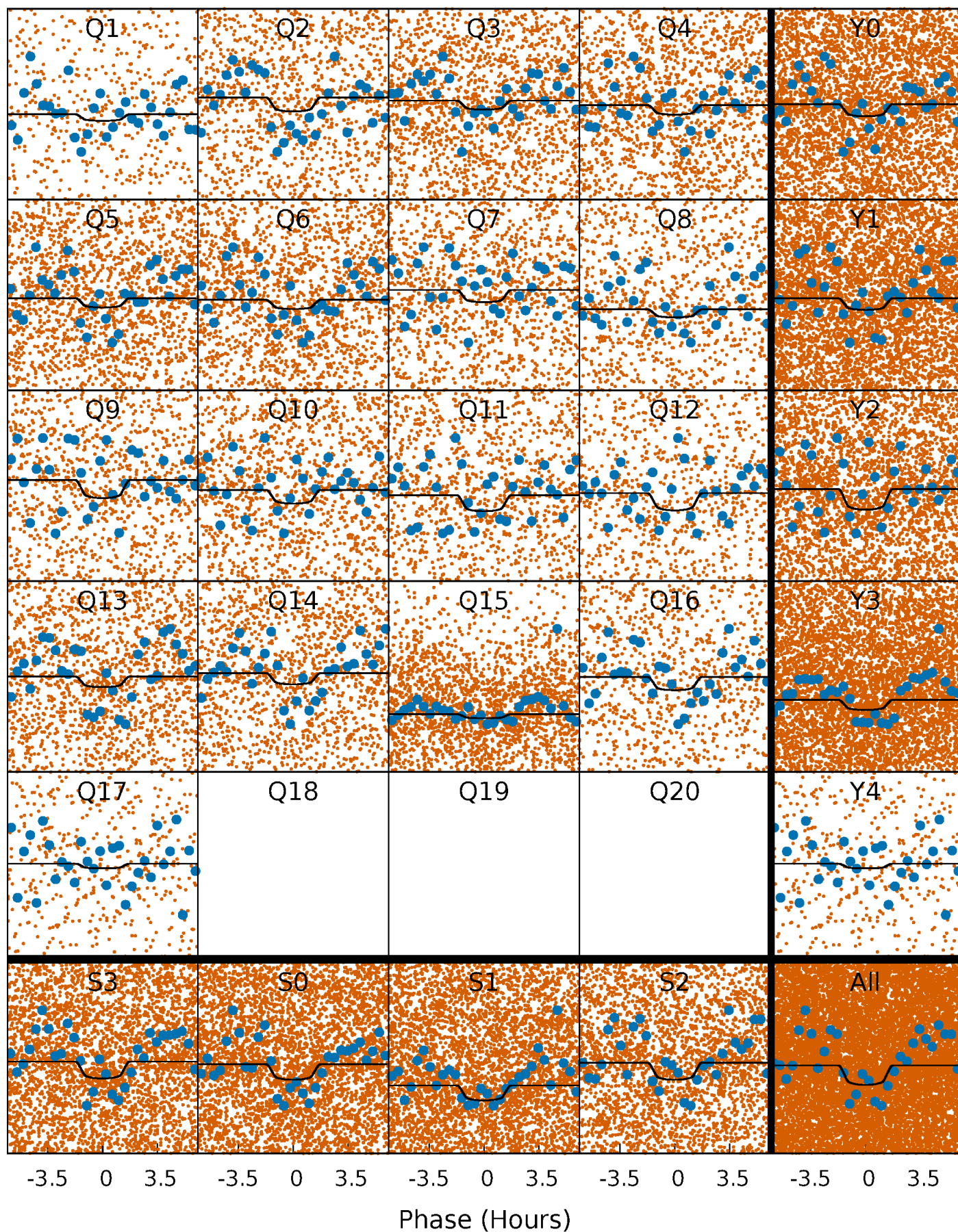
PDC Quarter-Phased Transit Curves

TCE 001849235-01 P= 0.937079 Days $T_0=131.597271$ (BKJD)



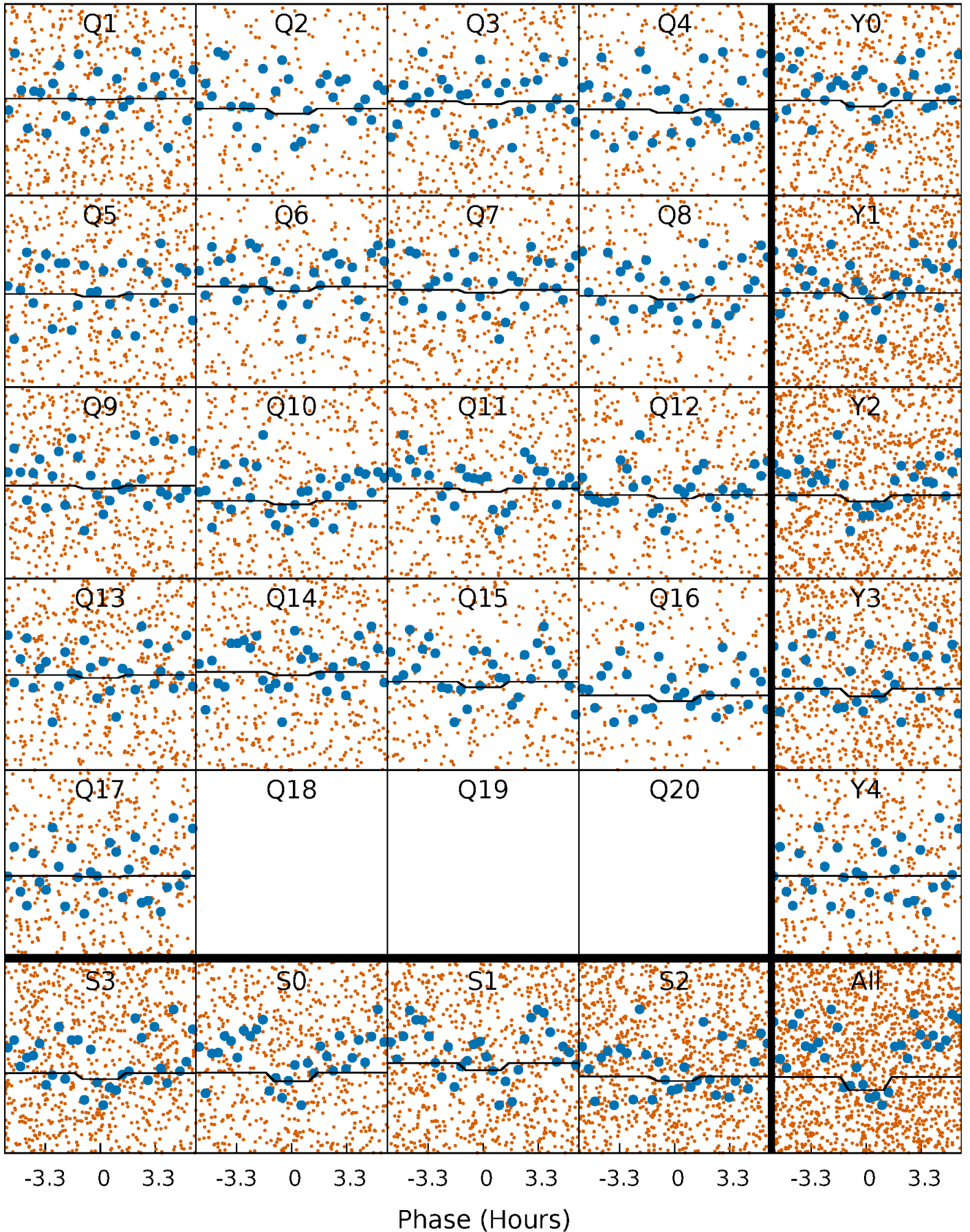
DV Quarter-Phased Transit Curves

TCE 001849235-01 P= 0.937079 Days $T_0=131.597271$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

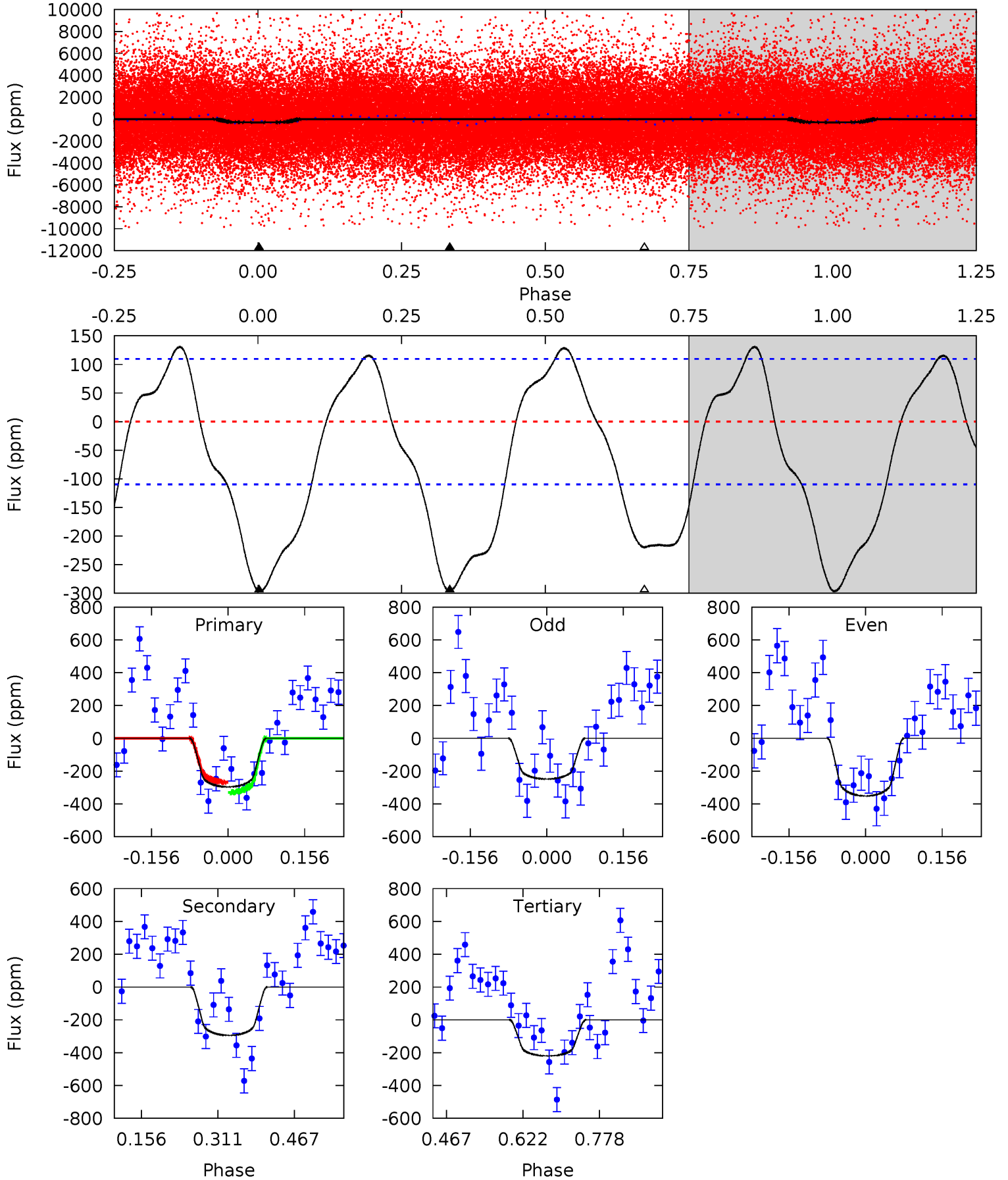
TCE 001849235-01 P= 0.937086 Days $T_0=131.597893$ (BKJD)



DV Model-Shift Uniqueness Test

001849235-01, P = 0.937079 Days, E = 130.660192 Days

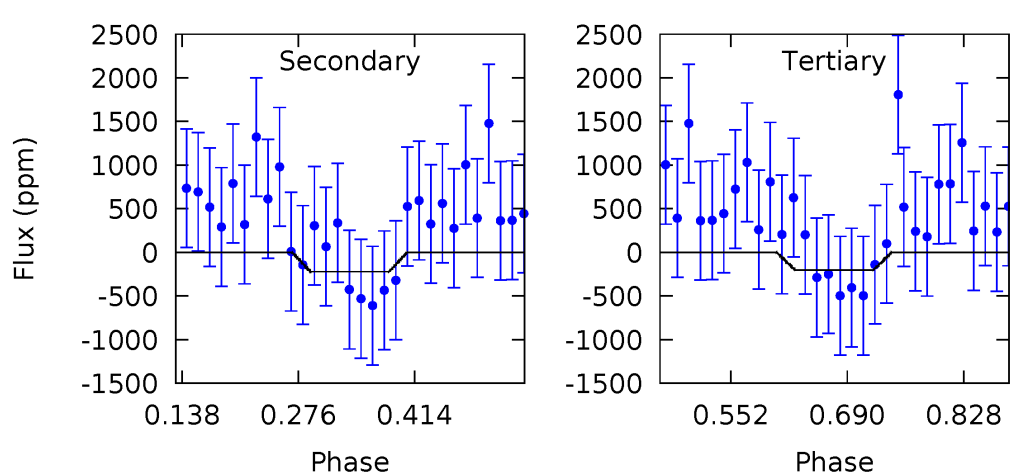
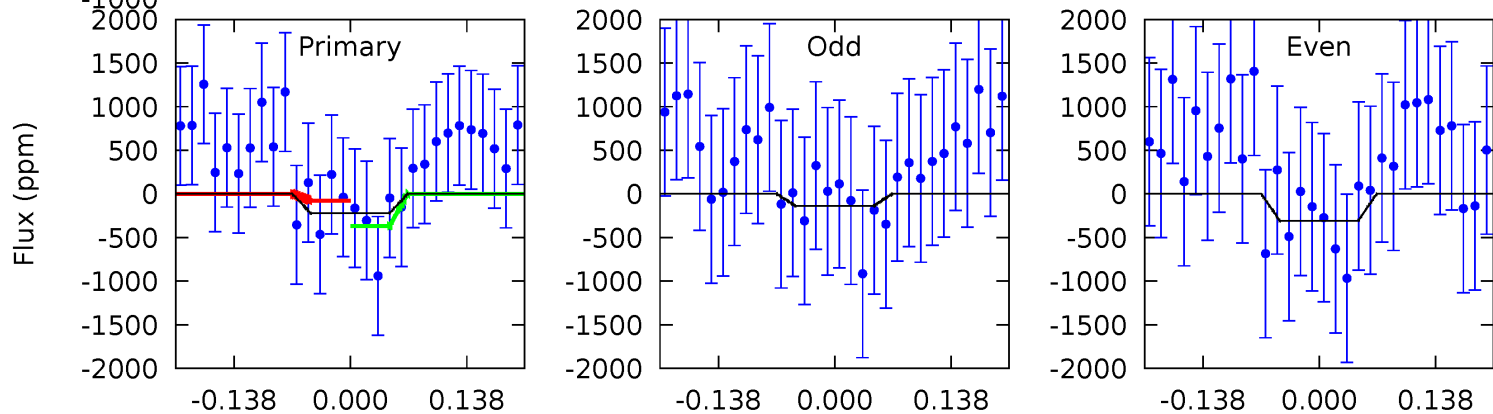
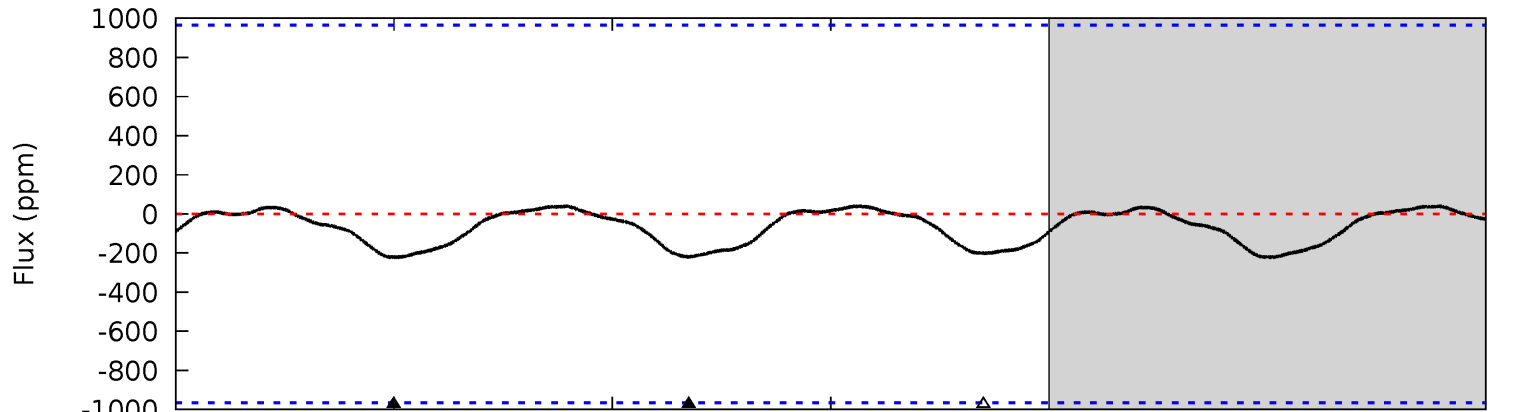
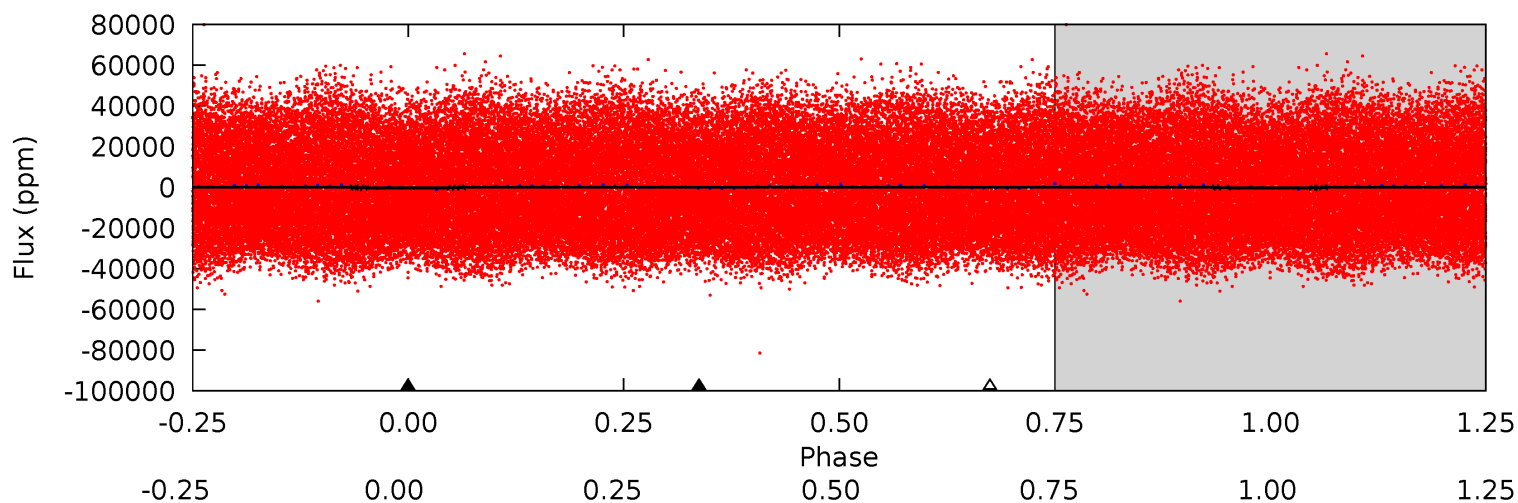
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	12.0	8.96	0	4.47	1.42	5.06	3.13	12.1	3.06	12.0	2.12	1.03	0.31	1.27



Alt Model-Shift Uniqueness Test

001849235-01, P = 0.937086 Days, E = 130.660807 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.04	1.03	0.94	0	4.50	1.48	0.38	0.10	1.04	0.09	1.03	0.40	1.58	0.15	0.69



Stellar Parameters For KIC 001849235

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6477^{+181}_{-227}	$4.080^{+0.258}_{-0.172}$	$-0.200^{+0.250}_{-0.300}$	$1.667^{+0.494}_{-0.494}$	$1.221^{+0.201}_{-0.201}$	$0.371^{+0.603}_{-0.176}$
	+3%/-4%	+6%/-4%	+125%/-150%	+30%/-30%	+16%/-16%	+163%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001849235-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-295 ± 25	$2.68^{+1.73}_{-1.43}$	3630^{+278}_{-322}	6815^{+4352}_{-1460}	$8.889^{+33.097}_{-5.587}$
Alt.	-221 ± 215	$2.74^{+1.43}_{-1.54}$	3618^{+290}_{-295}	6060^{+4380}_{-9686}	$5.583^{+27.761}_{-5.583}$

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

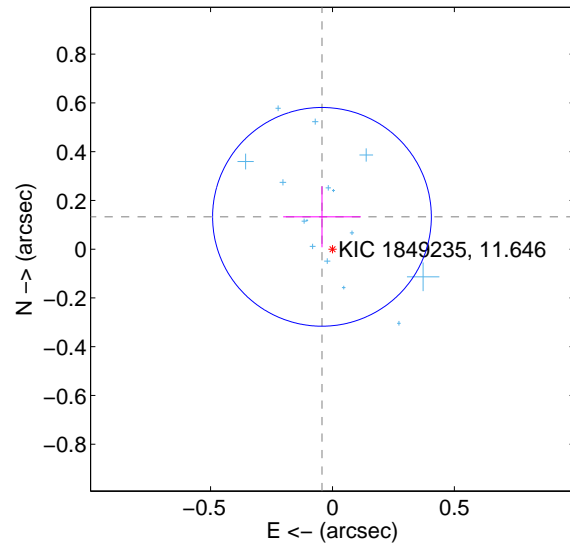
Supplemental centroid analysis for 001849235-01. **Kepler magnitude: 11.65**. Transit SNR 6.89

There are 17 quarters with good PRF difference image offsets

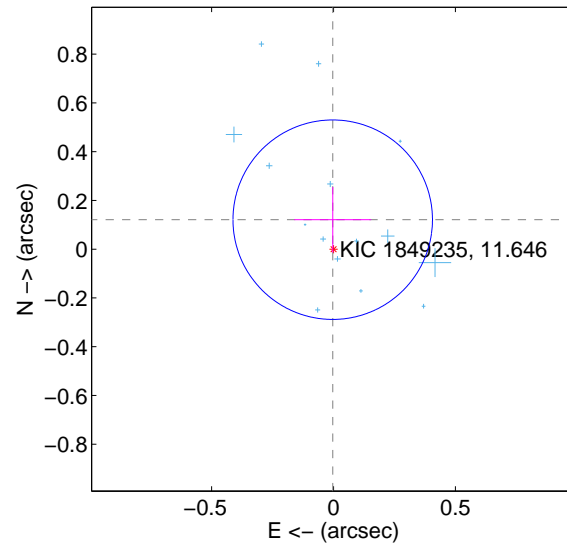
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.150	0.93	0.043 ± 0.159	0.133 ± 0.125
PRF-fit source offset from KIC position	0.121 ± 0.136	0.89	0.003 ± 0.157	0.121 ± 0.134
photometric centroid source offset	0.55 ± 0.09	5.85	0.05 ± 0.07	0.54 ± 0.09

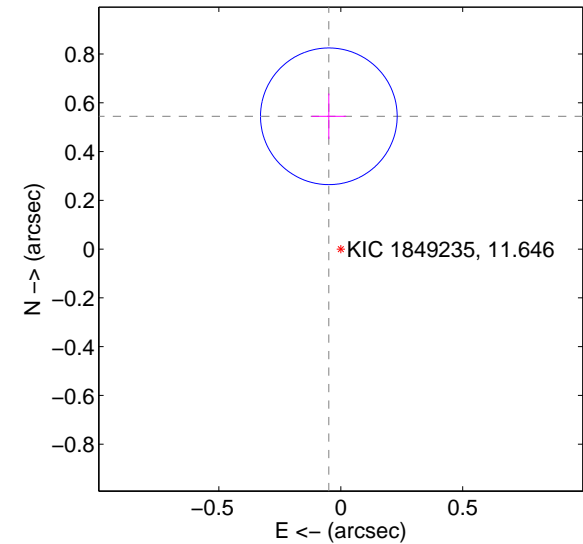
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

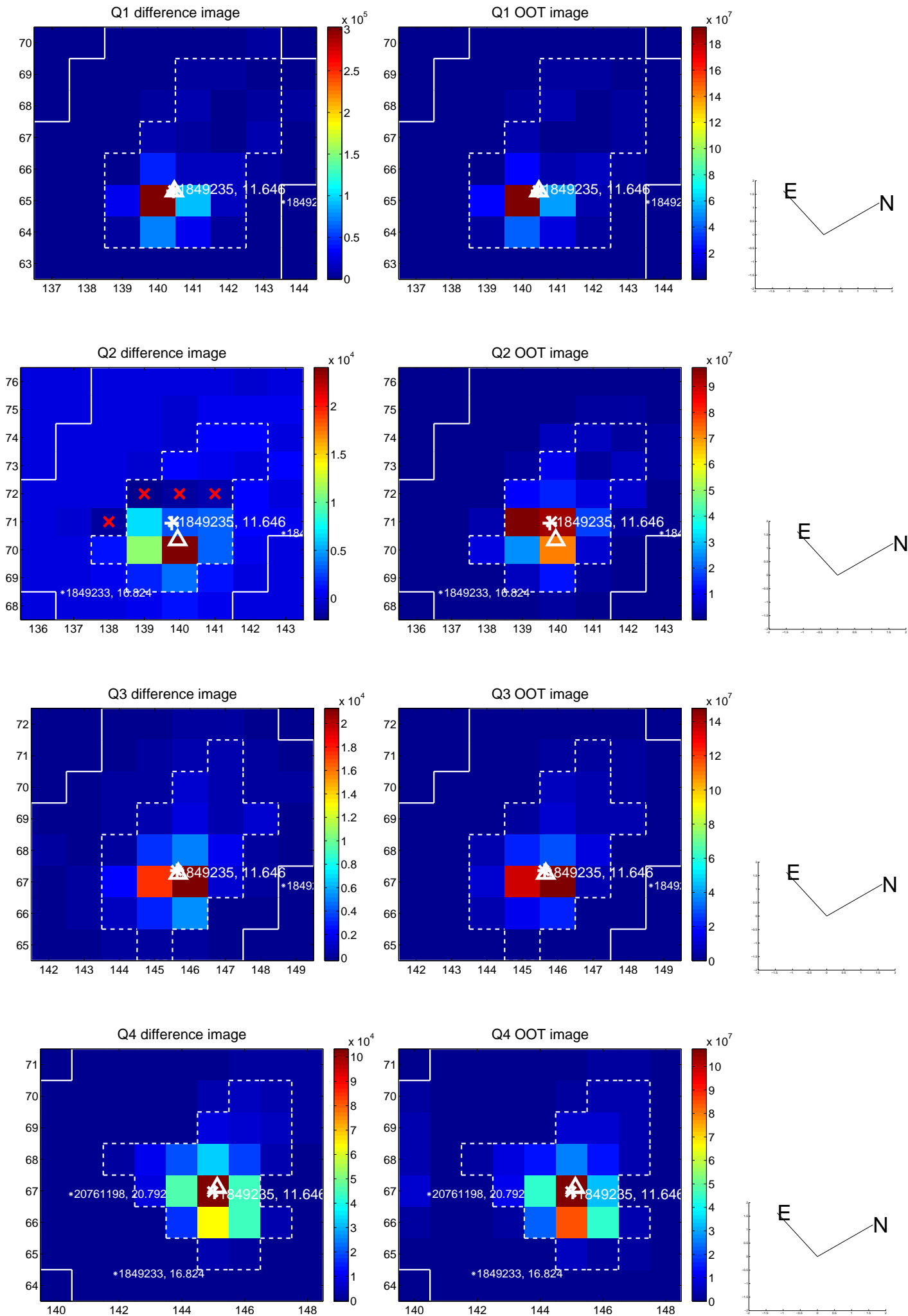


offset from photometric centroids

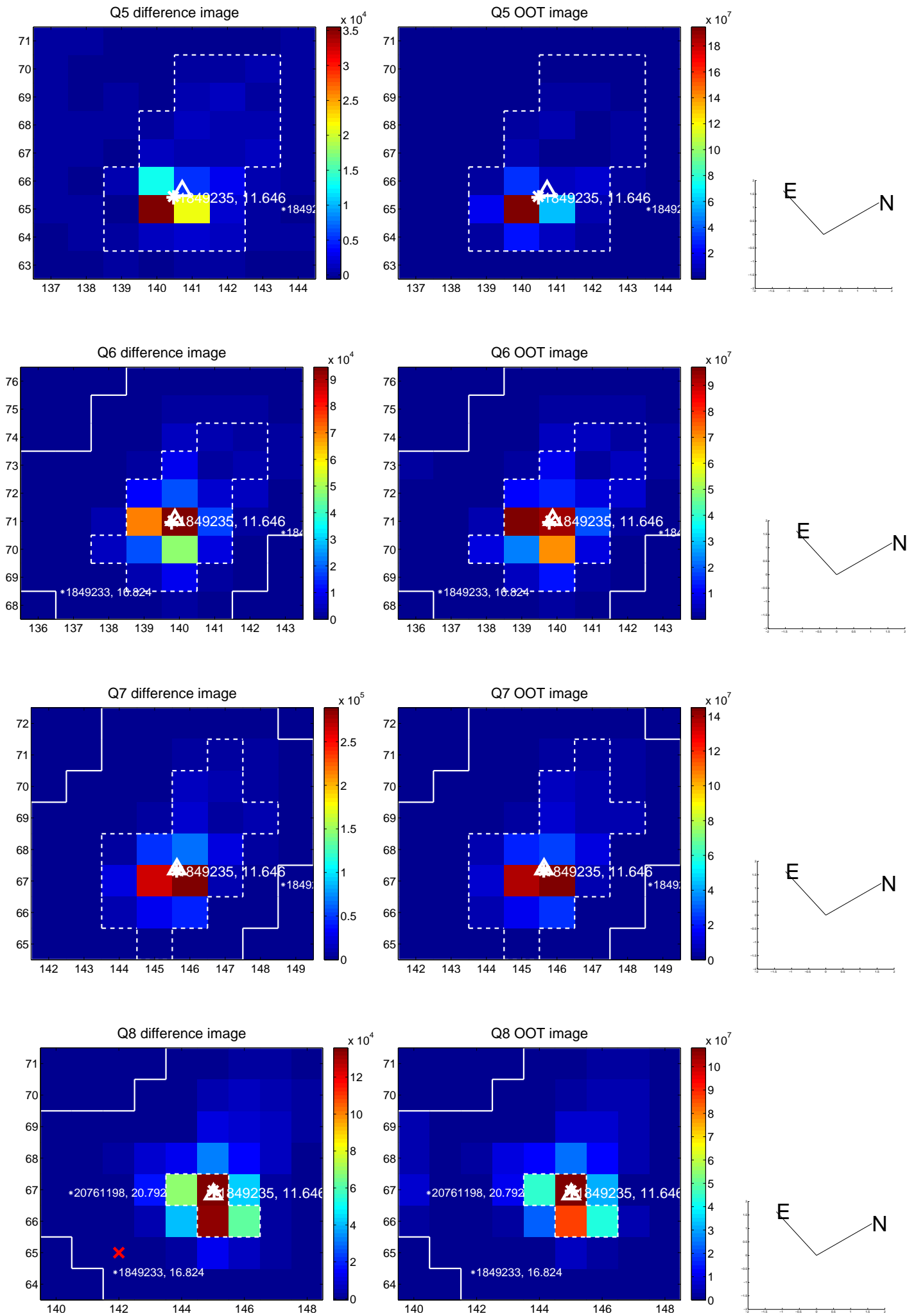


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

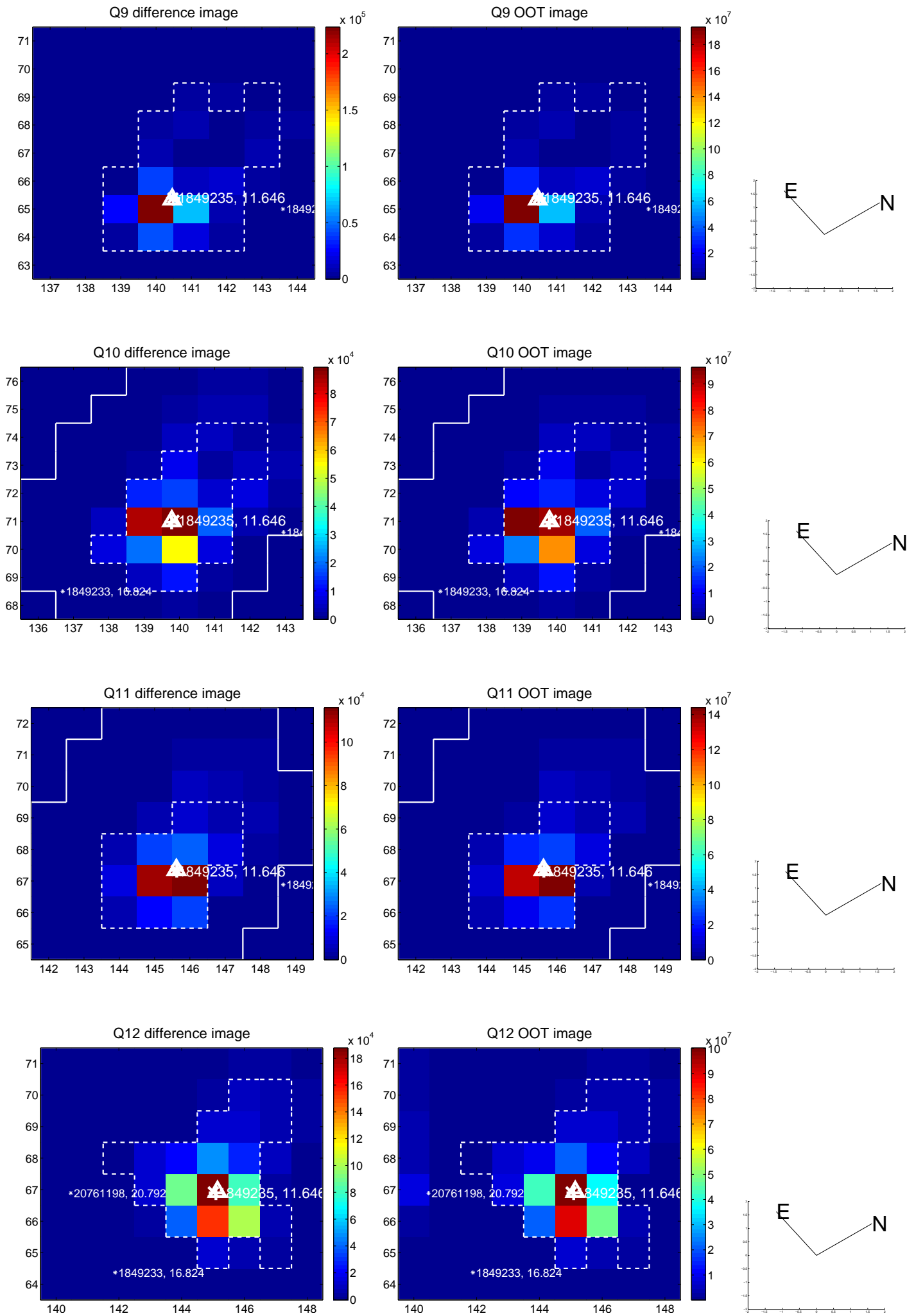
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



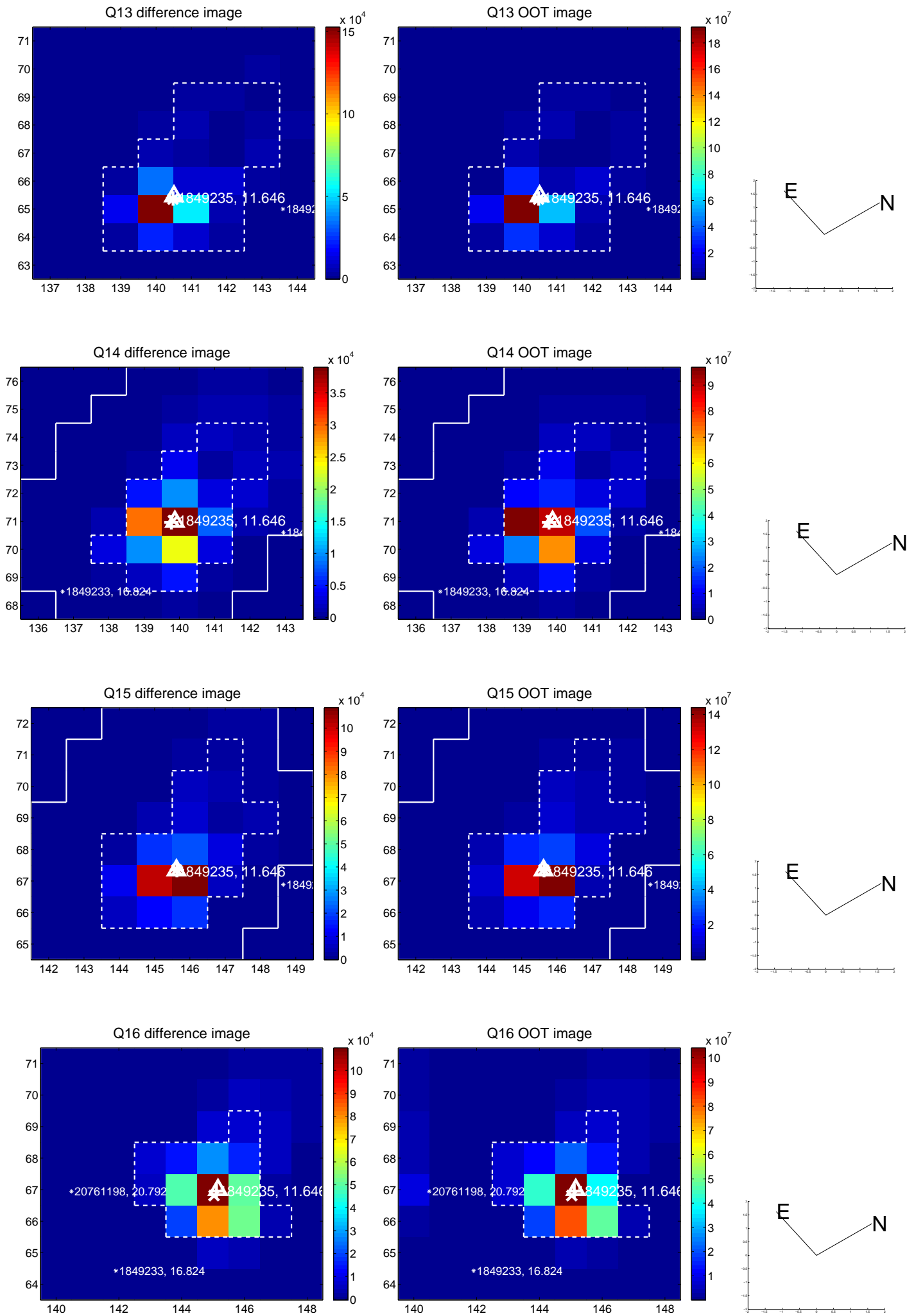
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



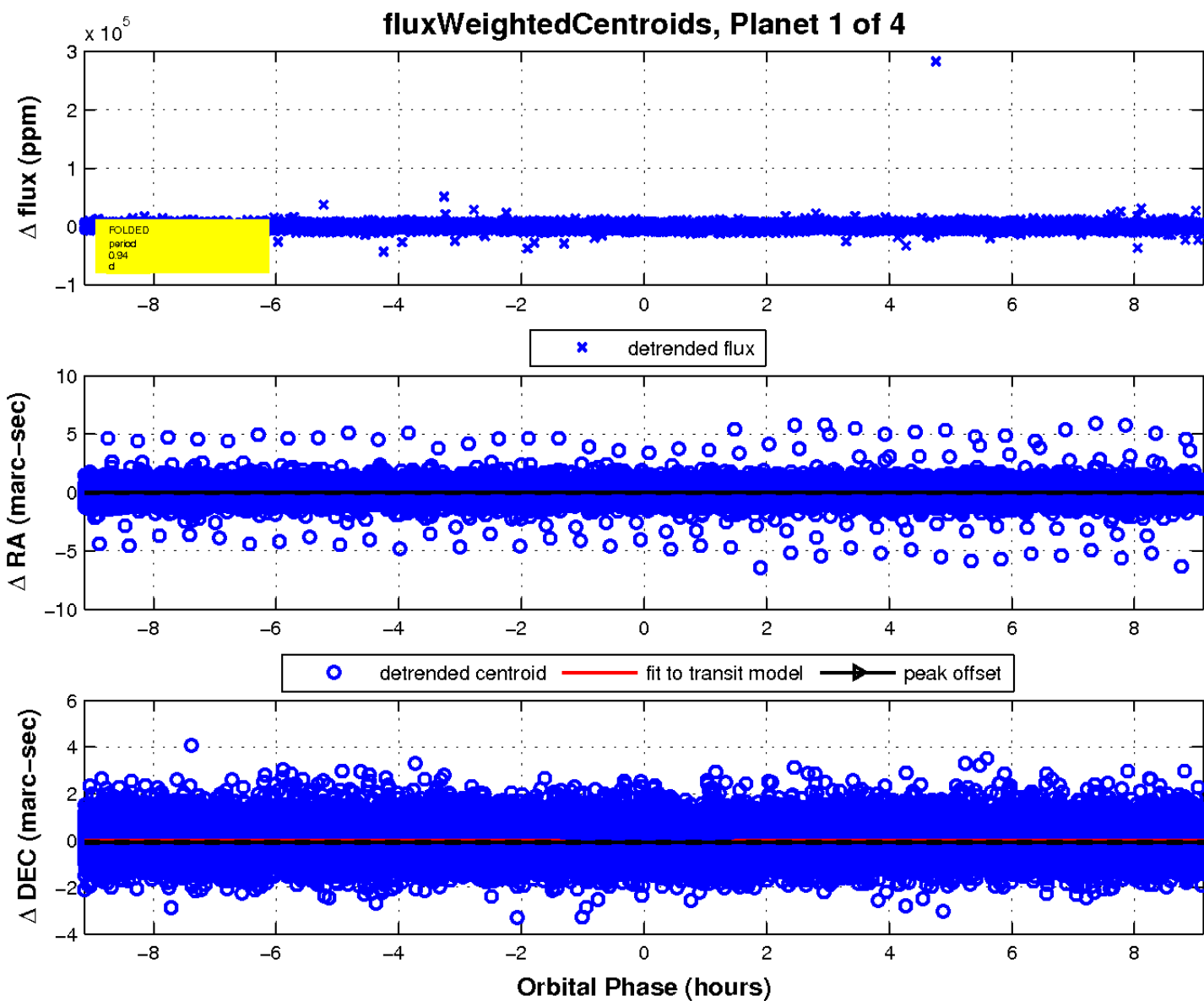
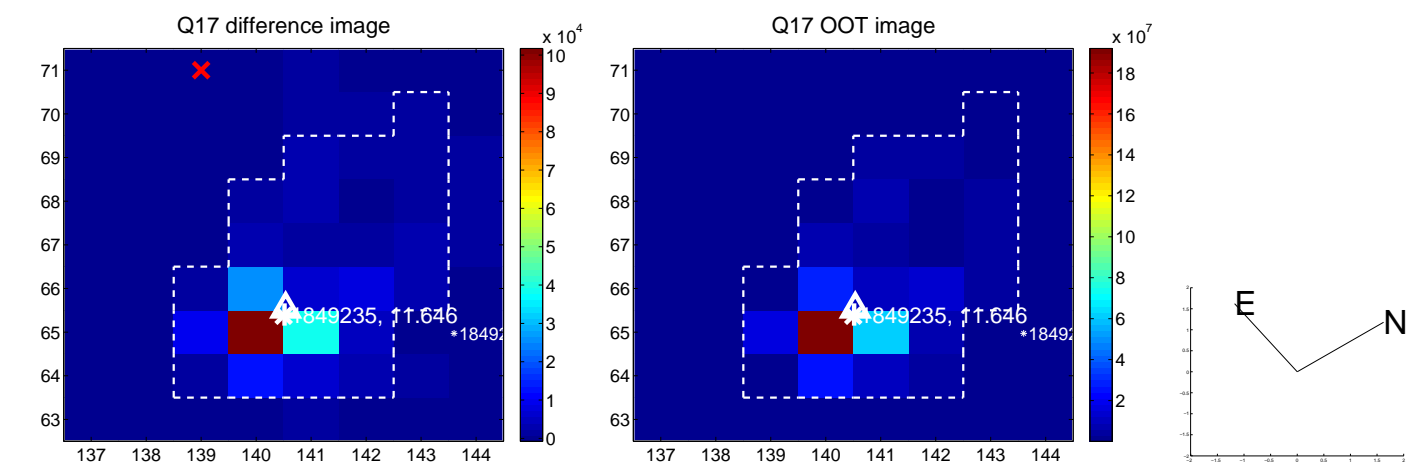
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

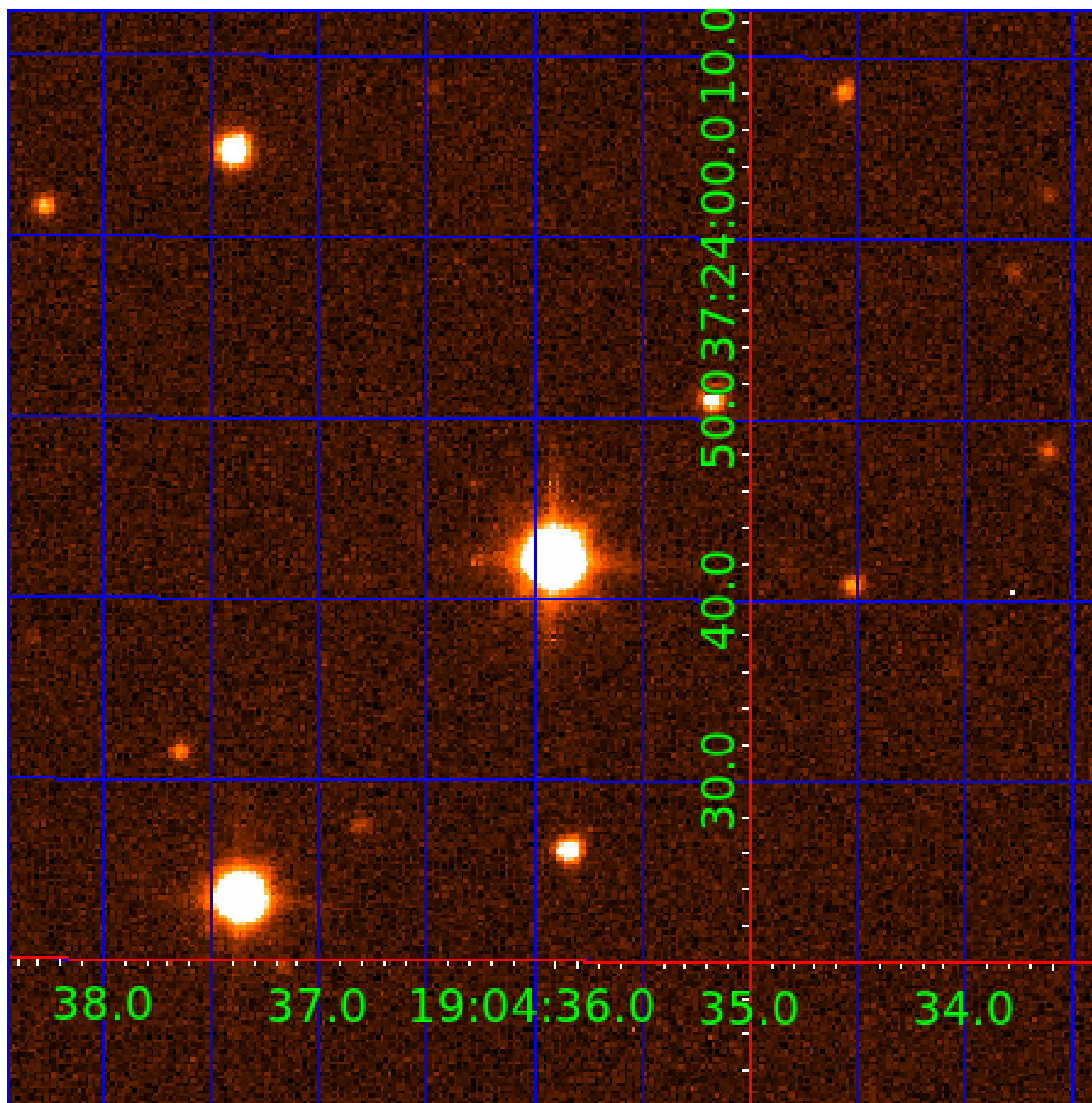


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001849235

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})
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001849235-04	OBS	No	0.520614	131.535994	166.5	1.500	9.4	-1.0	1.67	6477	2.17	23932.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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001849235-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

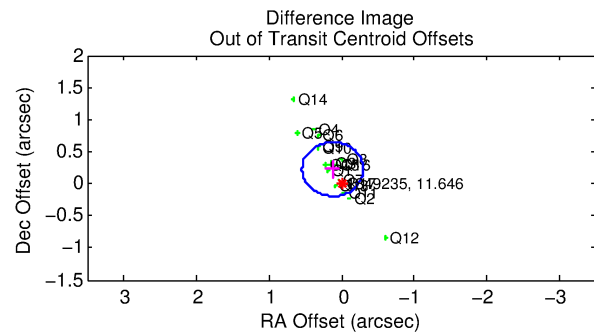
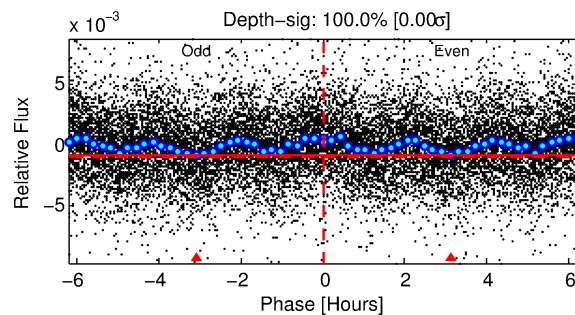
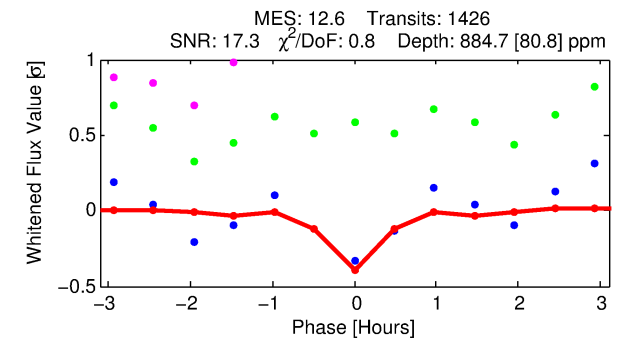
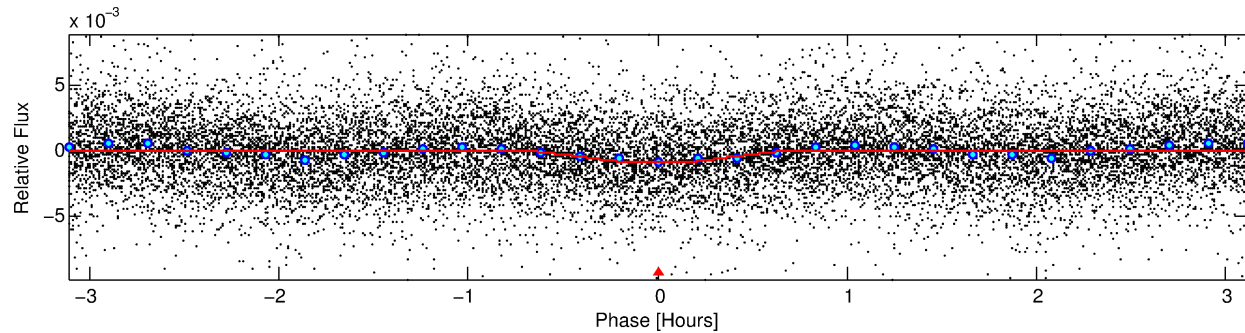
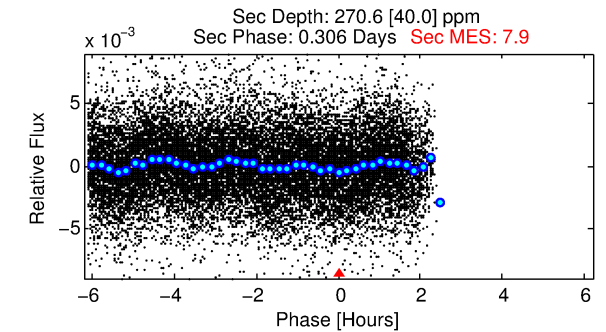
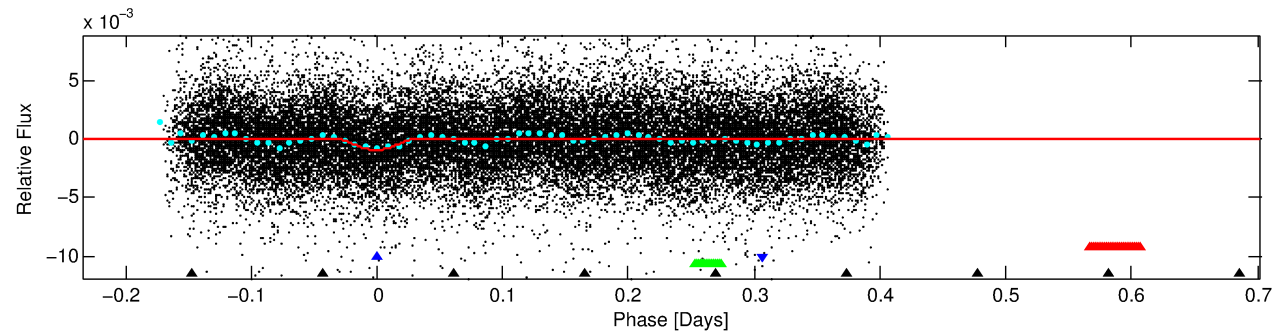
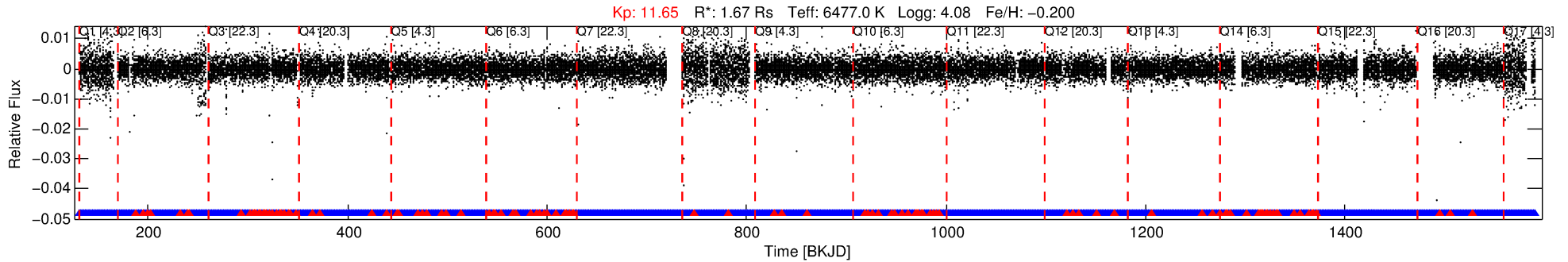
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001849235-02

No Significant Match Found

DV One-Page Summary

KIC: 1849235 Candidate: 2 of 4 Period: 0.937 d



DV Fit Results:

Period = 0.93710 [0.00001] d
Epoch = 131.9271 [0.0009] BKJD
Rp/R* = 0.0322 [0.0078]
a/R* = 3.61 [4.18]
b = 0.90 [0.27]
Seff = 10930.24 [5074.44]
Teq = 2607 [303] K
Rp = 5.85 [2.24] Re
a = 0.0200 [0.0056] AU
Ag = 1.74 [1.17] [0.63σ]
Teffp = 4632 [609] K [2.98σ]

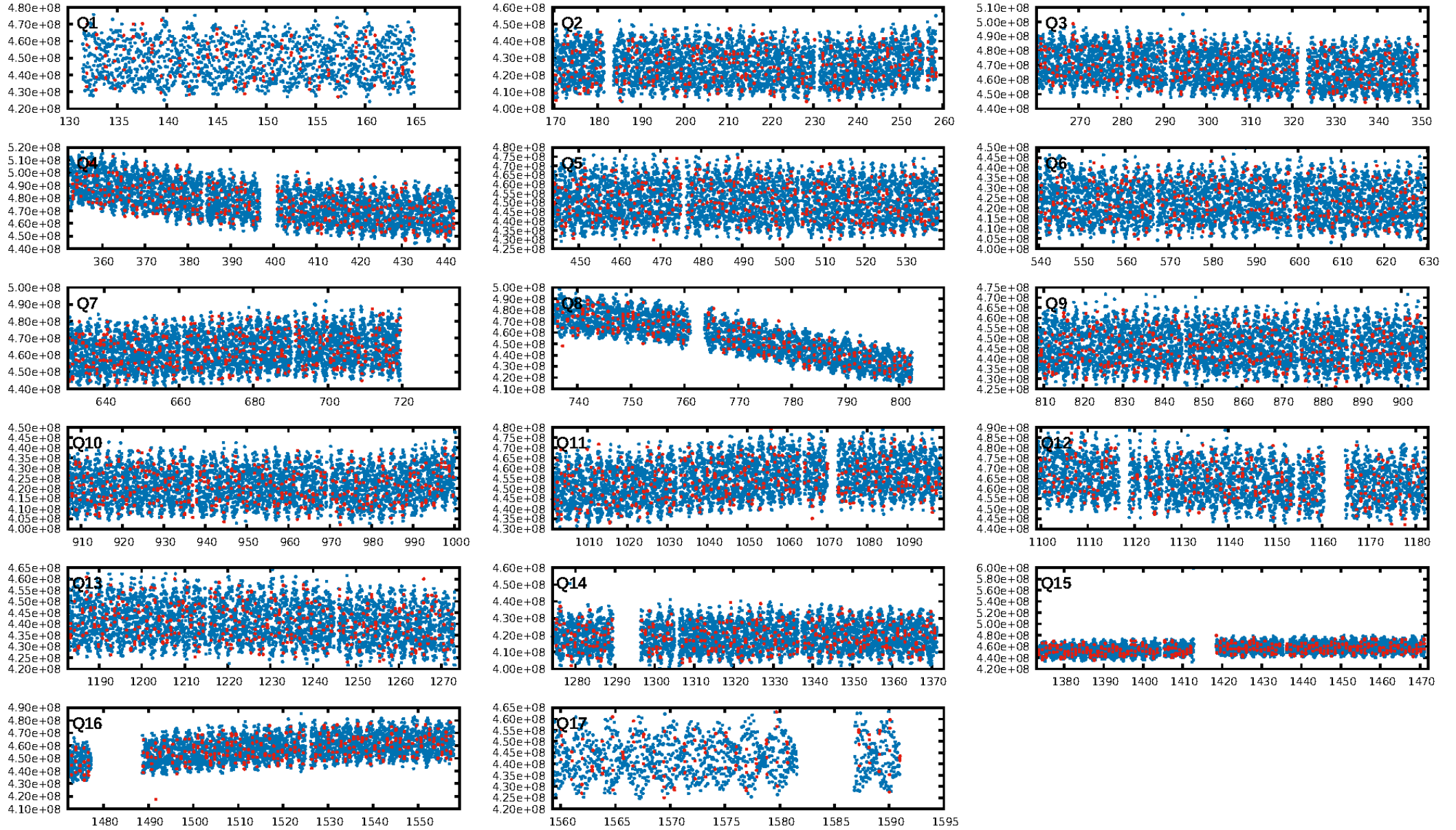
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [38.43σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [1246/1362]
GhostDiagnostic-chr: 1.107
Centroid-sig: 0.0%
Centroid-so: 0.225 arcsec [5.84σ]
OotOffset-rm: 0.256 arcsec [1.83σ]
KicOffset-rm: 0.224 arcsec [1.52σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

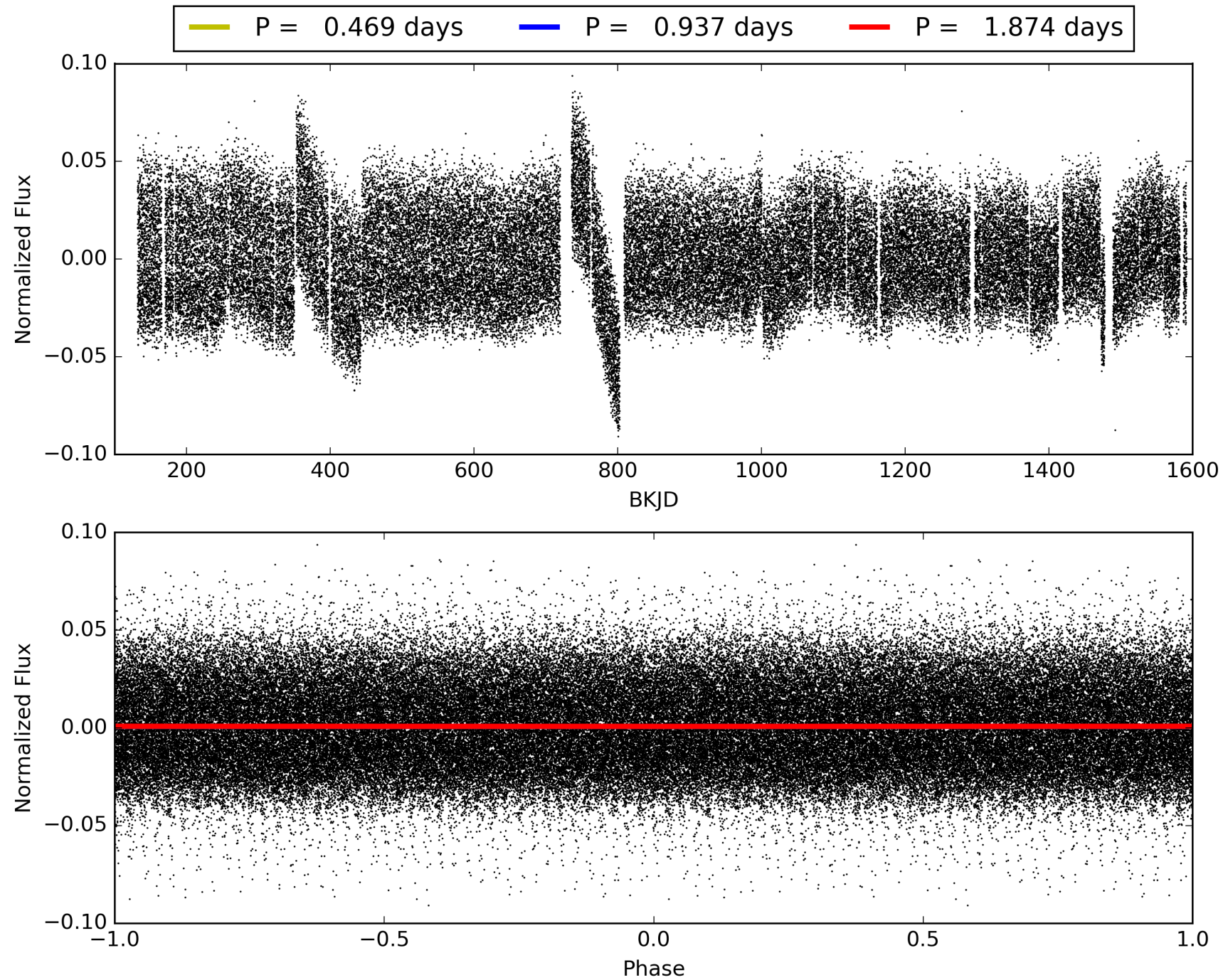
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:50:40 Z

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

TCE 001849235-02, PDC Light Curves

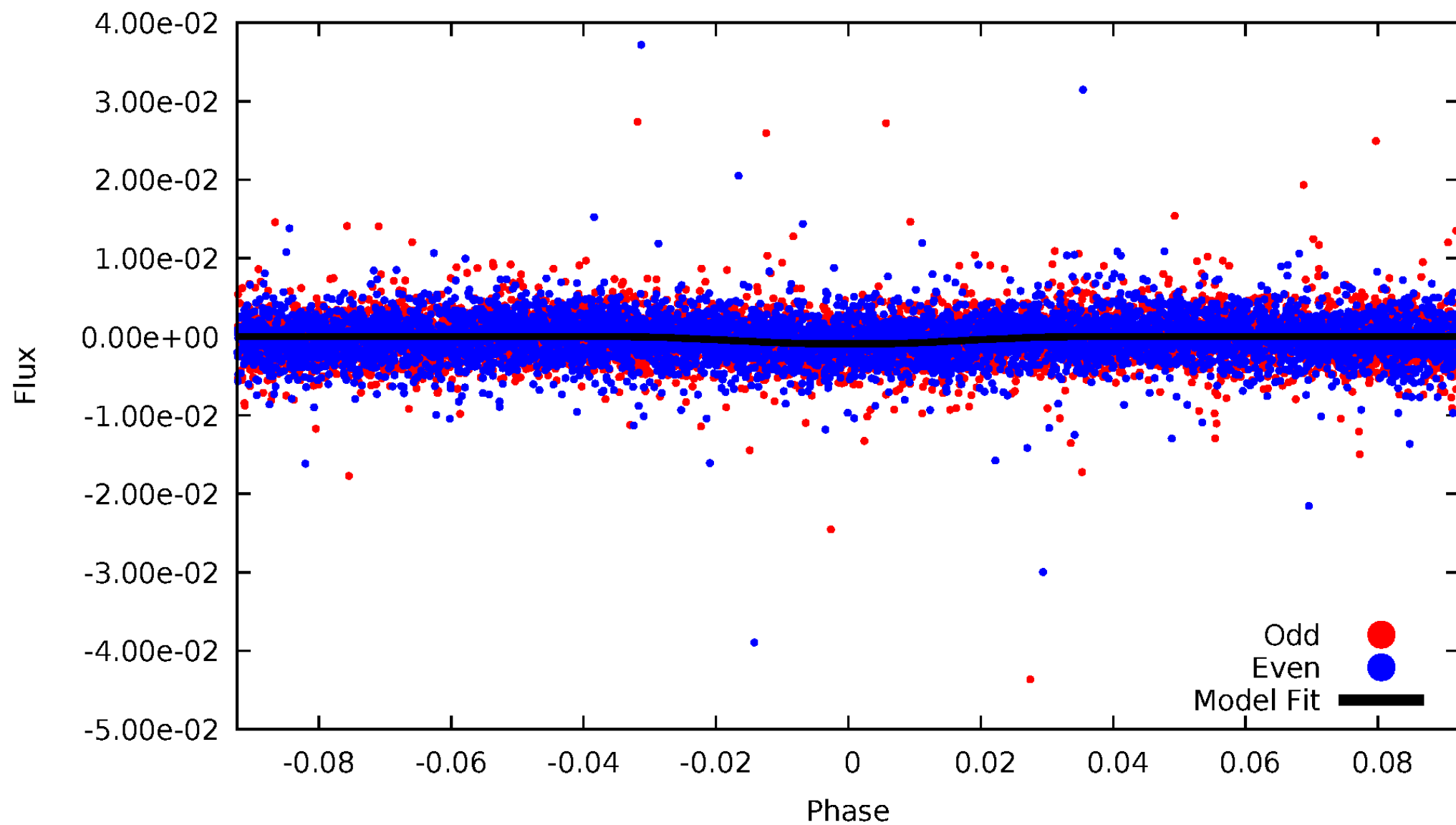


TCE 001849235-02



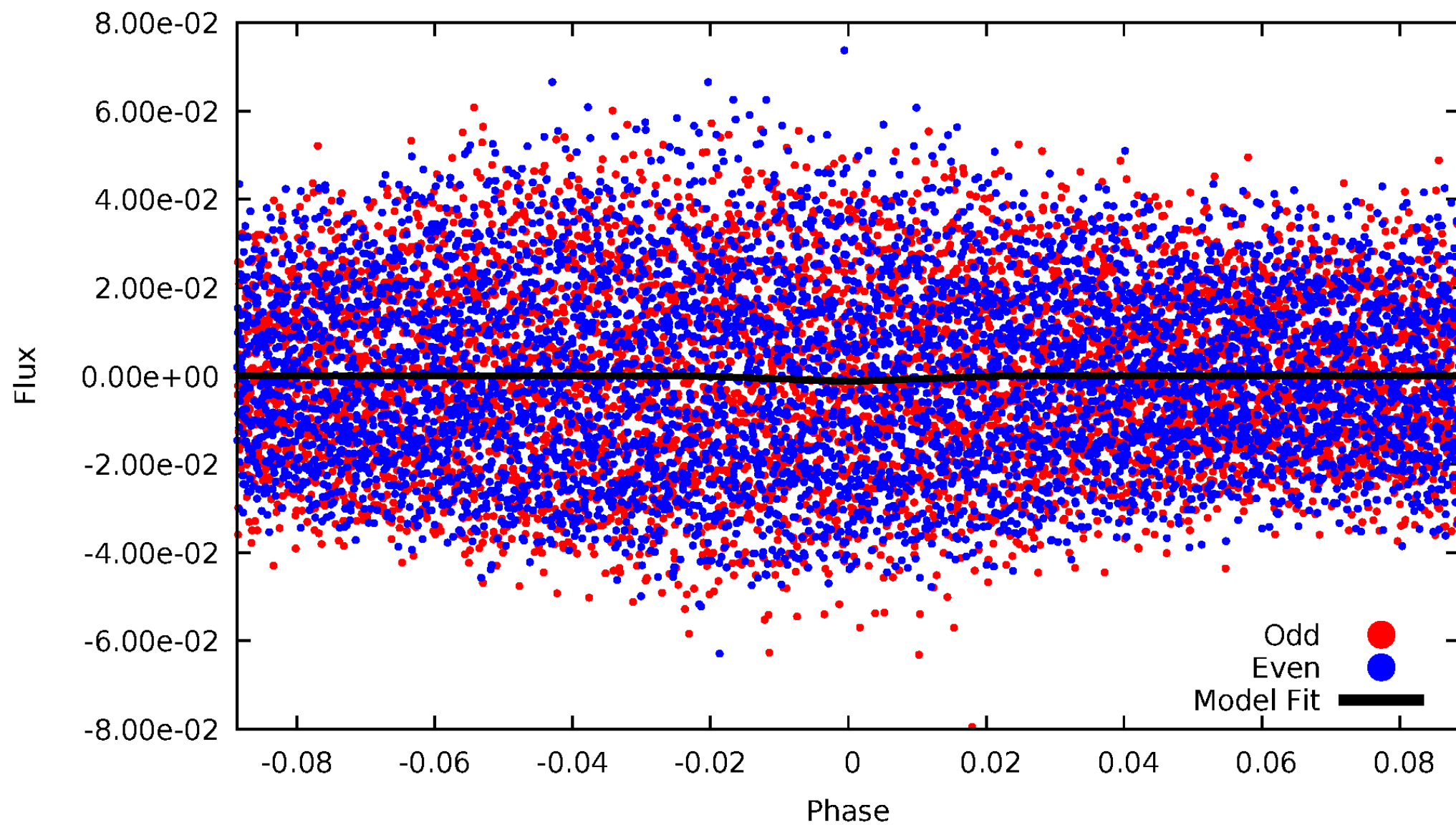
DV Odd/Even

TCE 001849235-02



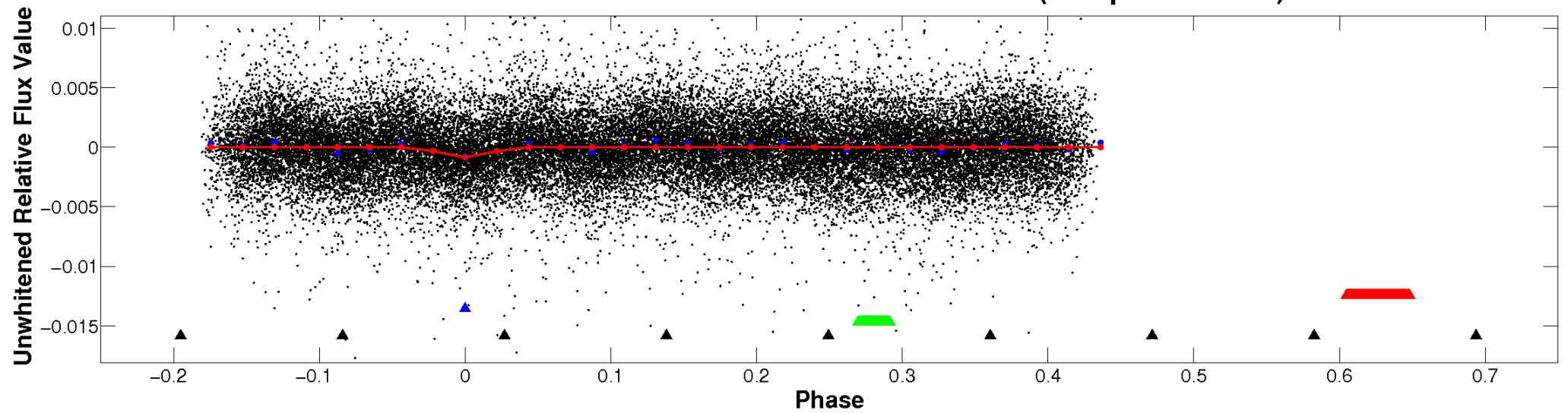
ALT Odd/Even

TCE 001849235-02

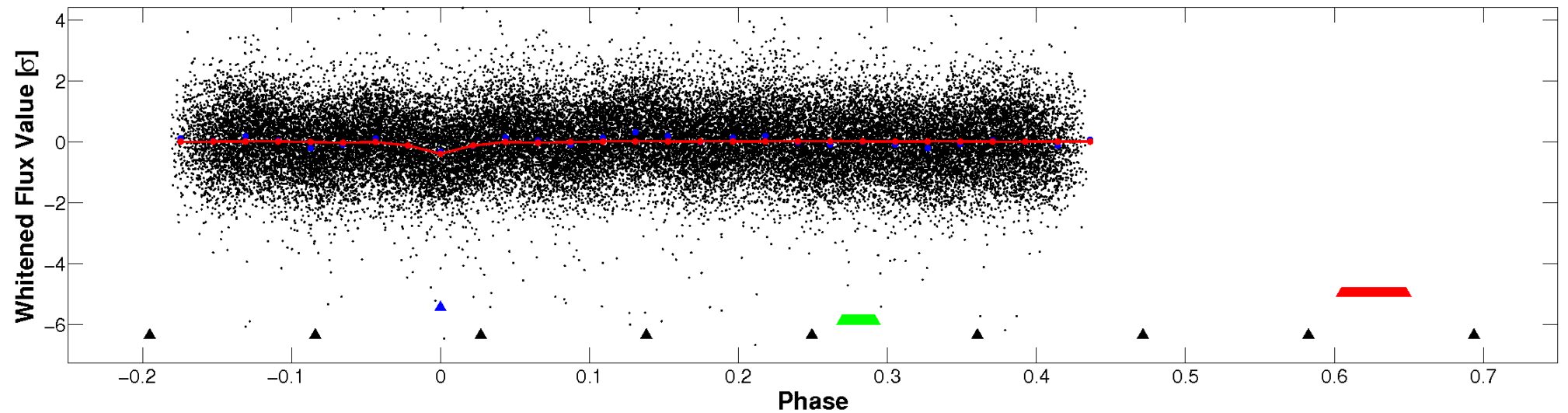


Non-Whitened Vs. Whitened Light Curve

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

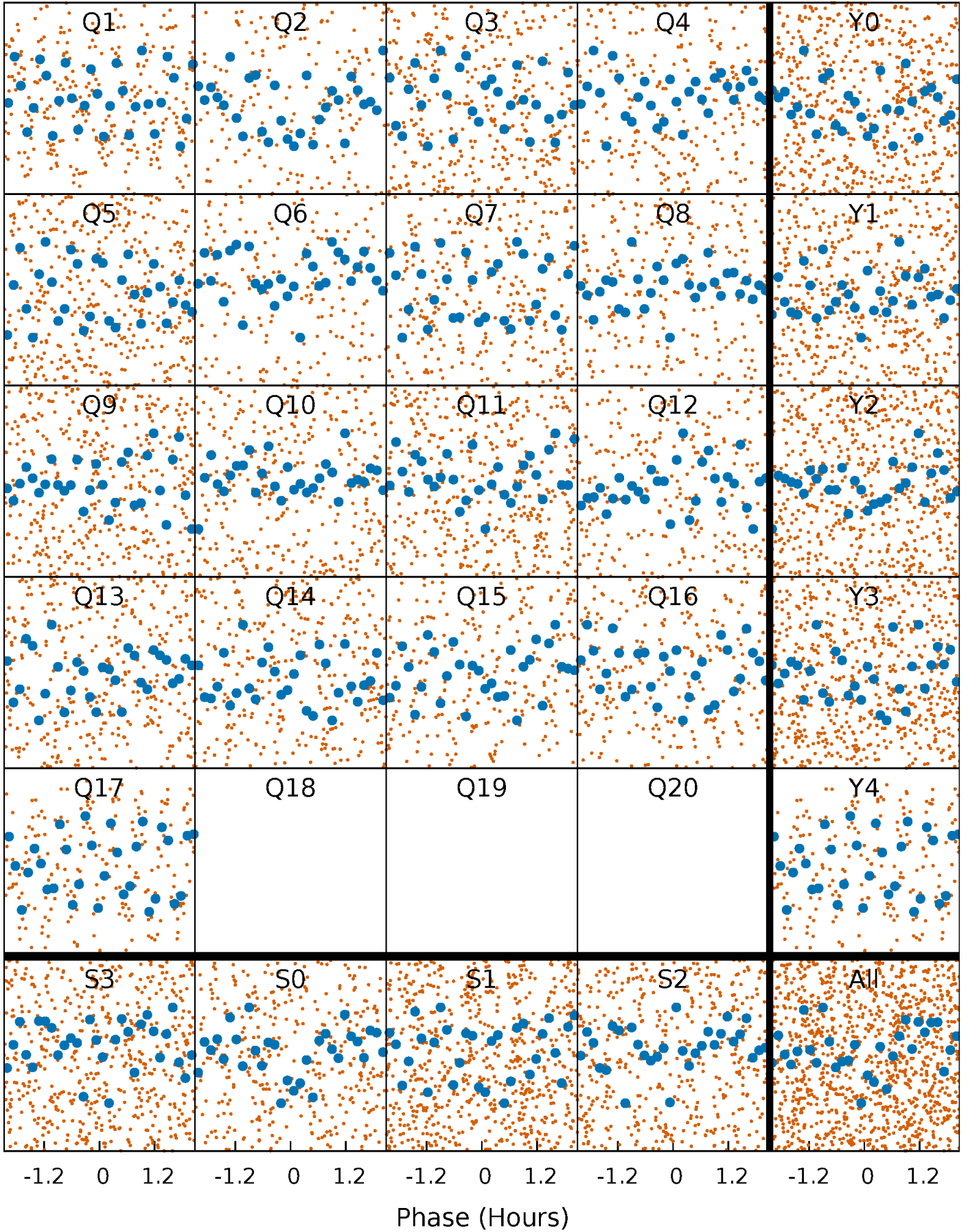


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



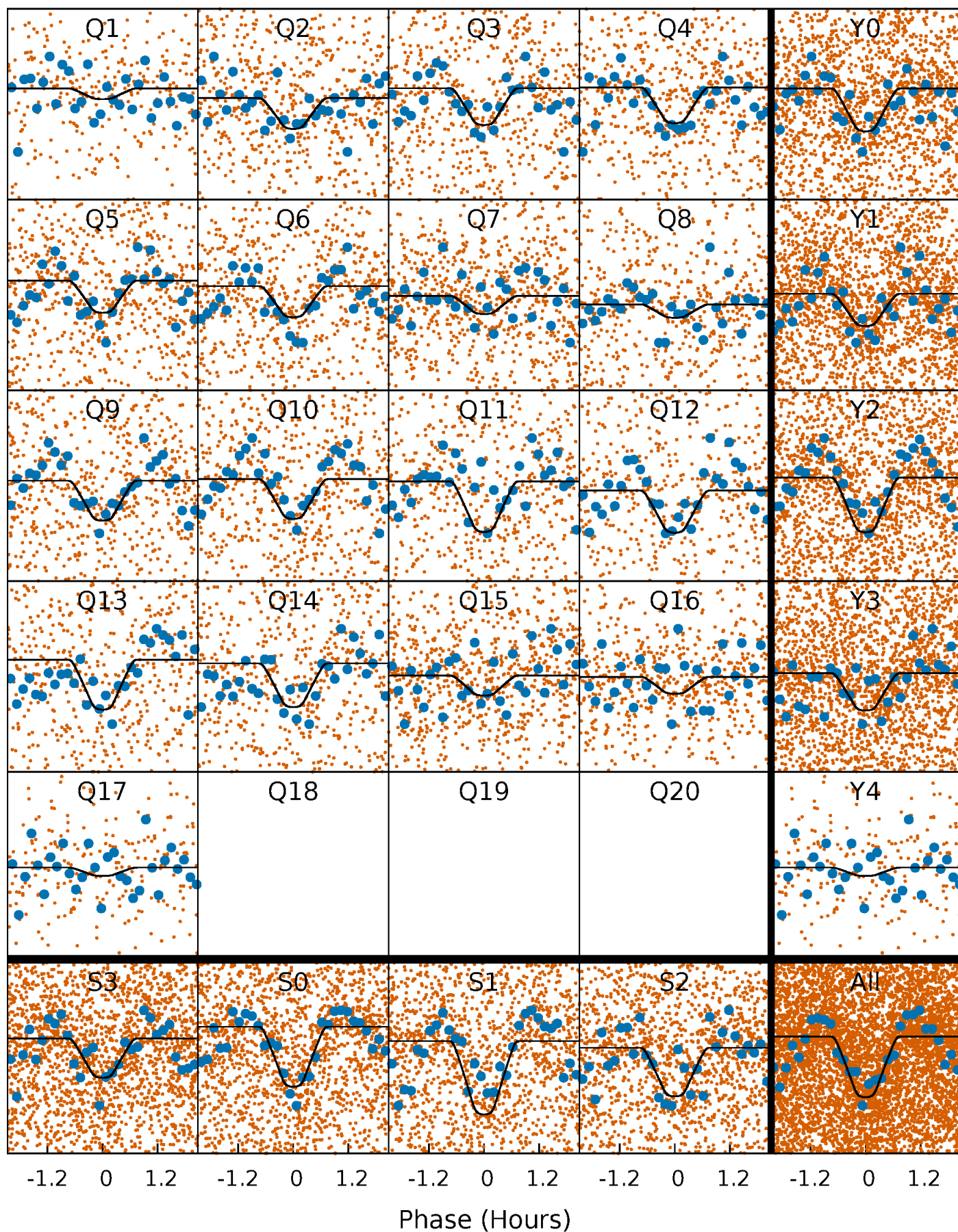
PDC Quarter-Phased Transit Curves

TCE 001849235-02 P= 0.937105 Days $T_0=131.927146$ (BKJD)



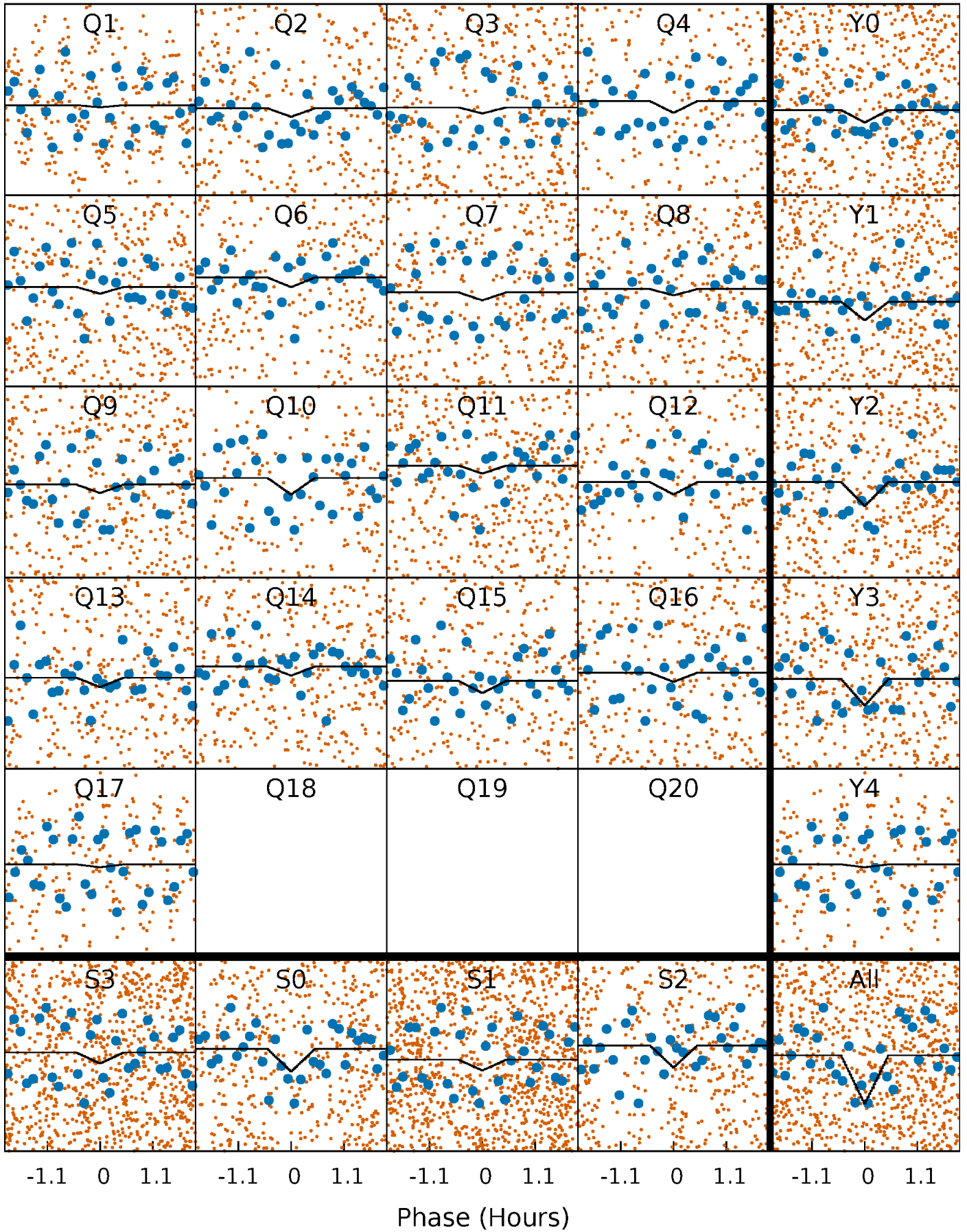
DV Quarter-Phased Transit Curves

TCE 001849235-02 P= 0.937105 Days $T_0=131.927146$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

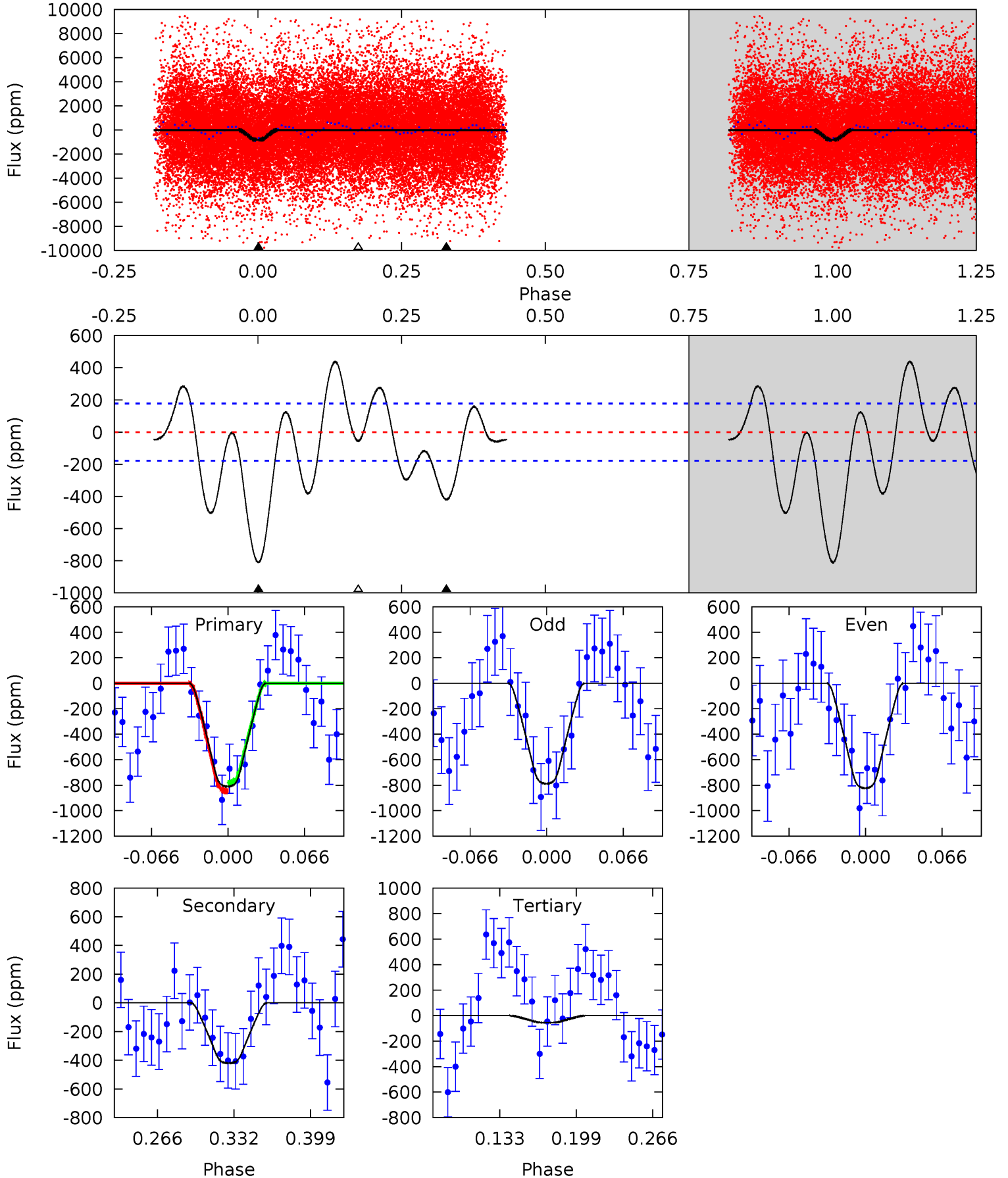
TCE 001849235-02 P= 0.937111 Days $T_0=131.927550$ (BKJD)



DV Model-Shift Uniqueness Test

001849235-02, P = 0.937105 Days, E = 130.990041 Days

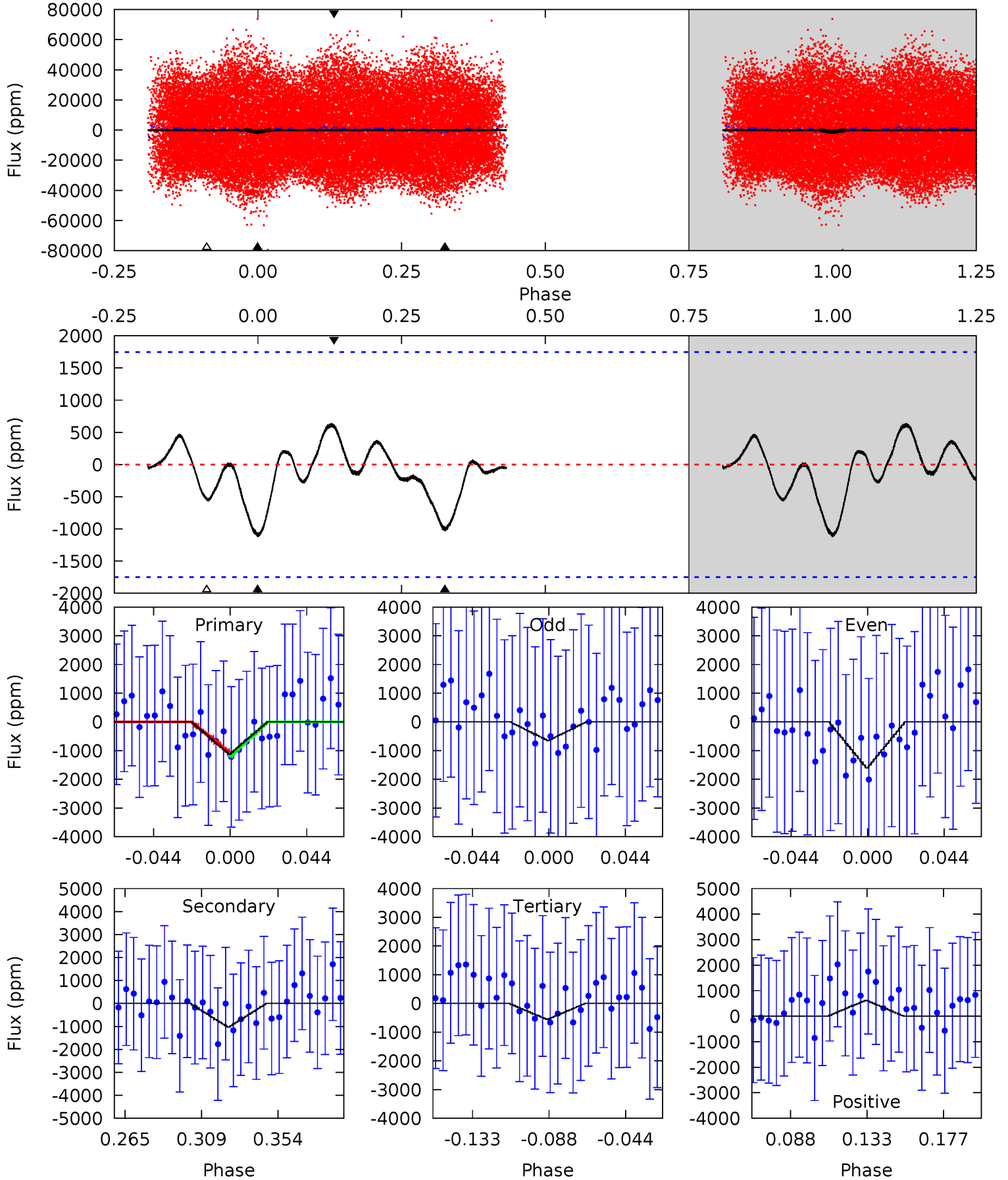
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	11.0	1.45	0	4.65	1.84	6.65	19.7	21.2	9.54	11.0	0.47	0.96	0.35	0.83



Alt Model-Shift Uniqueness Test

001849235-02, P = 0.937111 Days, E = 130.990439 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.05	2.80	1.50	1.68	4.73	2.01	0.73	1.55	1.36	1.30	1.11	1.30	0.31	0.36	0.21



Stellar Parameters For KIC 001849235

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6477^{+181}_{-227}	$4.080^{+0.258}_{-0.172}$	$-0.200^{+0.250}_{-0.300}$	$1.667^{+0.494}_{-0.494}$	$1.221^{+0.201}_{-0.201}$	$0.371^{+0.603}_{-0.176}$
	+3%/-4%	+6%/-4%	+125%/-150%	+30%/-30%	+16%/-16%	+163%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001849235-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-421 ± 38	$5.77^{+1.79}_{-1.61}$	3605^{+316}_{-252}	5063^{+756}_{-489}	$2.753^{+2.513}_{-1.132}$
Alt.	-1033 ± 369	$6.25^{+1.98}_{-1.69}$	3613^{+299}_{-311}	6081^{+1201}_{-949}	$5.720^{+6.243}_{-2.817}$

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

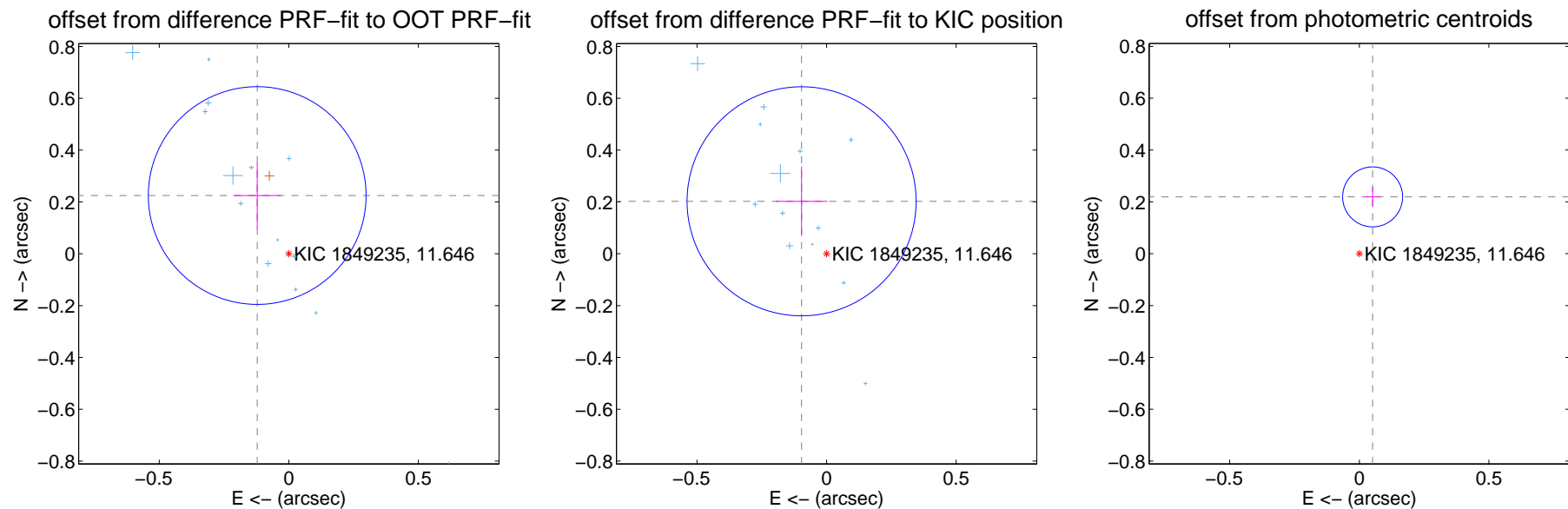
DV Centroid Data

Supplemental centroid analysis for 001849235-02. **Kepler magnitude: 11.65.** Transit SNR 17.25

There are 16 quarters with good PRF difference image offsets

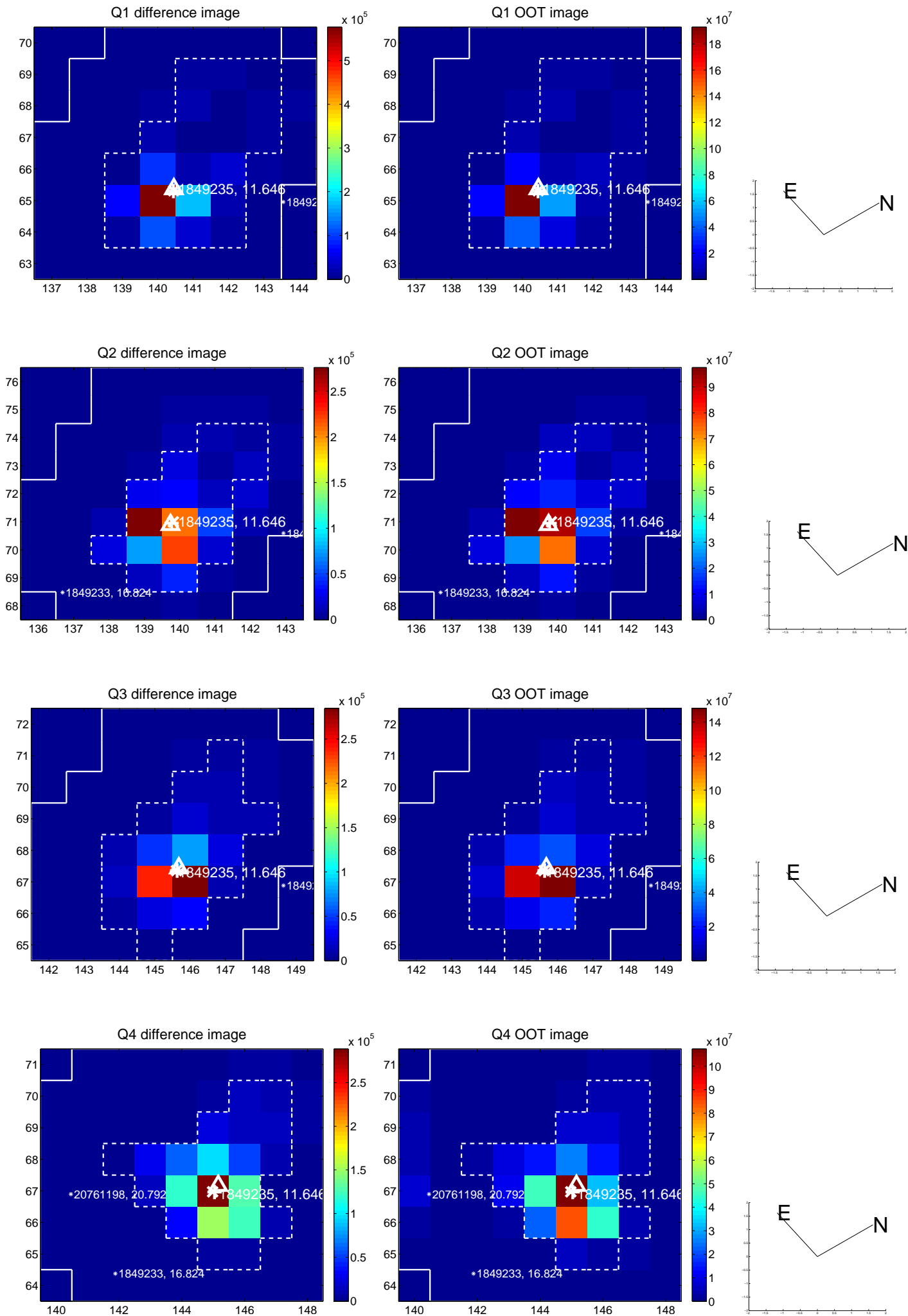
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.256 ± 0.140	1.83	0.122 ± 0.091	0.225 ± 0.127
PRF-fit source offset from KIC position	0.224 ± 0.147	1.52	0.096 ± 0.100	0.203 ± 0.134
photometric centroid source offset	0.23 ± 0.04	5.84	-0.05 ± 0.03	0.22 ± 0.04

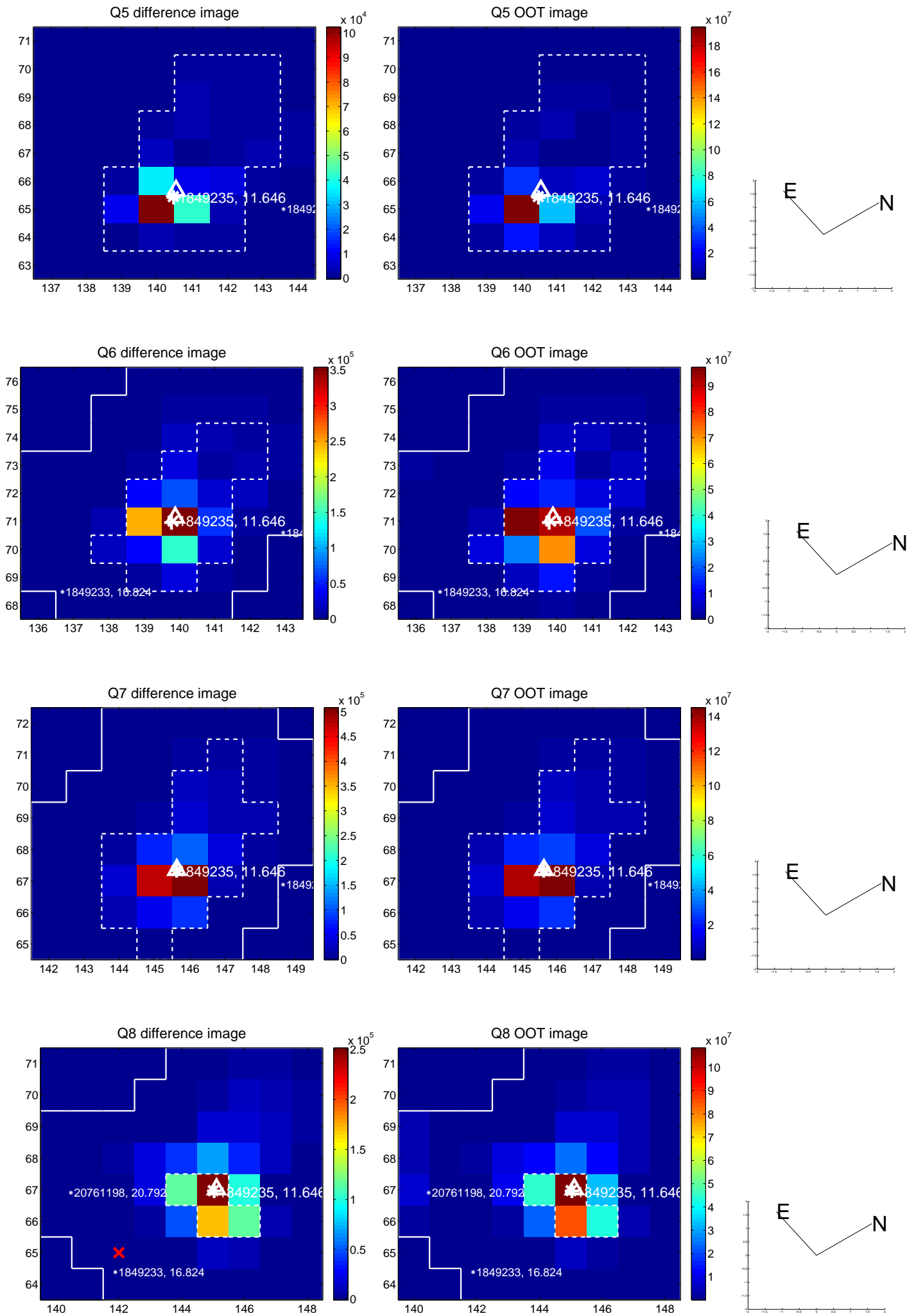


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

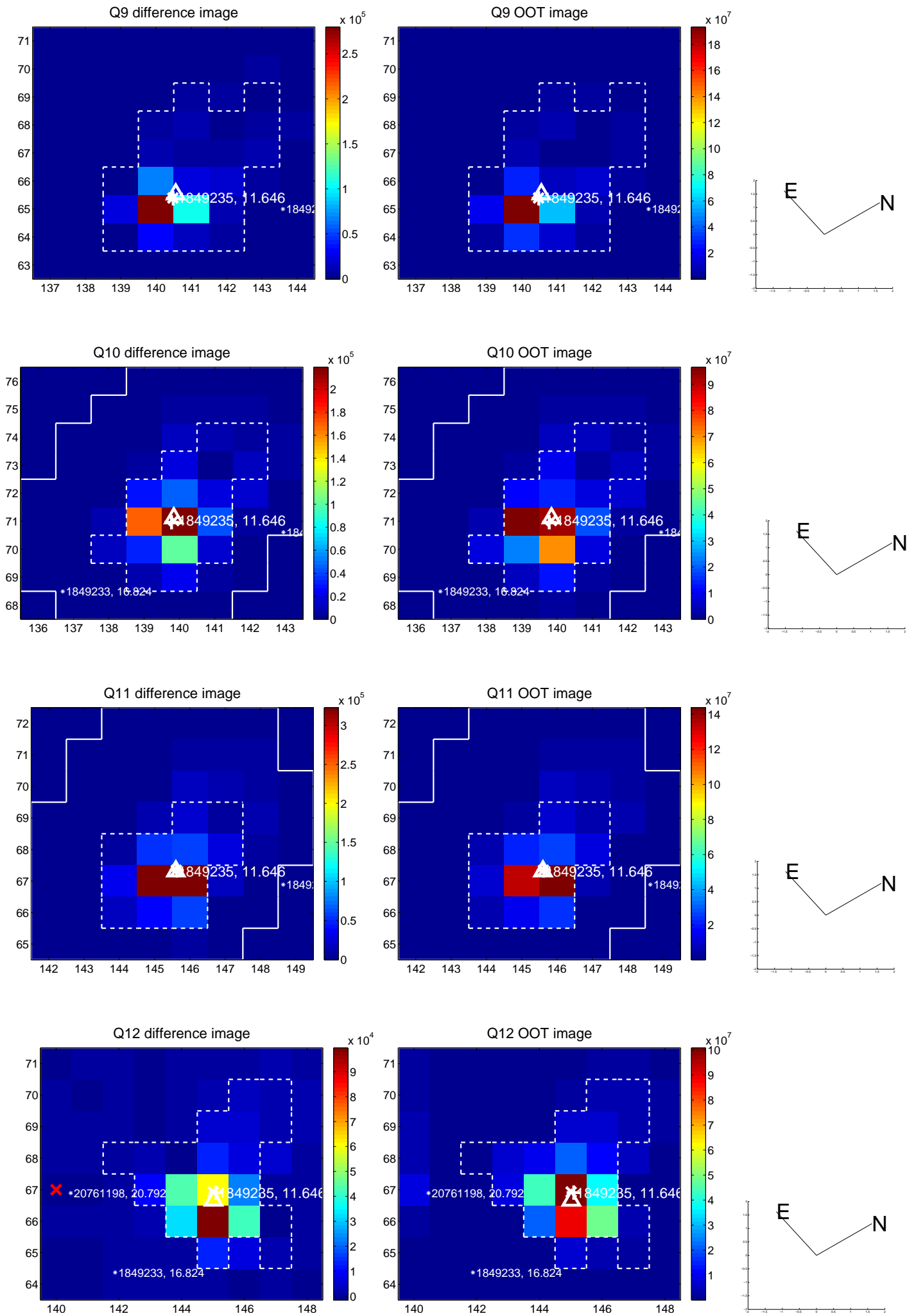
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



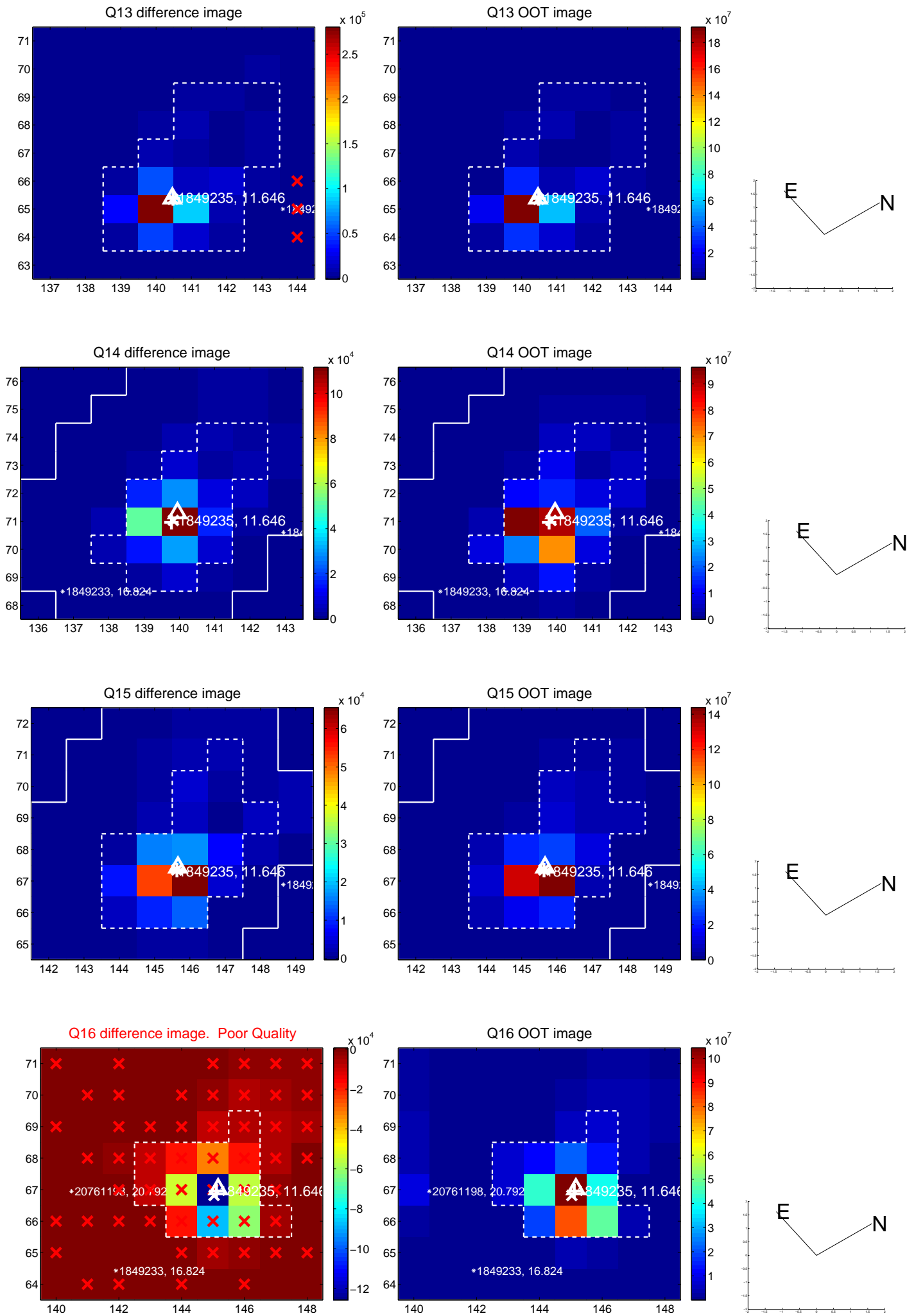
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



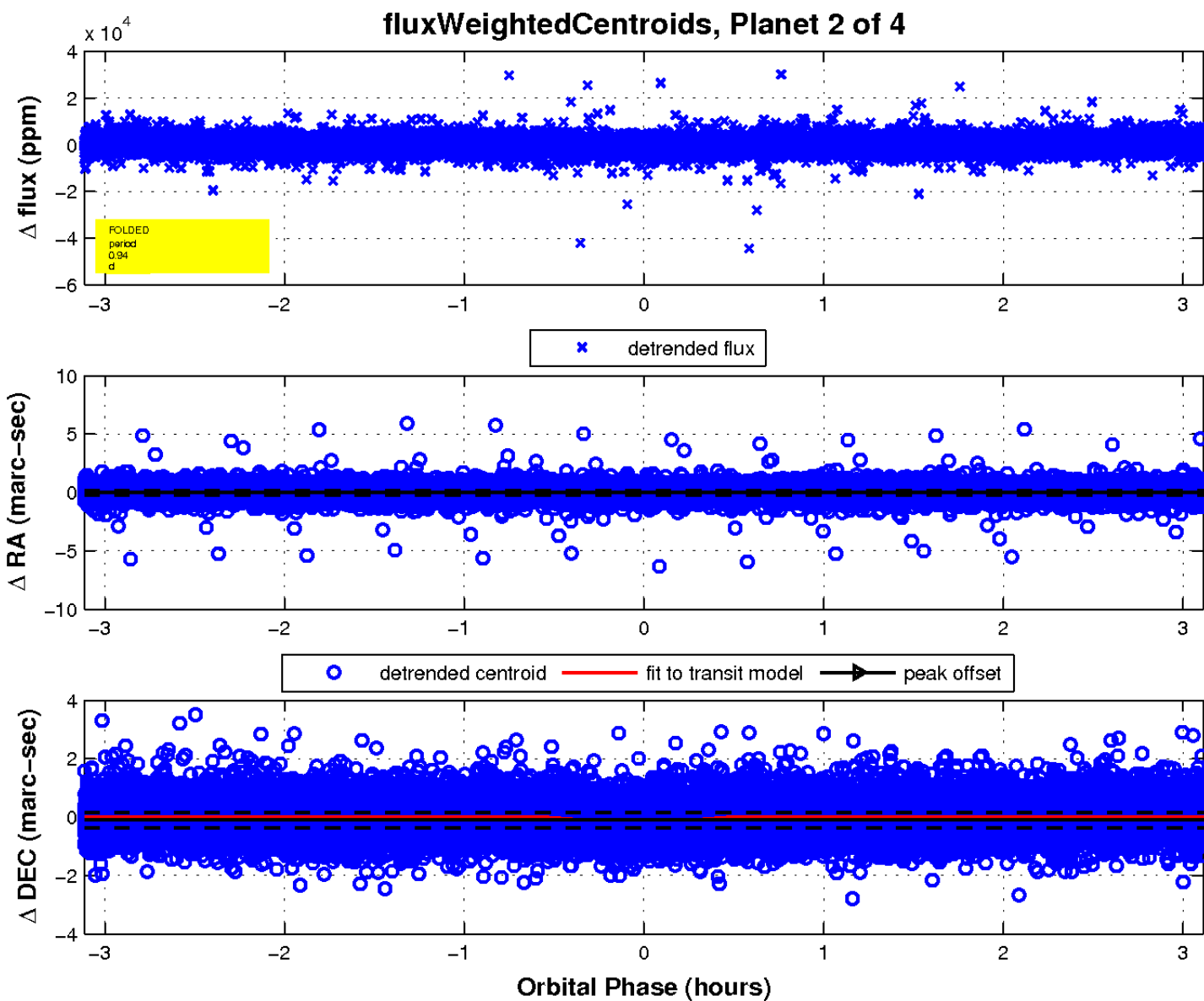
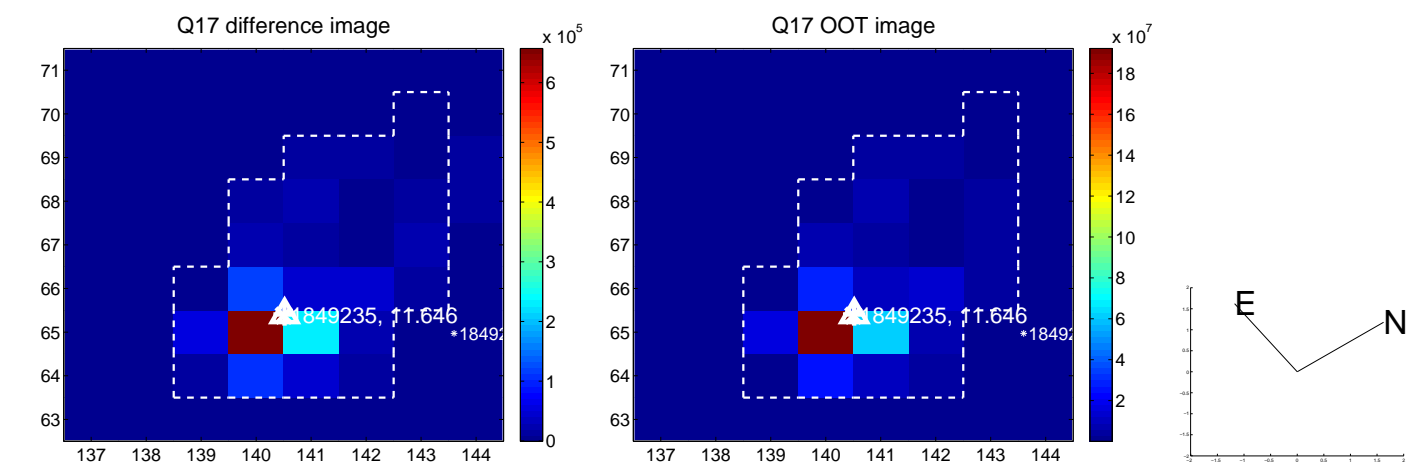
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

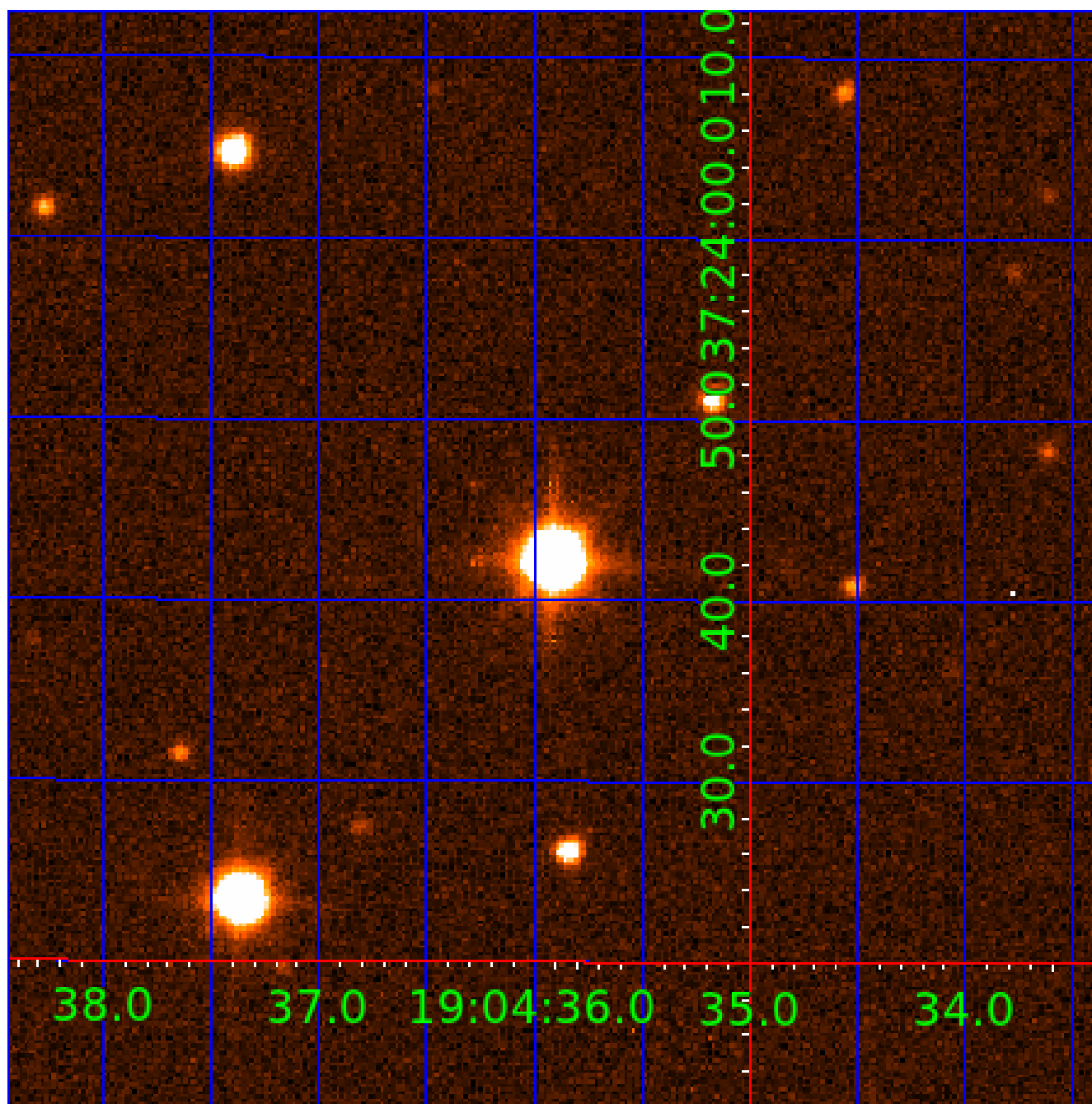


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001849235

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})
001849235-01	OBS	No	0.937079	131.597271	200.0	3.043	10.7	6.9	1.67	6477	2.74	10930.64
001849235-02	OBS	No	0.937105	131.927146	884.7	1.038	12.6	17.3	1.67	6477	5.85	10930.24
001849235-03	OBS	No	4.685458	132.200323	730.7	2.098	10.1	9.9	1.67	6477	4.83	1278.43
001849235-04	OBS	No	0.520614	131.535994	166.5	1.500	9.4	-1.0	1.67	6477	2.17	23932.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001849235-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
001849235-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

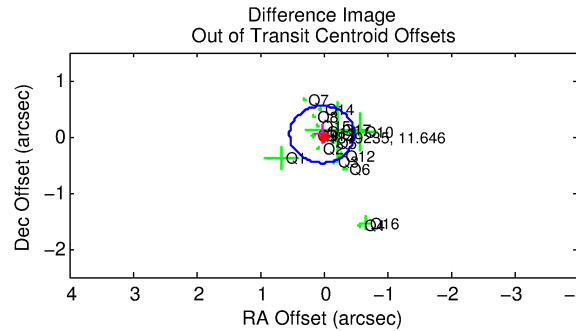
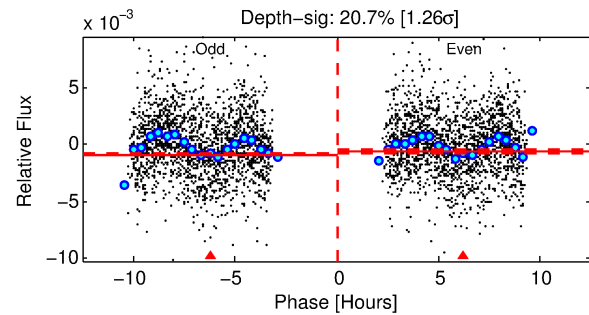
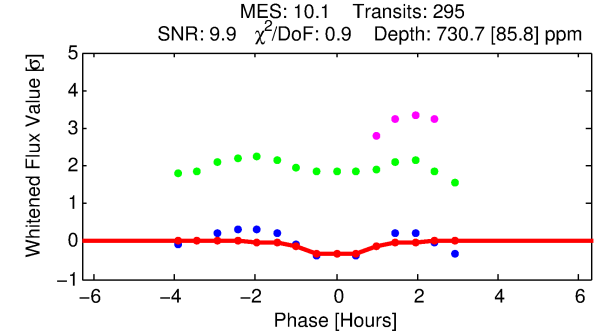
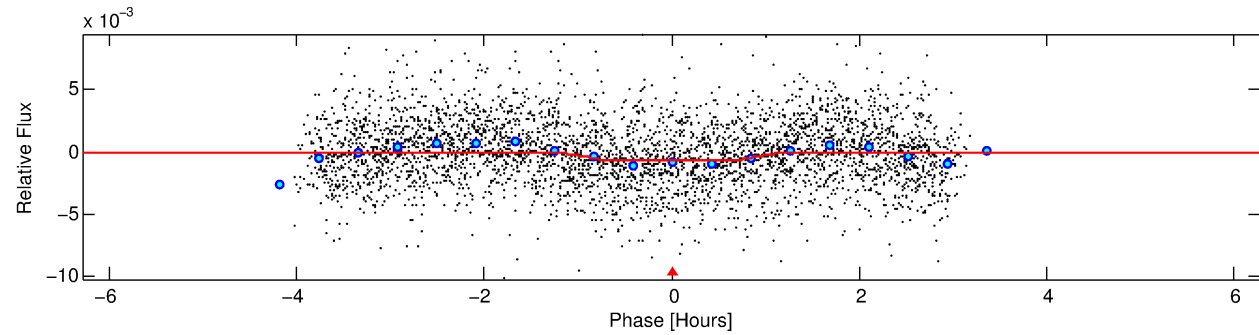
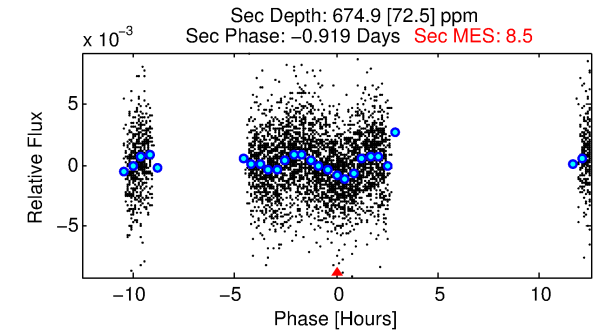
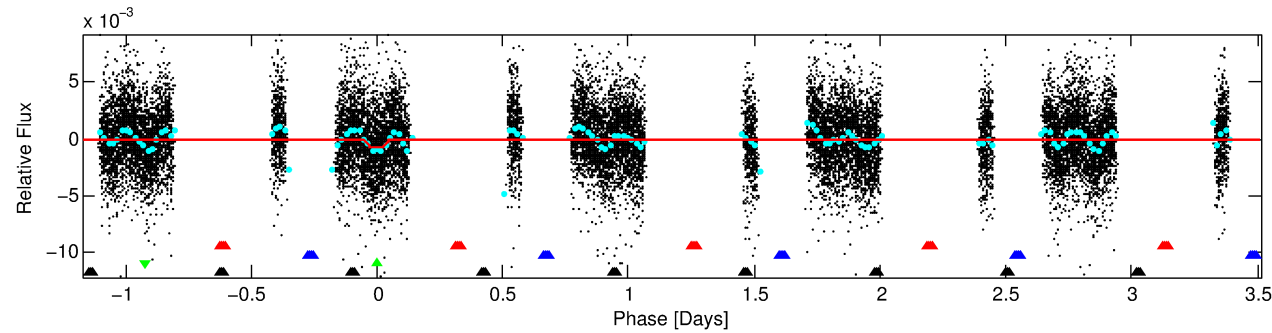
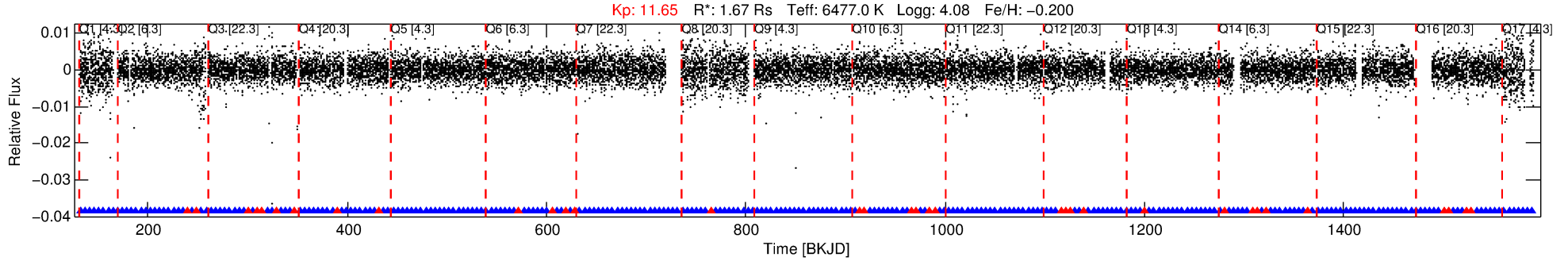
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001849235-03

No Significant Match Found

DV One-Page Summary

KIC: 1849235 Candidate: 3 of 4 Period: 4.685 d



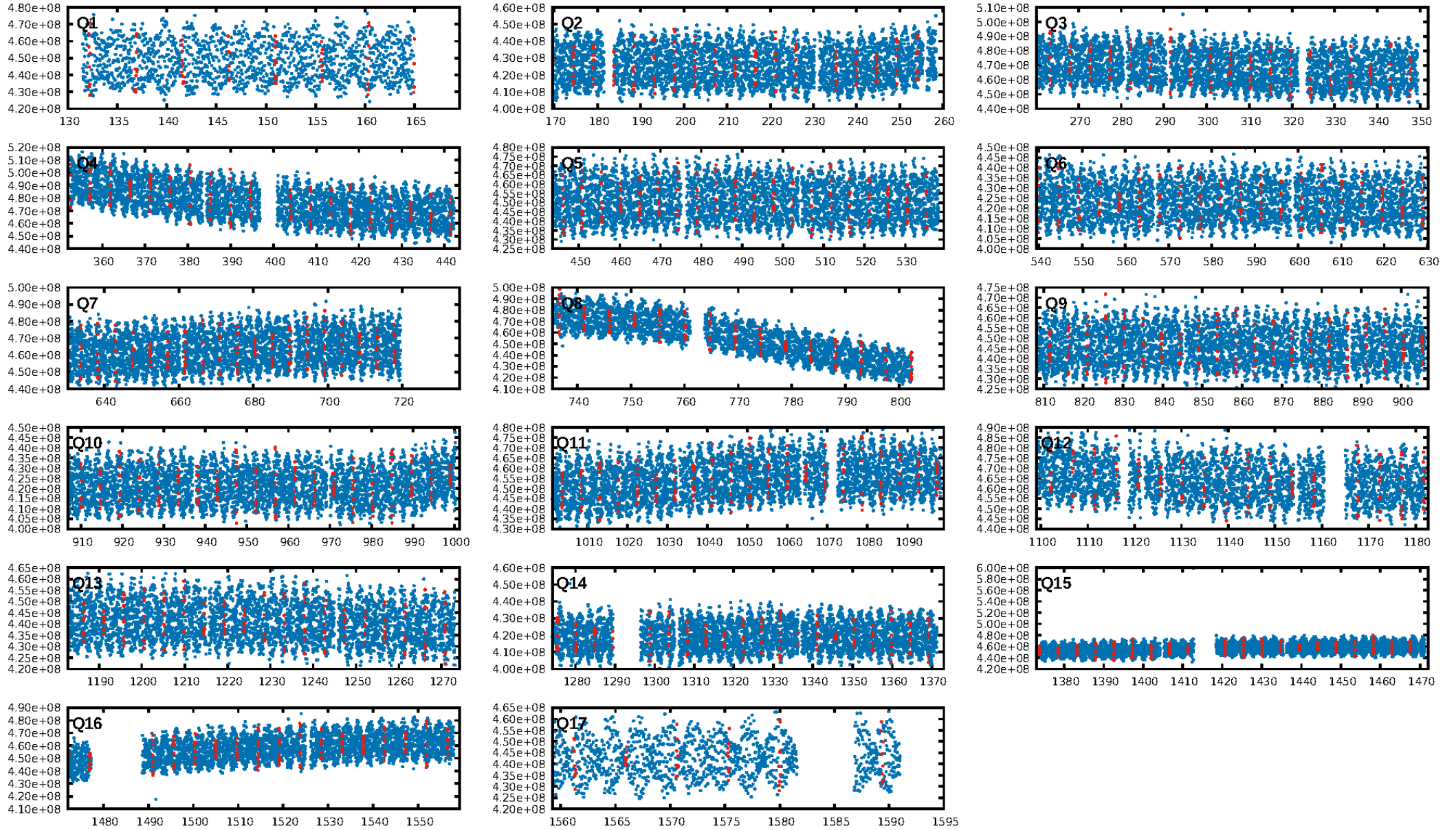
DV Fit Results:

Period = 4.68546 [0.00003] d
Epoch = 132.2003 [0.0038] BKJD
Rp/R* = 0.0266 [0.0272]
a/R* = 12.78 [70.25]
b = 0.70 [4.01]
Seff = 1278.43 [593.52]
Teq = 1525 [177] K
Rp = 4.84 [5.15] Re
a = 0.0585 [0.0164] AU
Ag = 54.44 [114.22] [0.47σ]
Teffp = 6403 [3291] K [1.48σ]

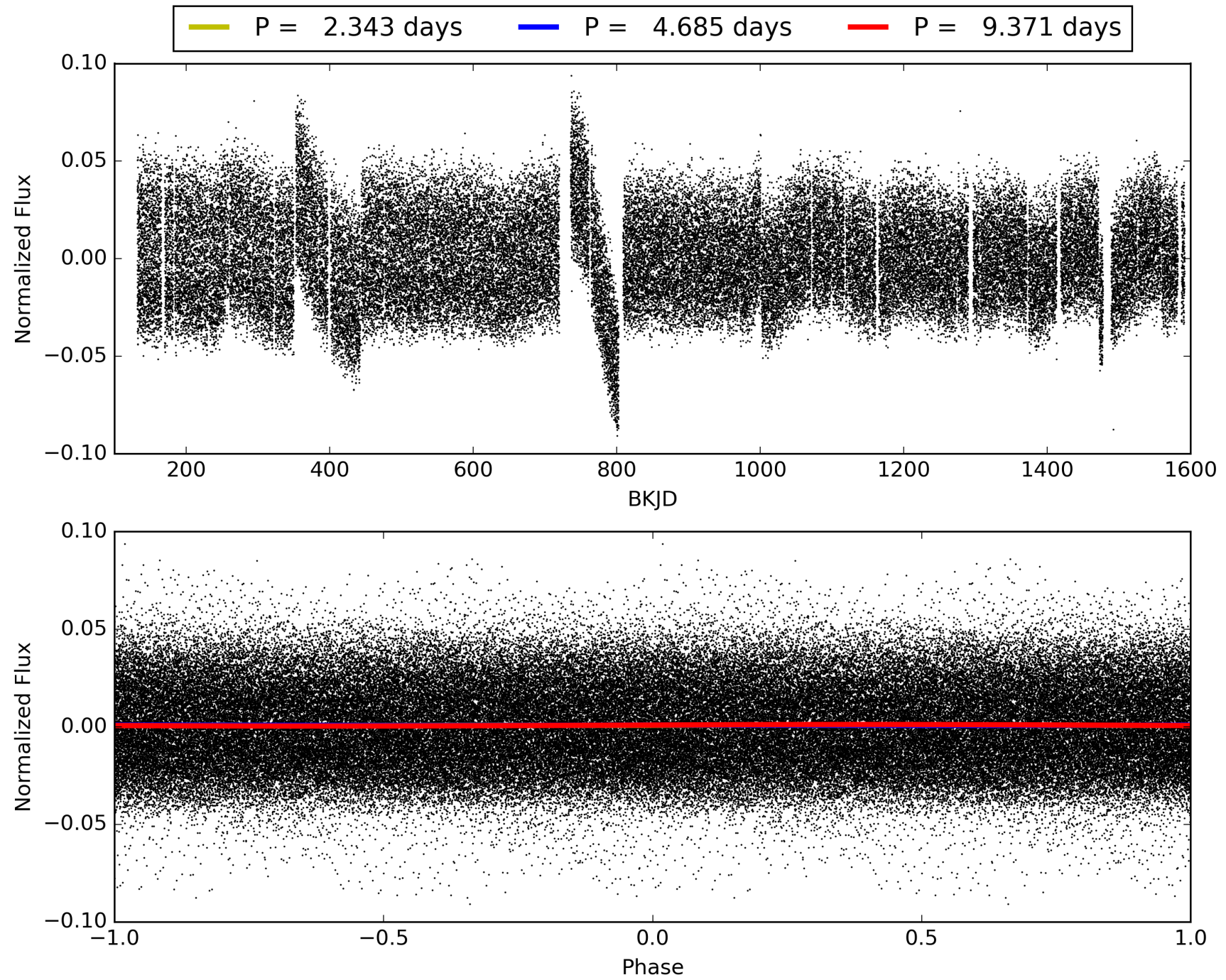
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.43σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [247/281]
GhostDiagnostic-chr: 1.149
Centroid-sig: 0.0%
Centroid-so: 0.324 arcsec [4.73σ]
OotOffset-rm: 0.047 arcsec [0.28σ]
KicOffset-rm: 0.038 arcsec [0.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 001849235-03, PDC Light Curves

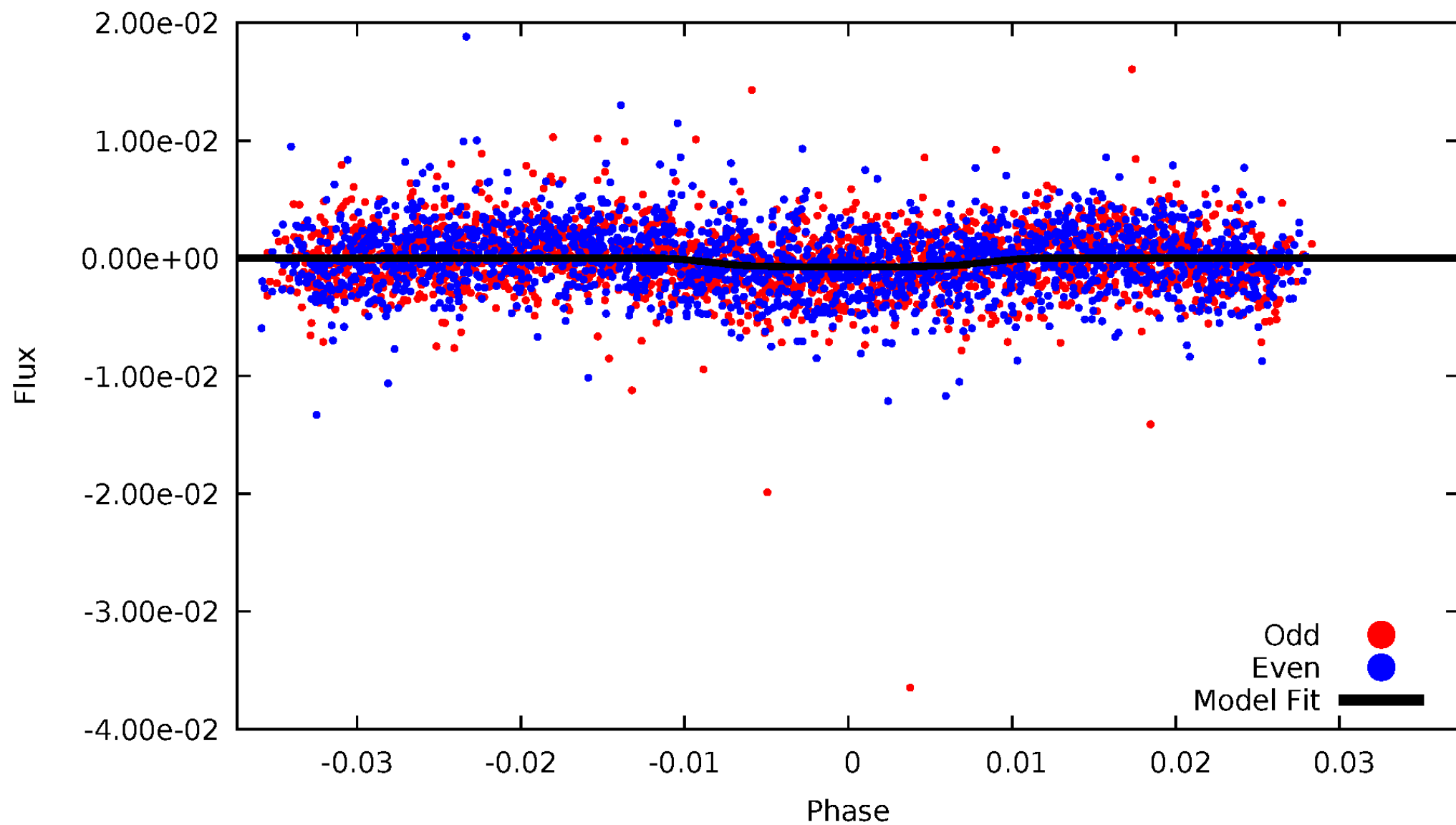


TCE 001849235-03



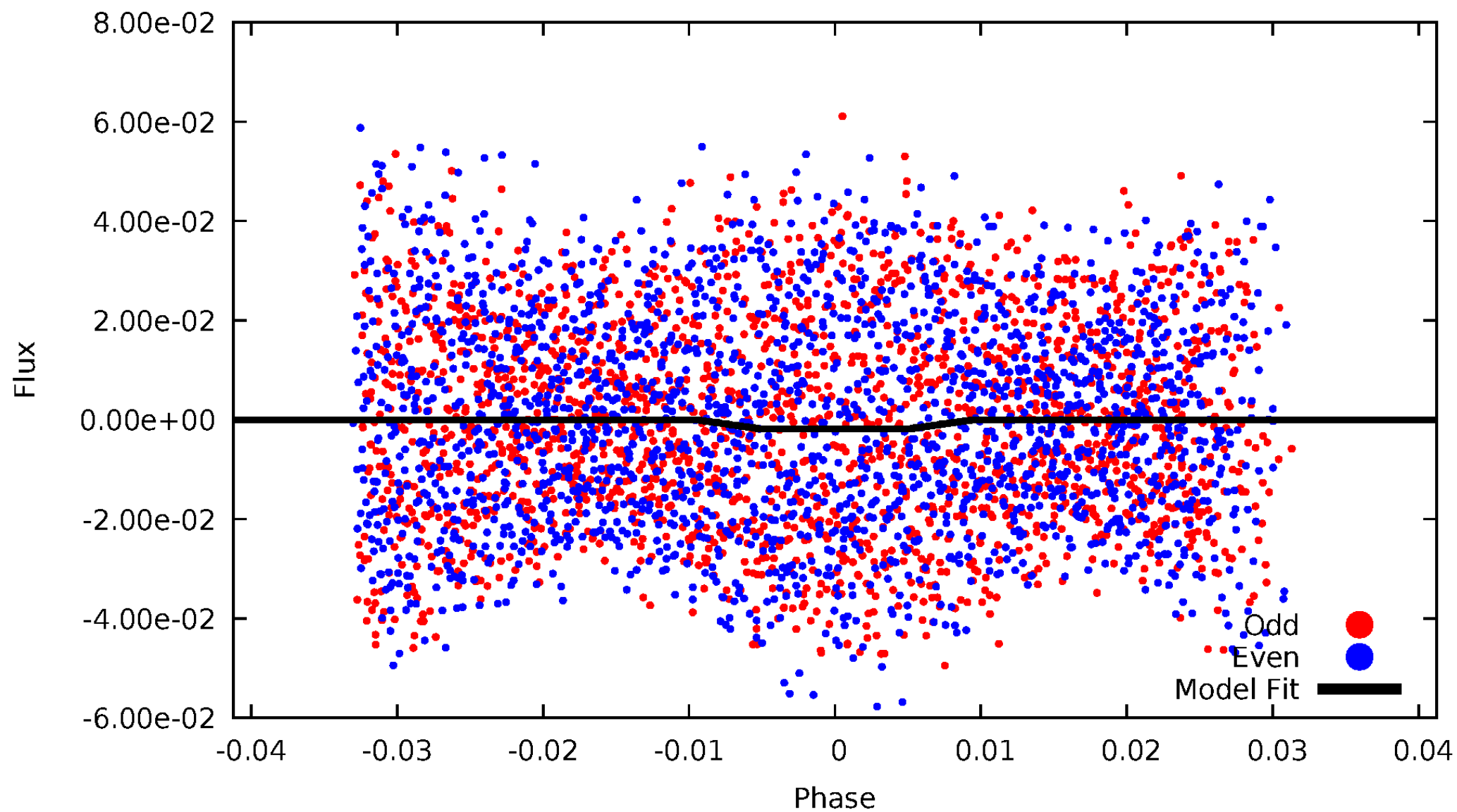
DV Odd/Even

TCE 001849235-03



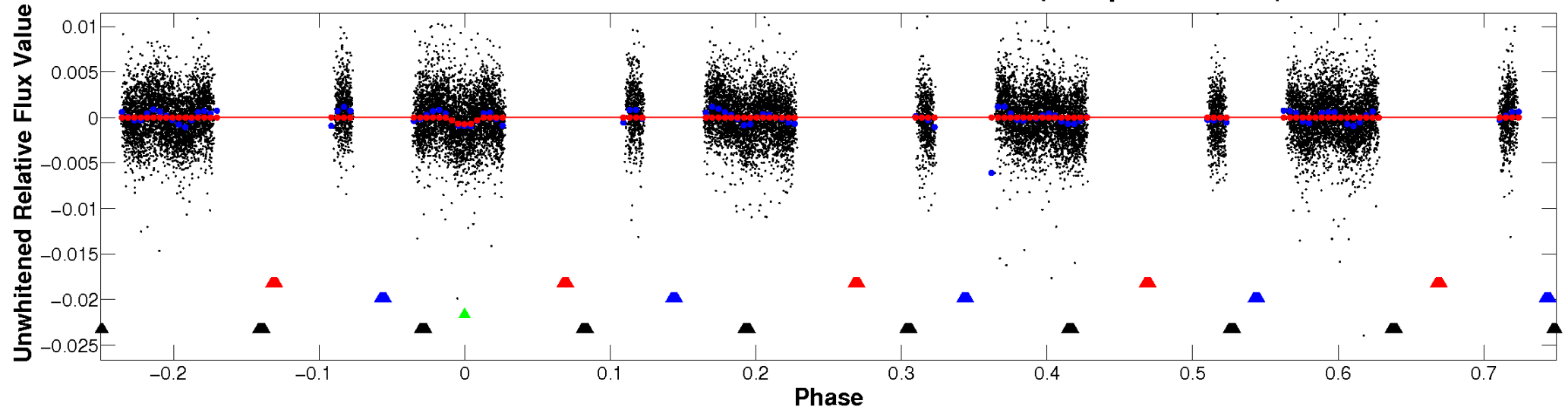
ALT Odd/Even

TCE 001849235-03

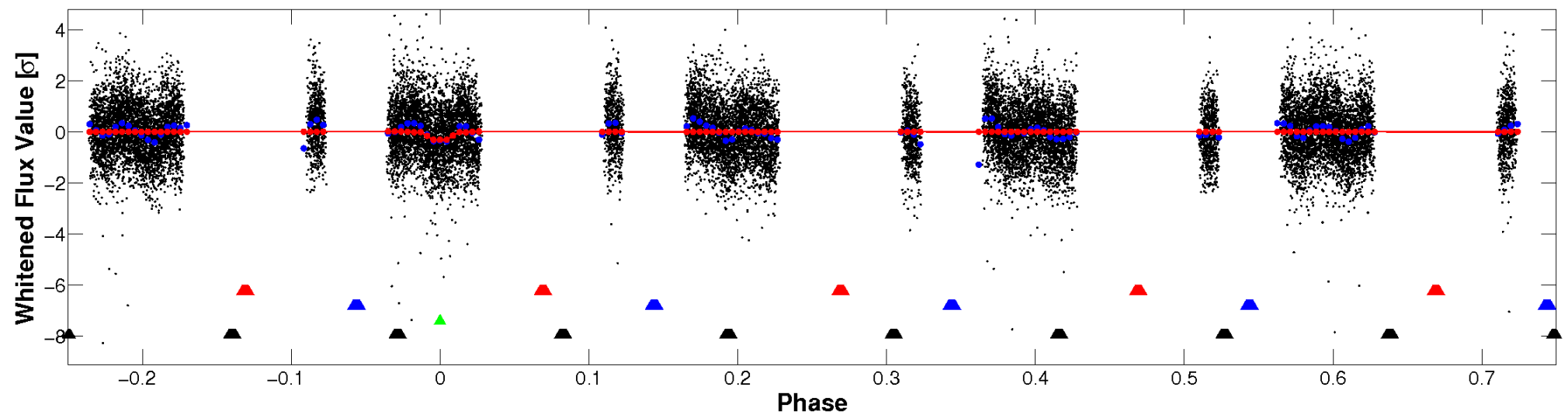


Non-Whitened Vs. Whitened Light Curve

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

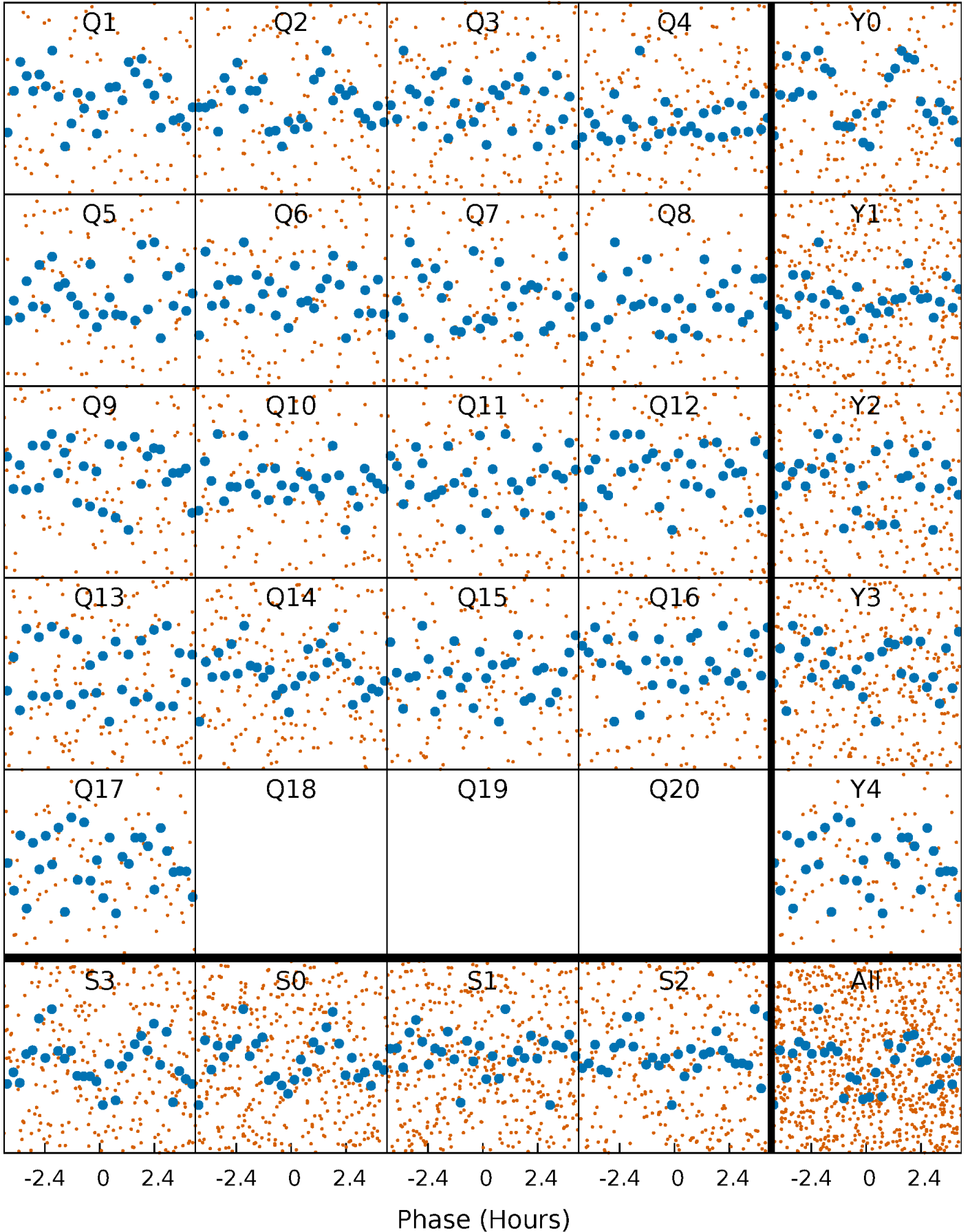


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



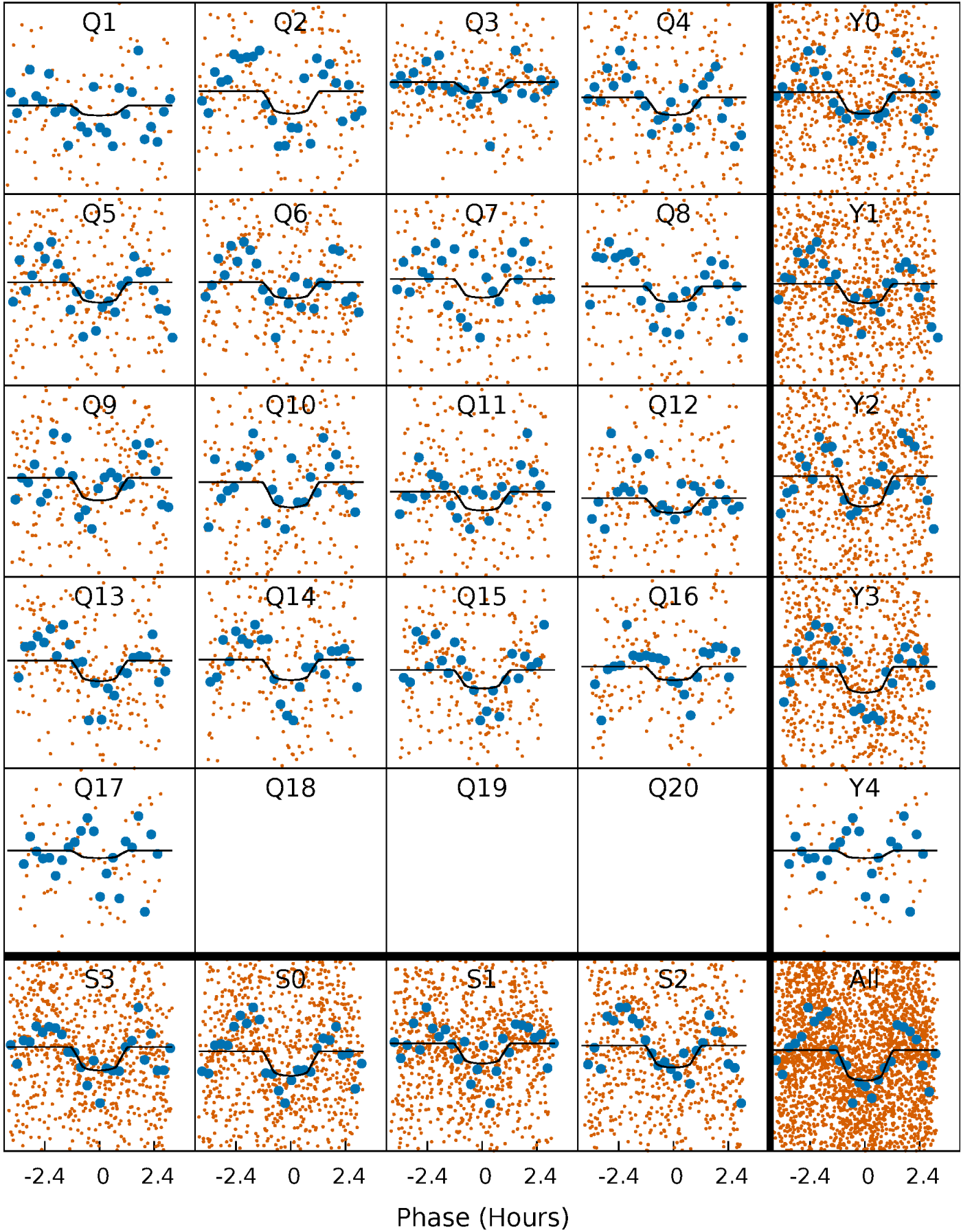
PDC Quarter-Phased Transit Curves

TCE 001849235-03 P= 4.685458 Days $T_0=132.200323$ (BKJD)



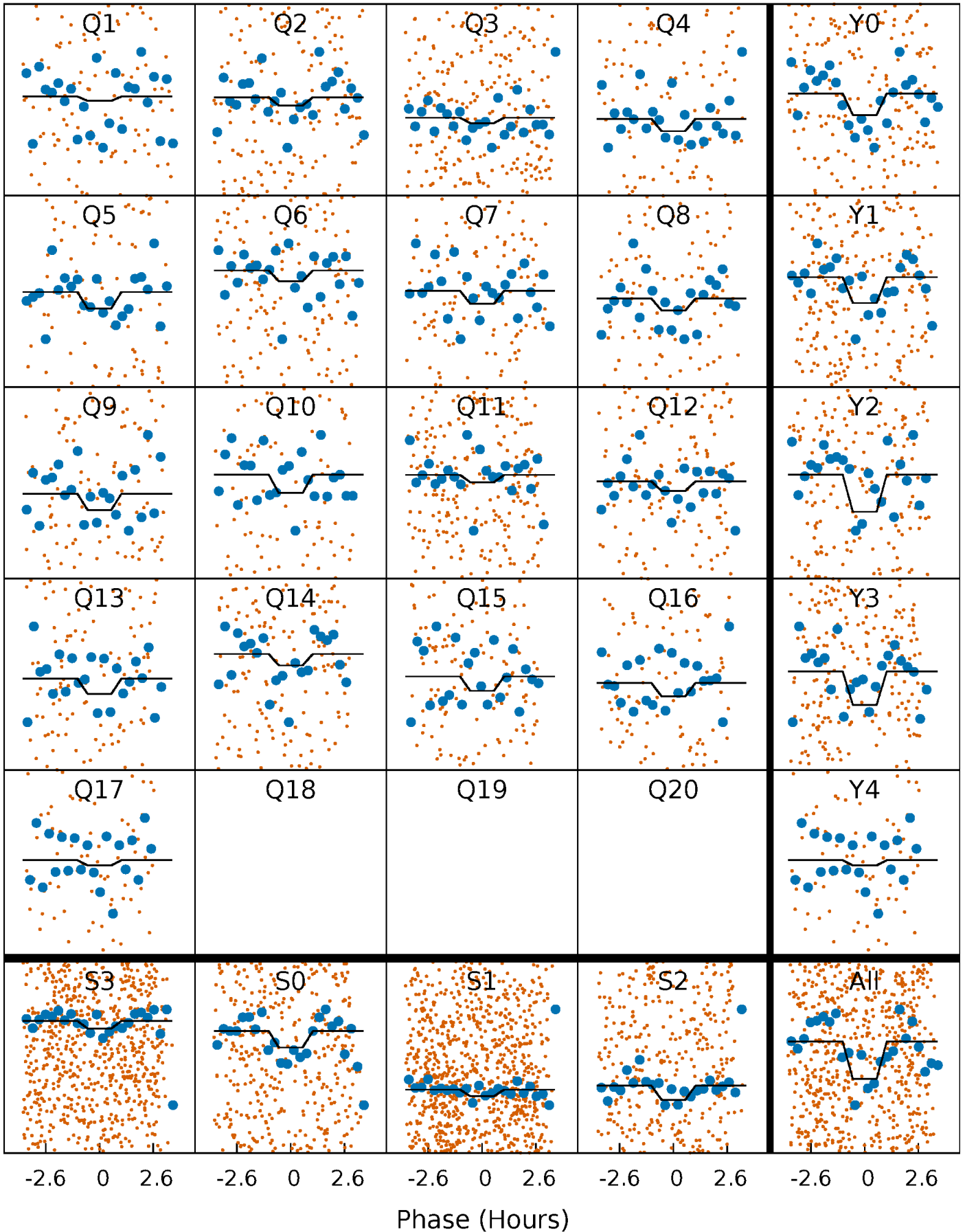
DV Quarter-Phased Transit Curves

TCE 001849235-03 P= 4.685458 Days $T_0=132.200323$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

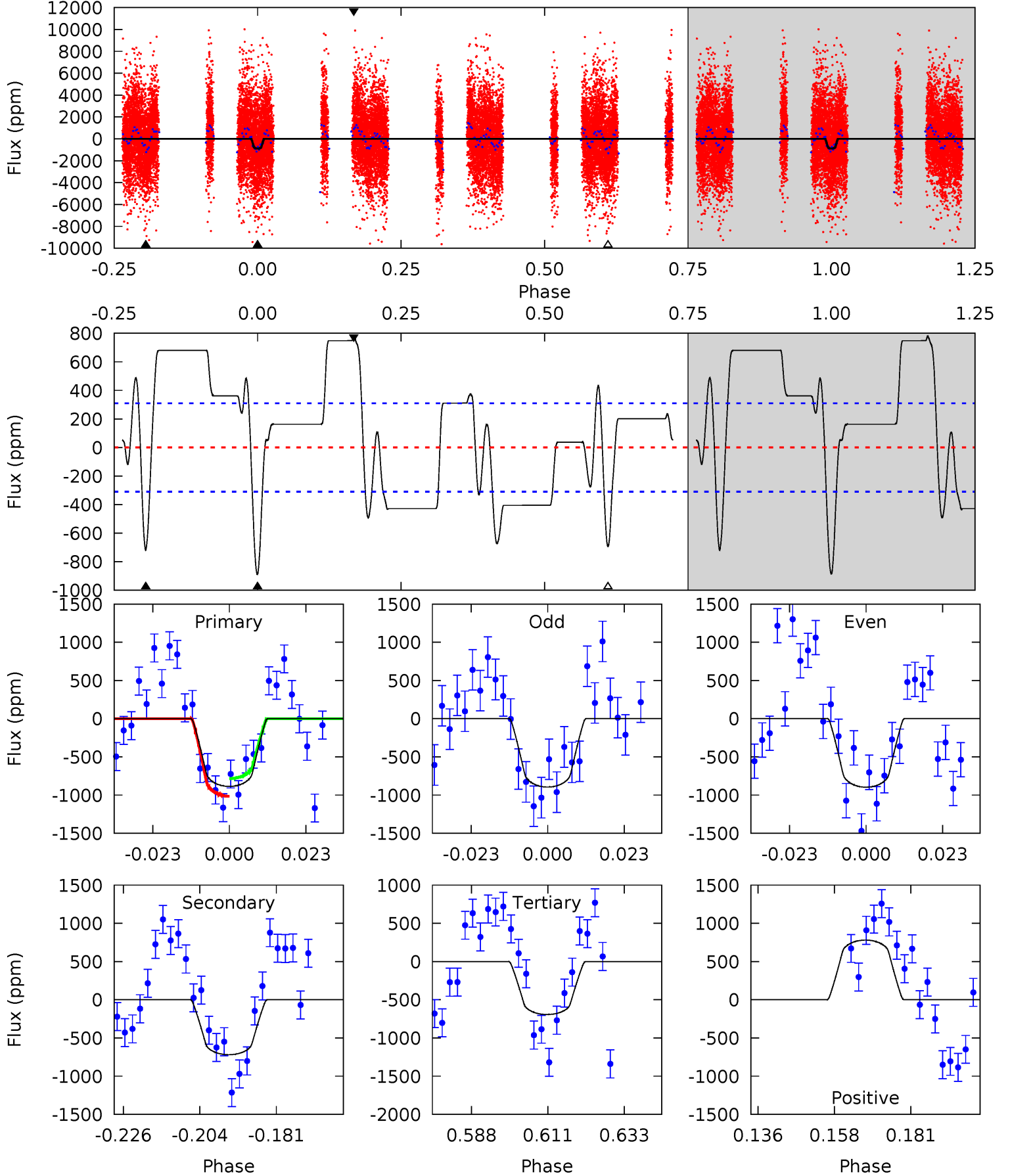
TCE 001849235-03 P= 4.685512 Days $T_0=132.186138$ (BKJD)



DV Model-Shift Uniqueness Test

001849235-03, P = 4.685458 Days, E = 127.514865 Days

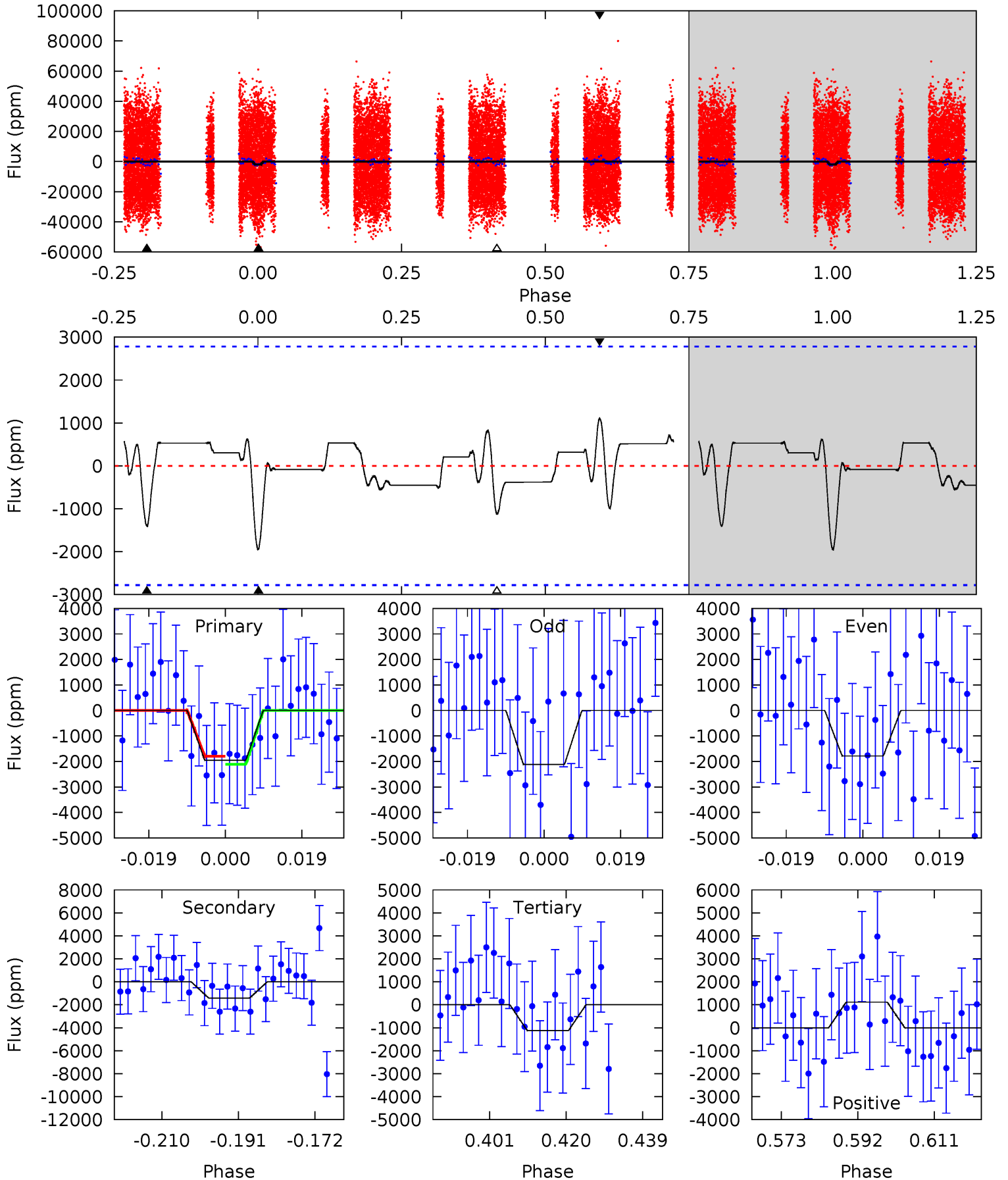
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	11.3	10.9	12.3	4.87	2.28	5.58	3.05	1.67	0.41	-0.97	0.02	1.10	0.47	1.83



Alt Model-Shift Uniqueness Test

001849235-03, P = 4.685512 Days, E = 127.500626 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.44	2.48	1.99	1.96	4.90	2.34	0.85	1.45	1.48	0.49	0.52	0.29	0.83	0.36	0.27



Stellar Parameters For KIC 001849235

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6477^{+181}_{-227}	$4.080^{+0.258}_{-0.172}$	$-0.200^{+0.250}_{-0.300}$	$1.667^{+0.494}_{-0.494}$	$1.221^{+0.201}_{-0.201}$	$0.371^{+0.603}_{-0.176}$
	+3%/-4%	+6%/-4%	+125%/-150%	+30%/-30%	+16%/-16%	+163%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001849235-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-719 ± 64	$5.75^{+4.68}_{-3.75}$	2097^{+174}_{-173}	5846^{+4819}_{-1330}	40^{+302}_{-27}
Alt.	-1409 ± 567	$7.68^{+5.42}_{-4.30}$	2123^{+156}_{-187}	6005^{+3576}_{-1467}	44^{+184}_{-33}

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

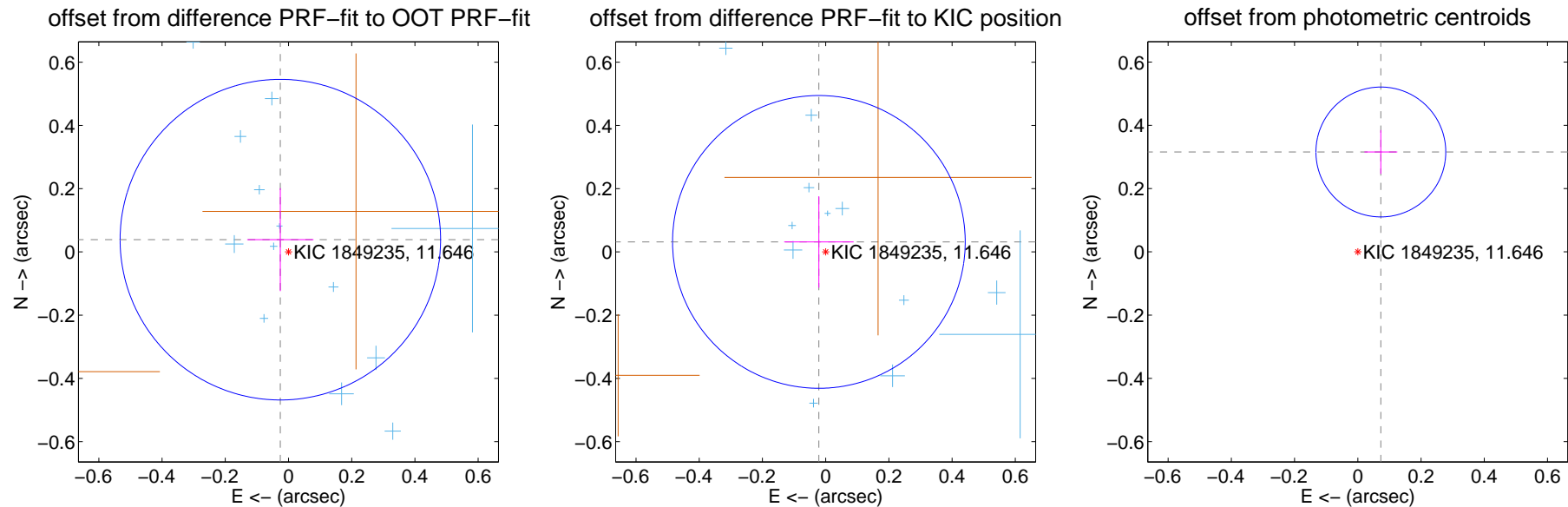
DV Centroid Data

Supplemental centroid analysis for 001849235-03. **Kepler magnitude: 11.65**. Transit SNR 9.92

There are 14 quarters with good PRF difference image offsets

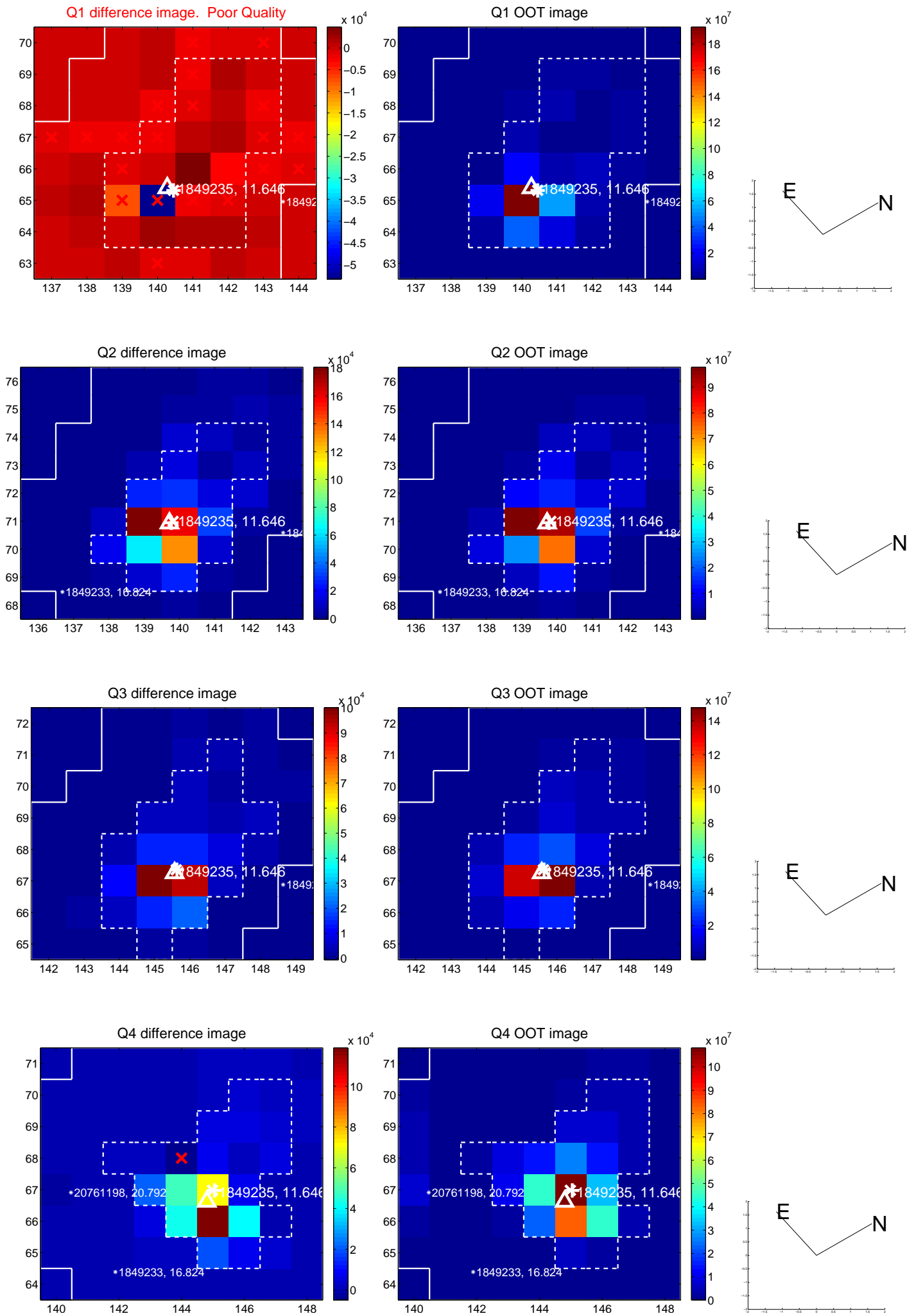
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 0.169	0.28	0.026 ± 0.105	0.039 ± 0.163
PRF-fit source offset from KIC position	0.038 ± 0.154	0.25	0.021 ± 0.110	0.032 ± 0.145
photometric centroid source offset	0.32 ± 0.07	4.73	-0.07 ± 0.05	0.32 ± 0.07

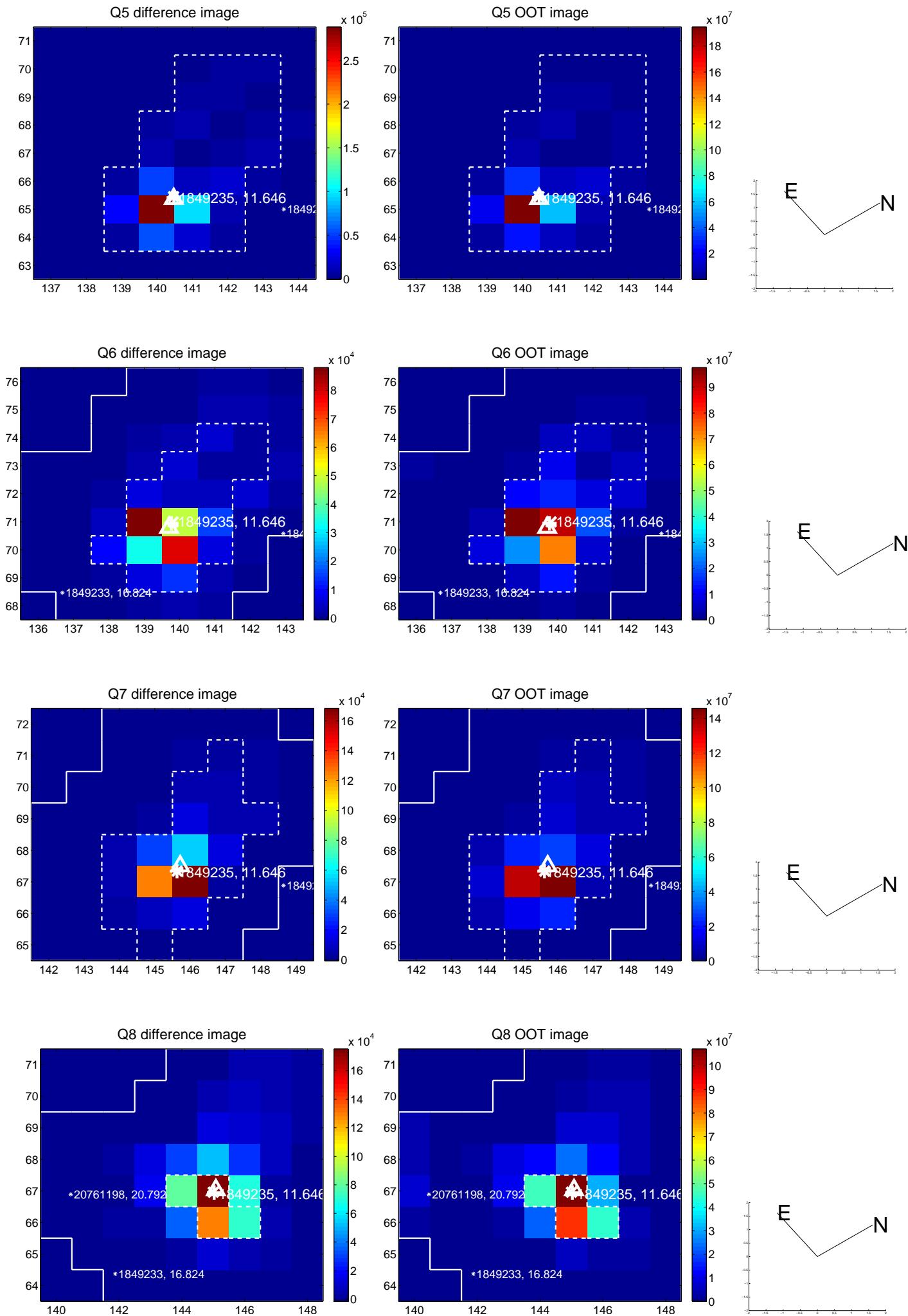


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

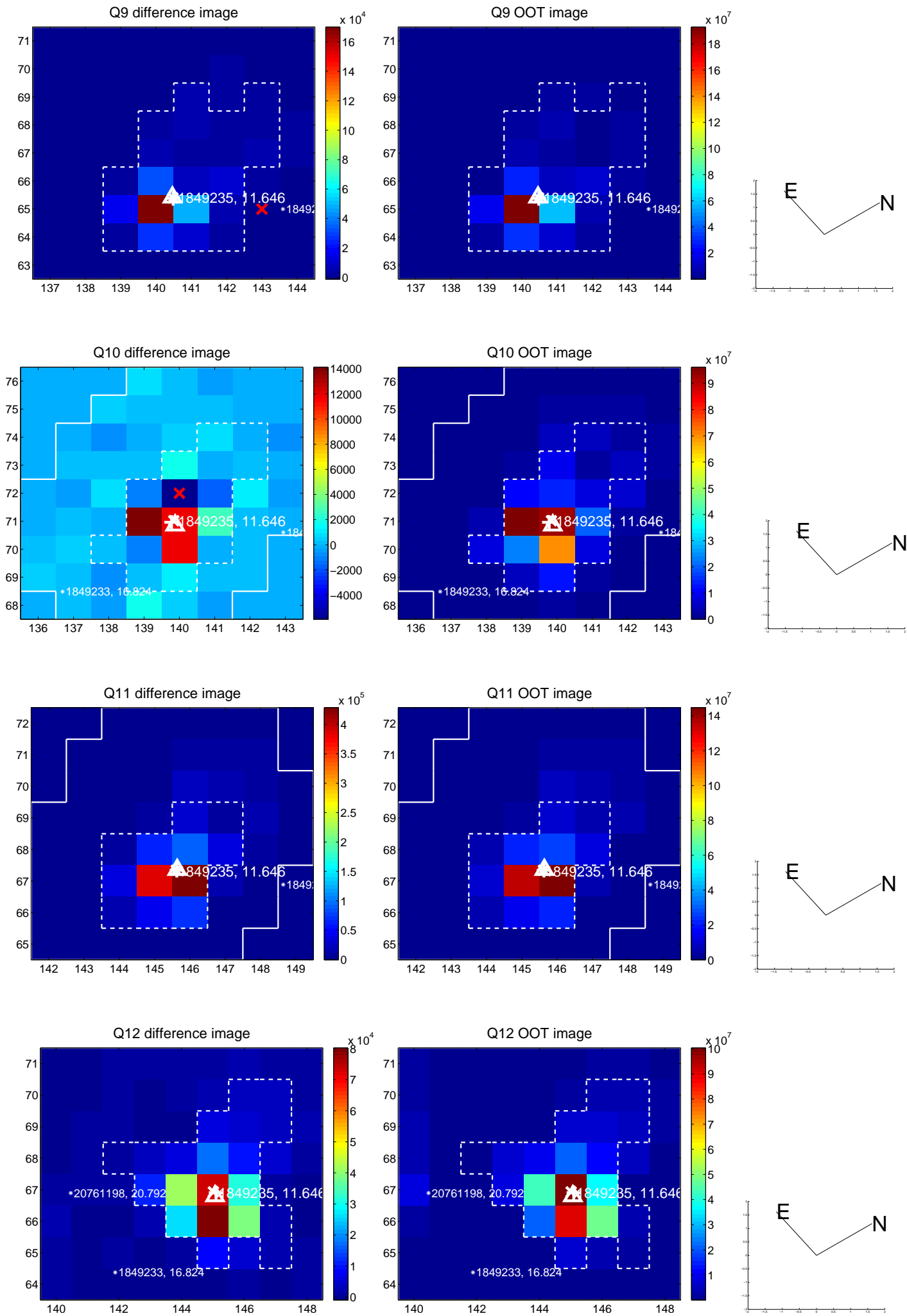
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



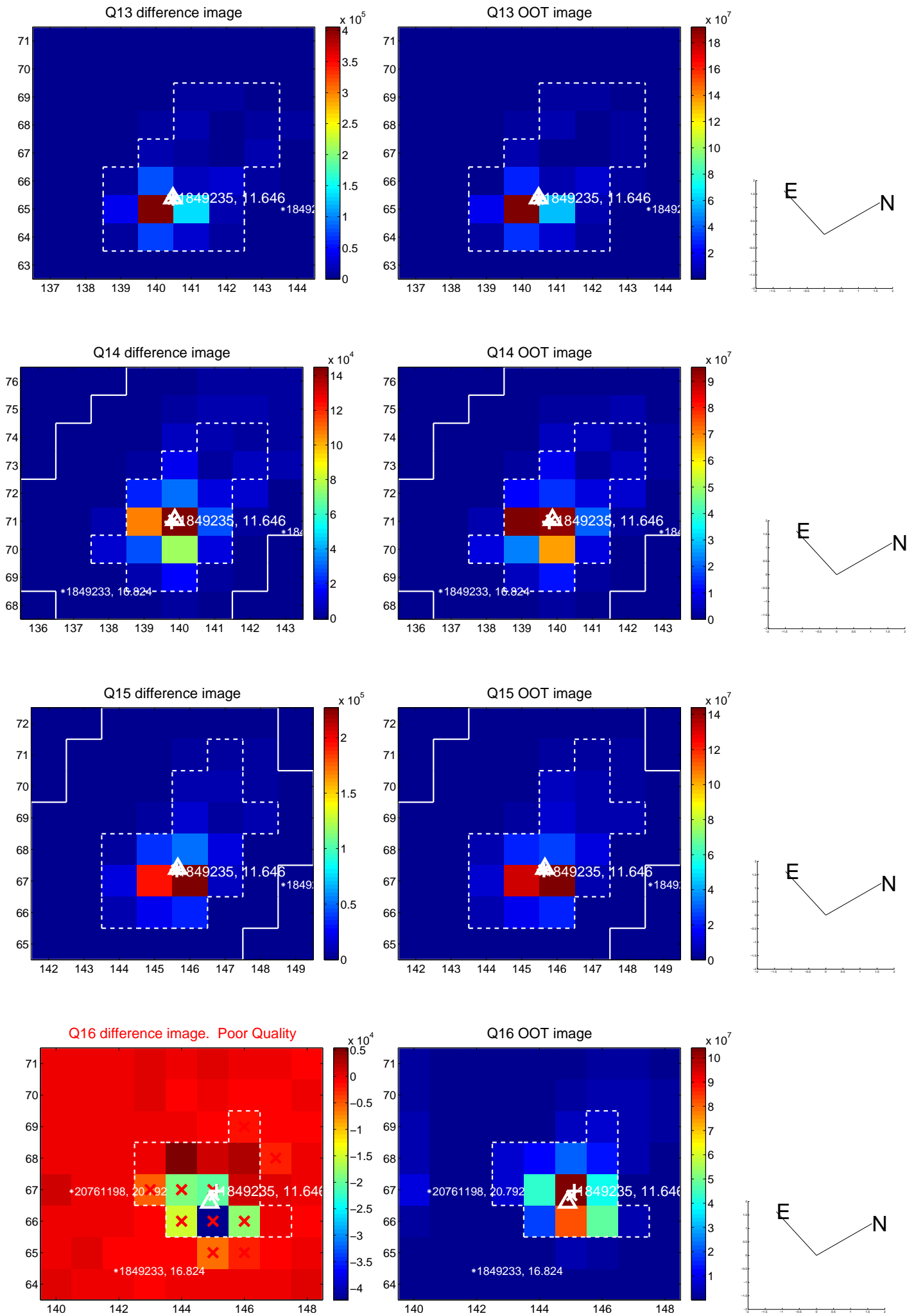
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



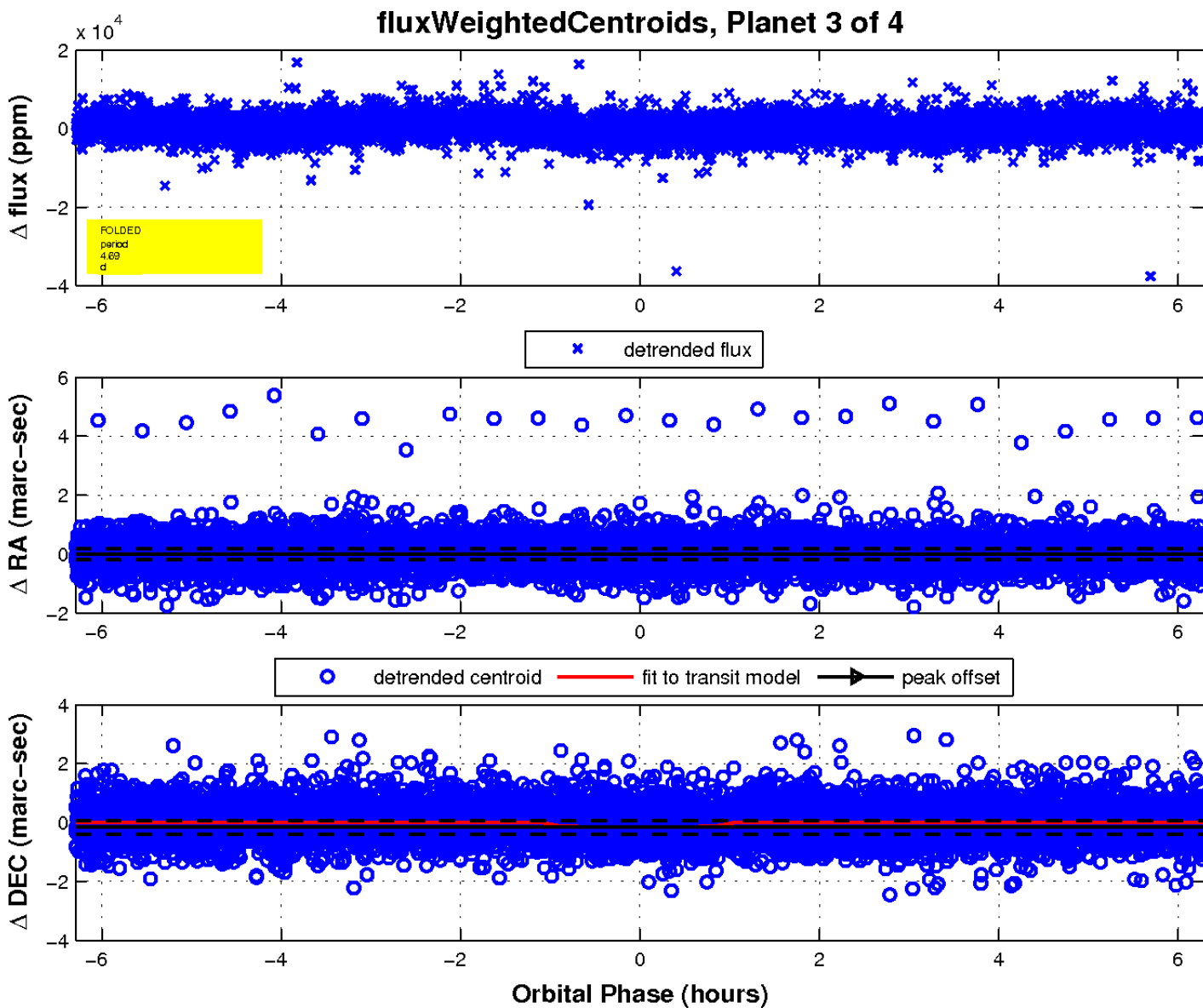
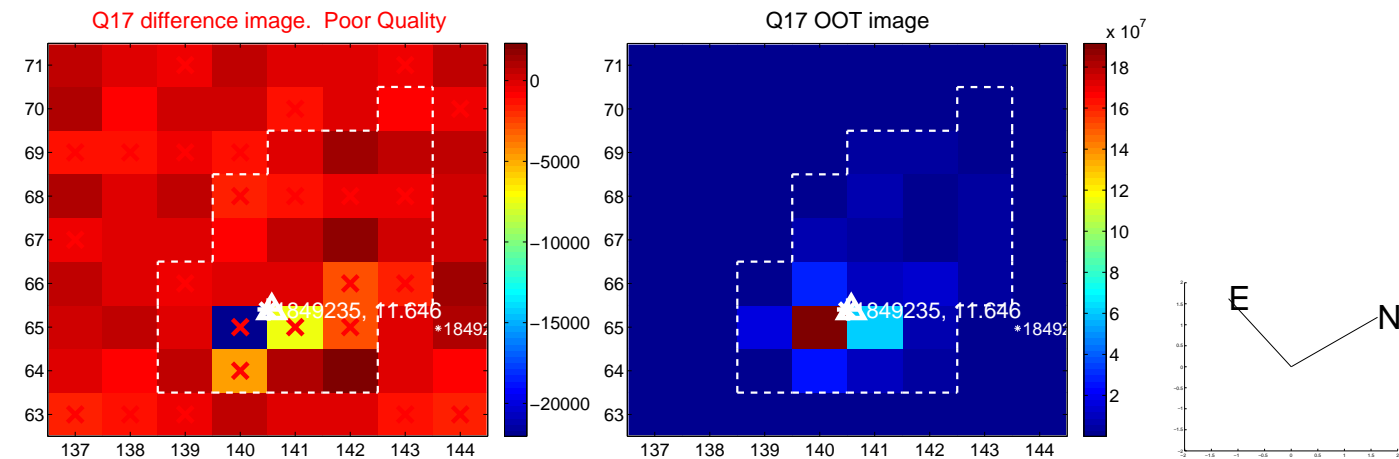
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

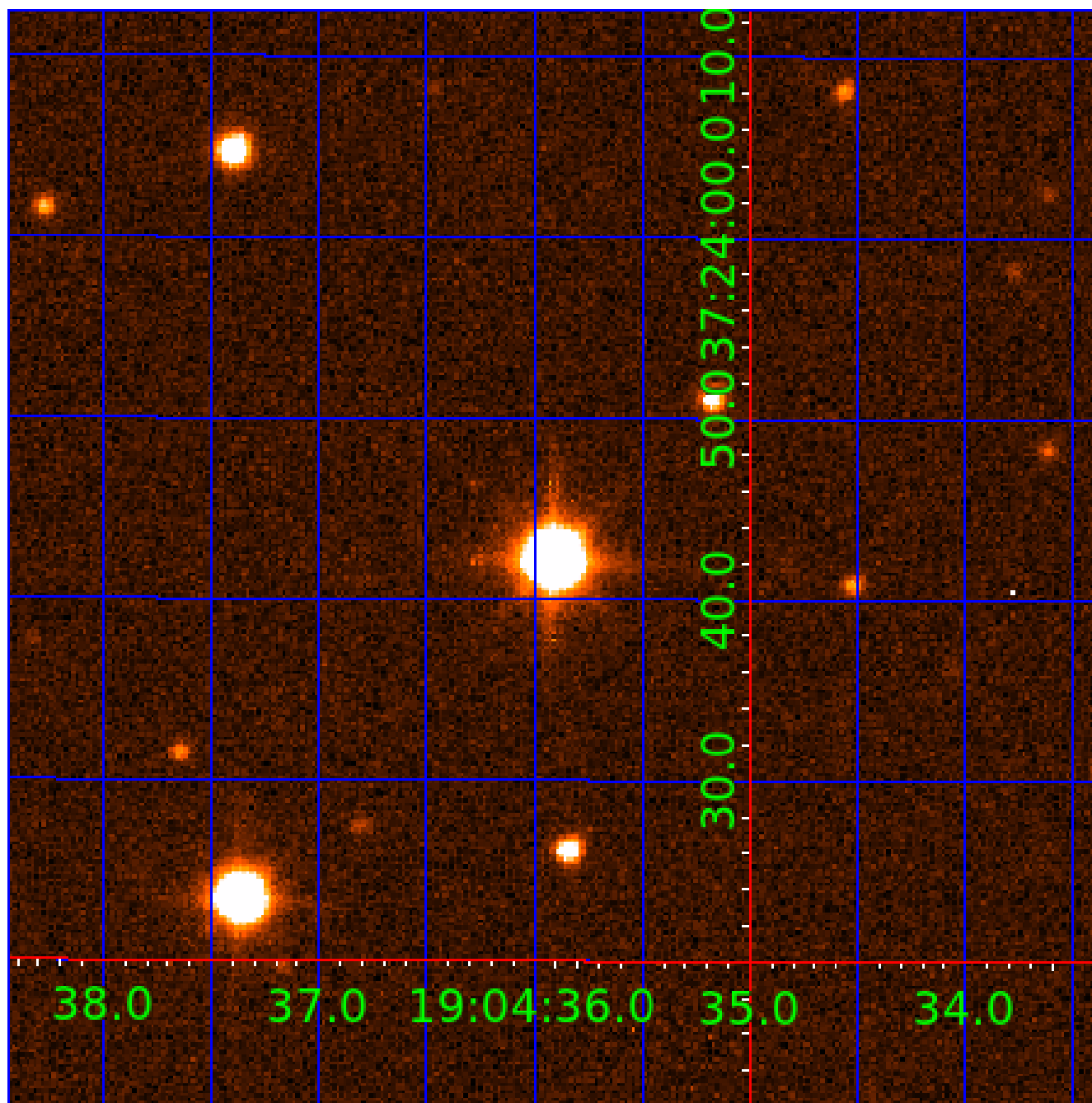


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 001849235

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})
001849235-01	OBS	No	0.937079	131.597271	200.0	3.043	10.7	6.9	1.67	6477	2.74	10930.64
001849235-02	OBS	No	0.937105	131.927146	884.7	1.038	12.6	17.3	1.67	6477	5.85	10930.24
001849235-03	OBS	No	4.685458	132.200323	730.7	2.098	10.1	9.9	1.67	6477	4.83	1278.43
001849235-04	OBS	No	0.520614	131.535994	166.5	1.500	9.4	-1.0	1.67	6477	2.17	23932.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001849235-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
001849235-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
001849235-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—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.

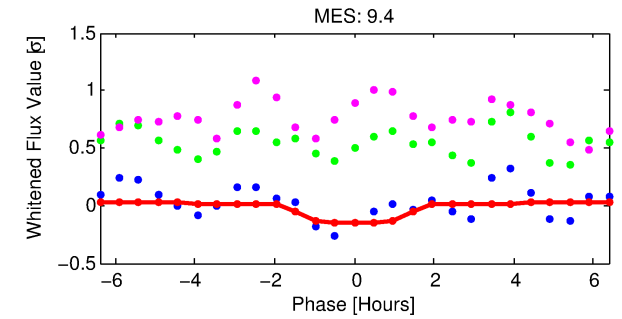
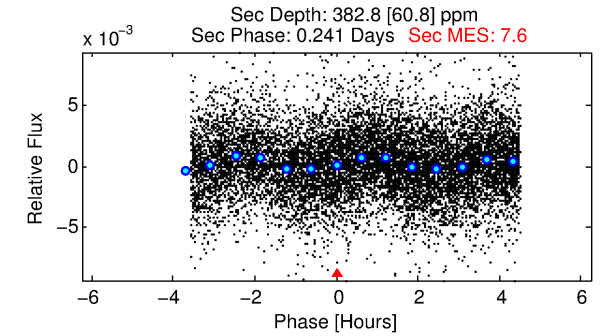
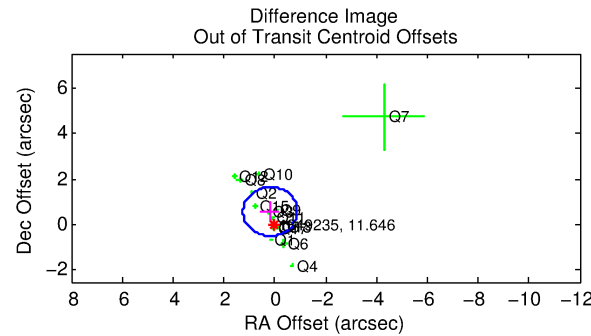
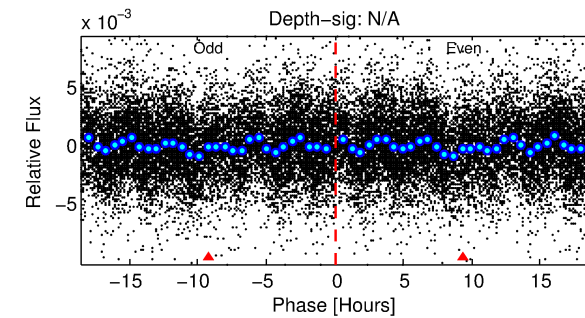
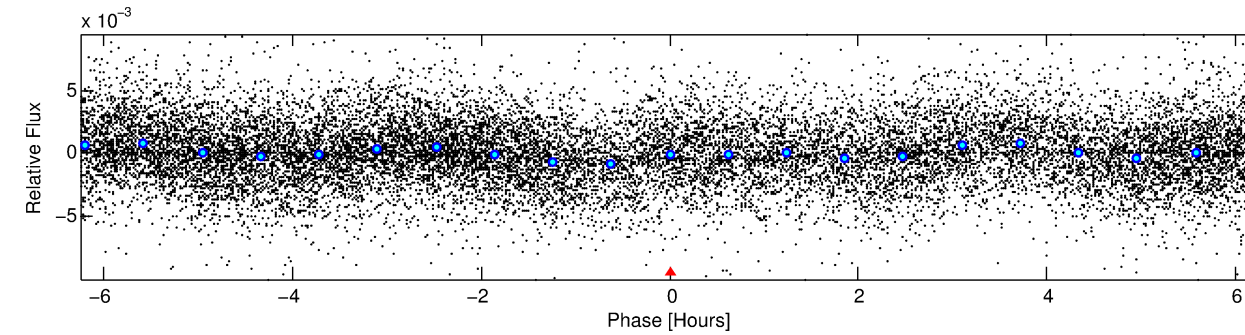
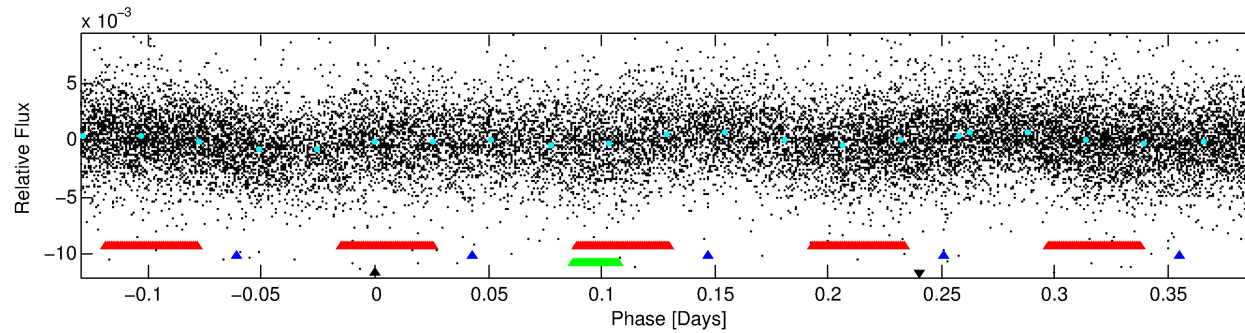
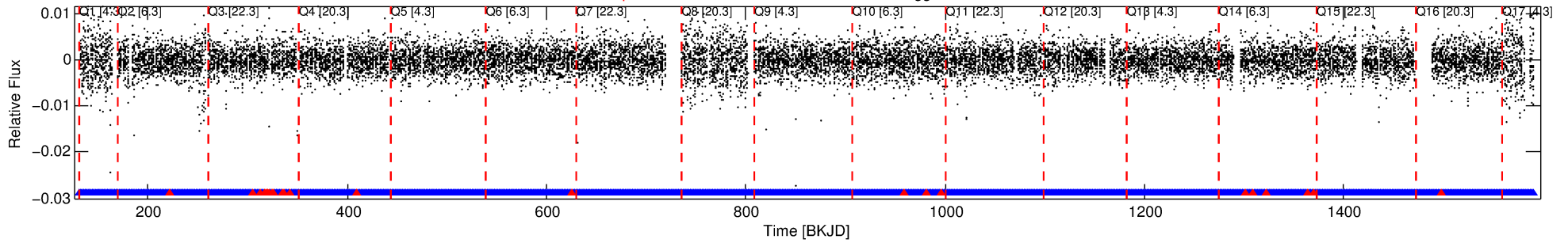
Ephemeris Match Information For 001849235-04

No Significant Match Found

DV One-Page Summary

KIC: 1849235 Candidate: 4 of 4 Period: 0.521 d

Kp: 11.65 R*: 1.67 Rs Teff: 6477.0 K Logg: 4.08 Fe/H: -0.200



TPS TCE Results:

Period = 0.52061 d
Epoch = 131.5360 BKJD

DV fit results are unavailable

DV Diagnostic Results:

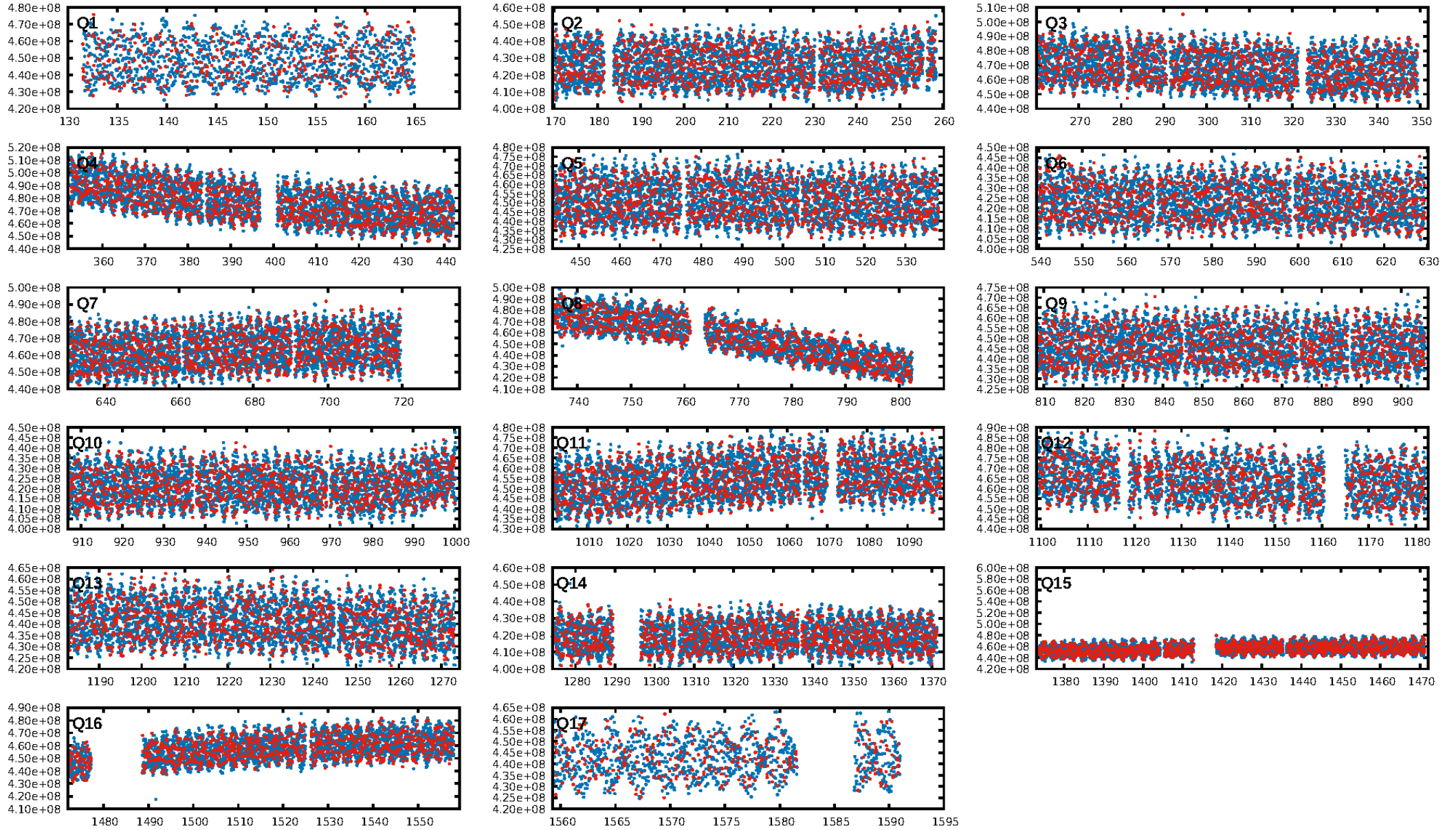
ShortPeriod-sig: N/A
LongPeriod-sig: 99.7% [2.95σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1455/1478]
GhostDiagnostic-chr: 1.738

Centroid-sig: 0.0%
Centroid-so: 0.167 arcsec [6.34σ]
OotOffset-rm: 0.608 arcsec [1.71σ]
KicOffset-rm: 0.600 arcsec [1.69σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 0.00 [0/17]

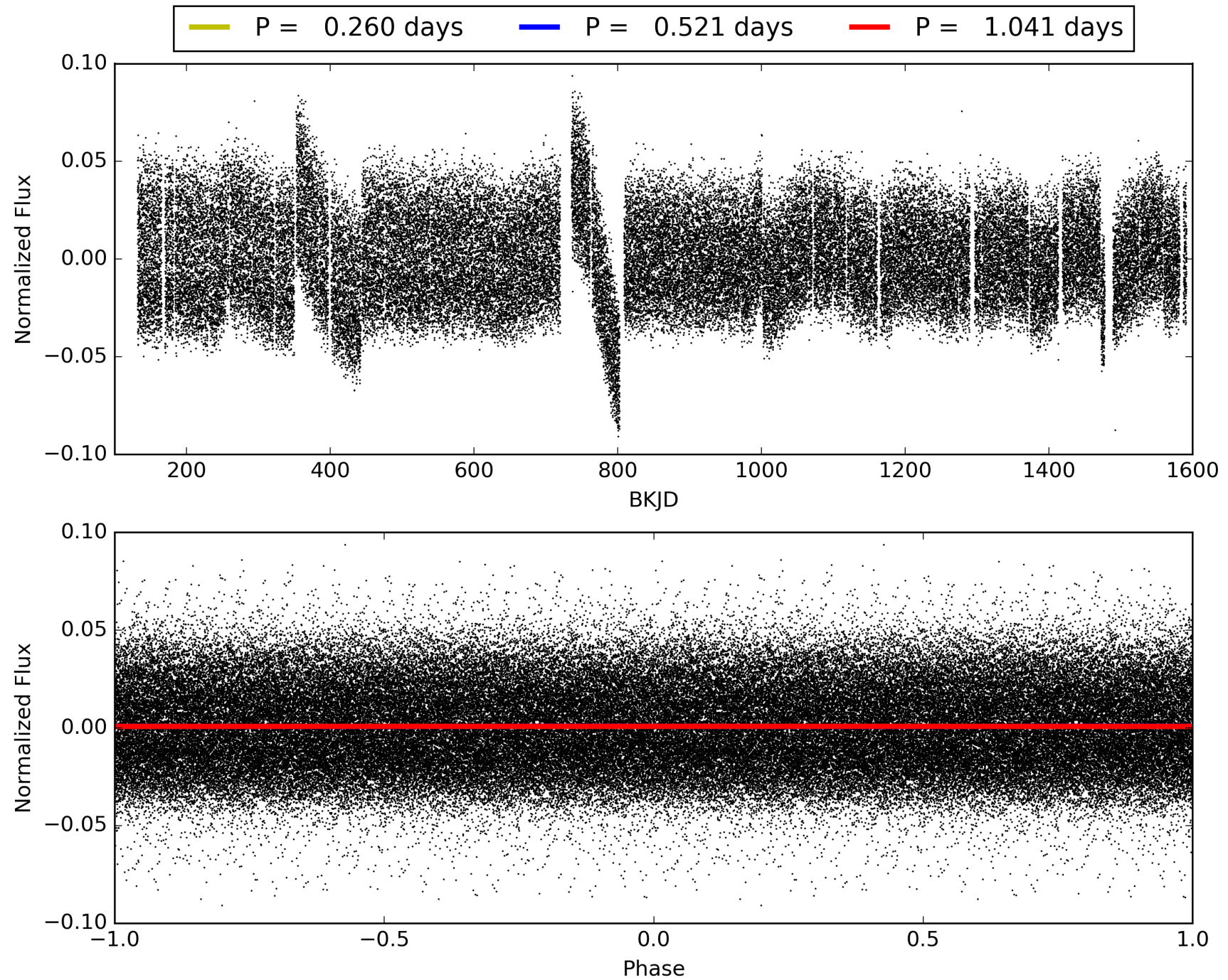
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:50:54 Z

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

TCE 001849235-04, PDC Light Curves

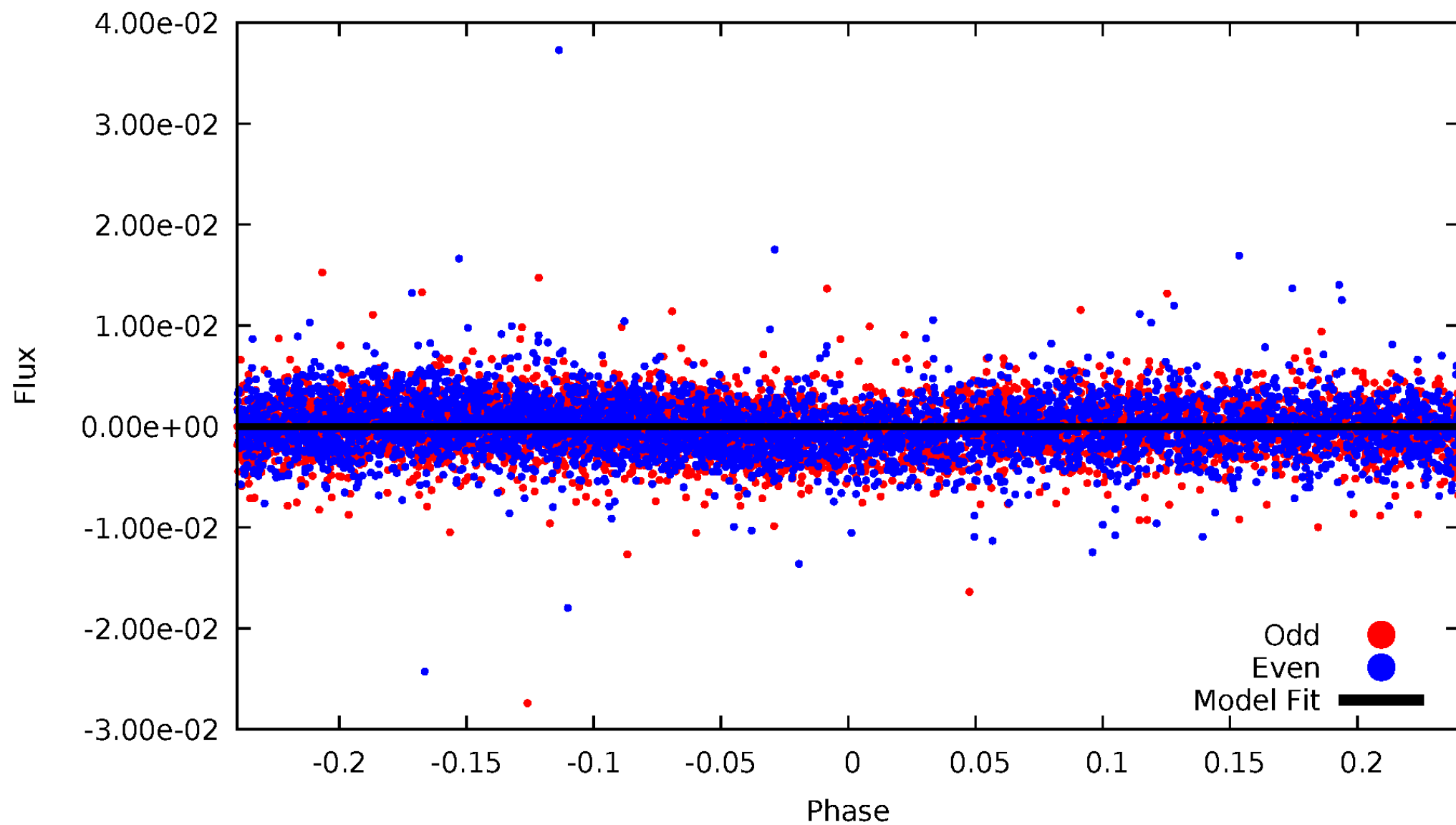


TCE 001849235-04



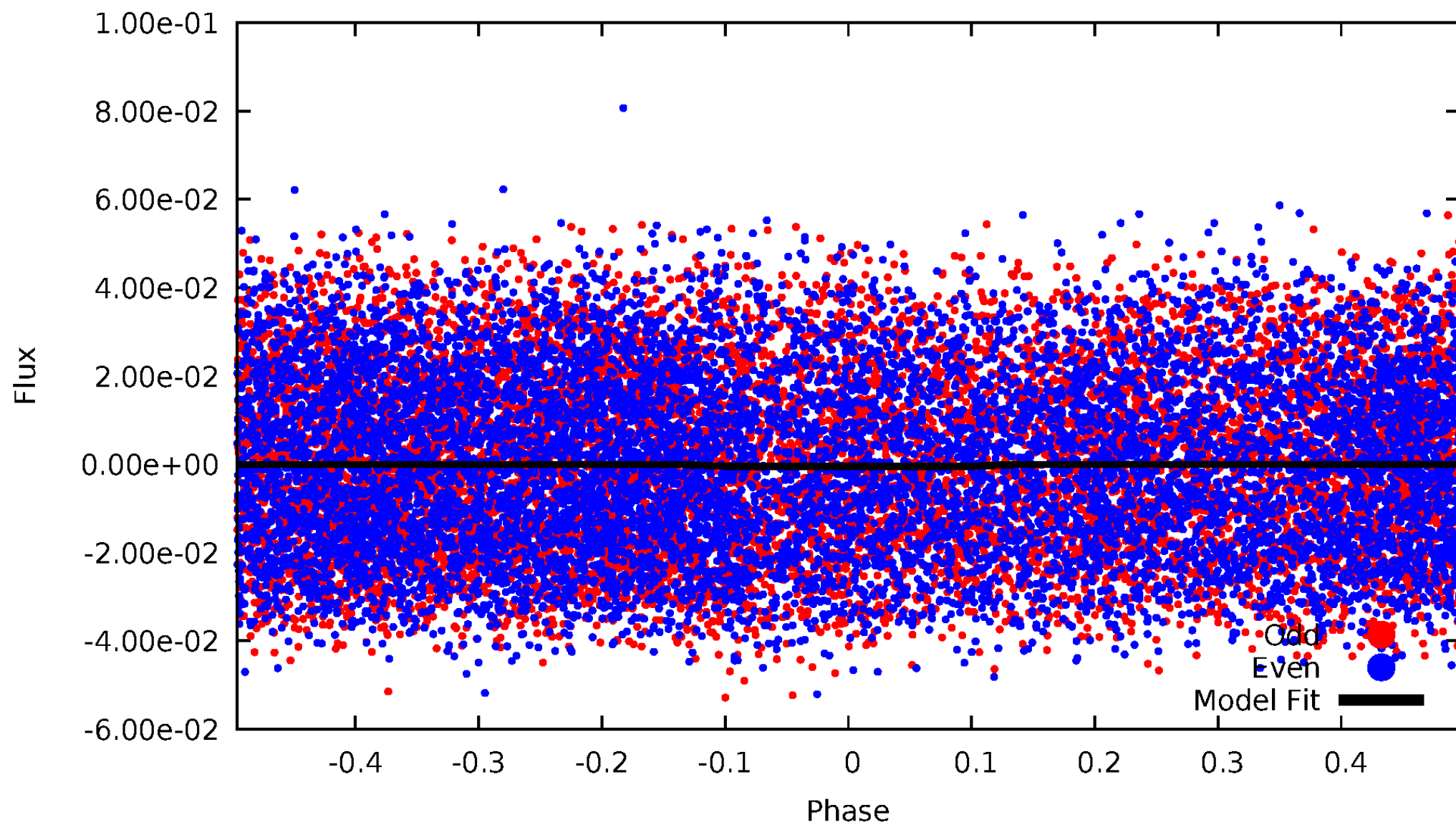
DV Odd/Even

TCE 001849235-04



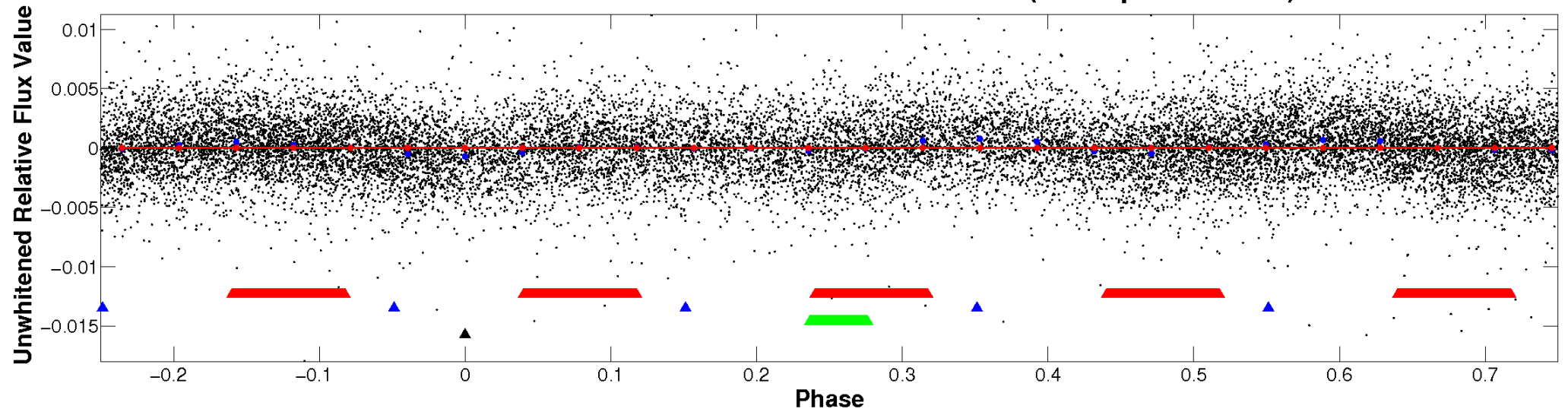
ALT Odd/Even

TCE 001849235-04

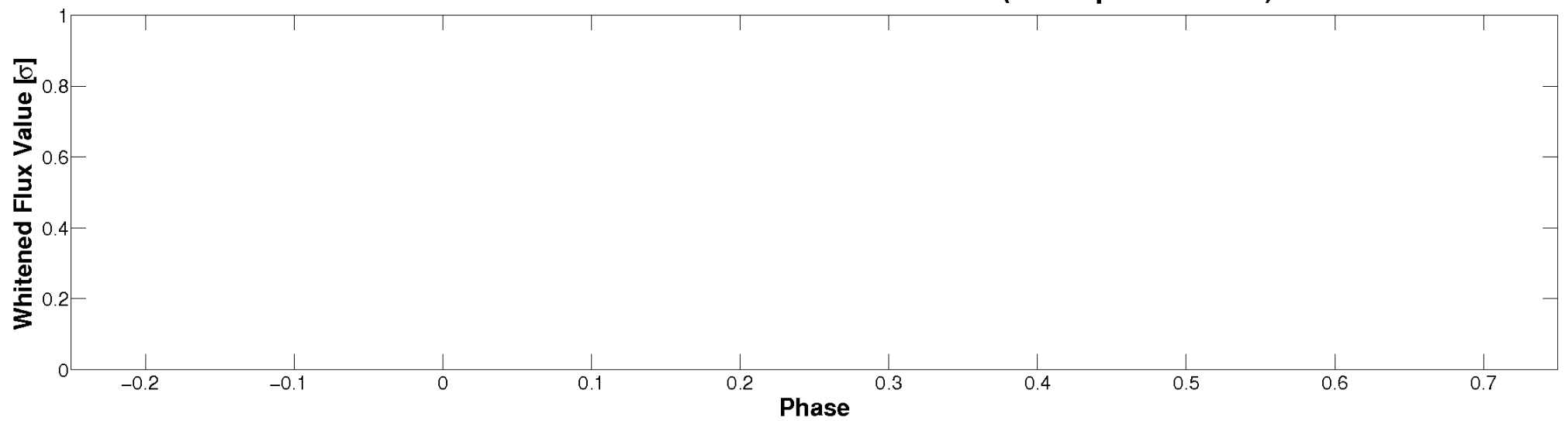


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

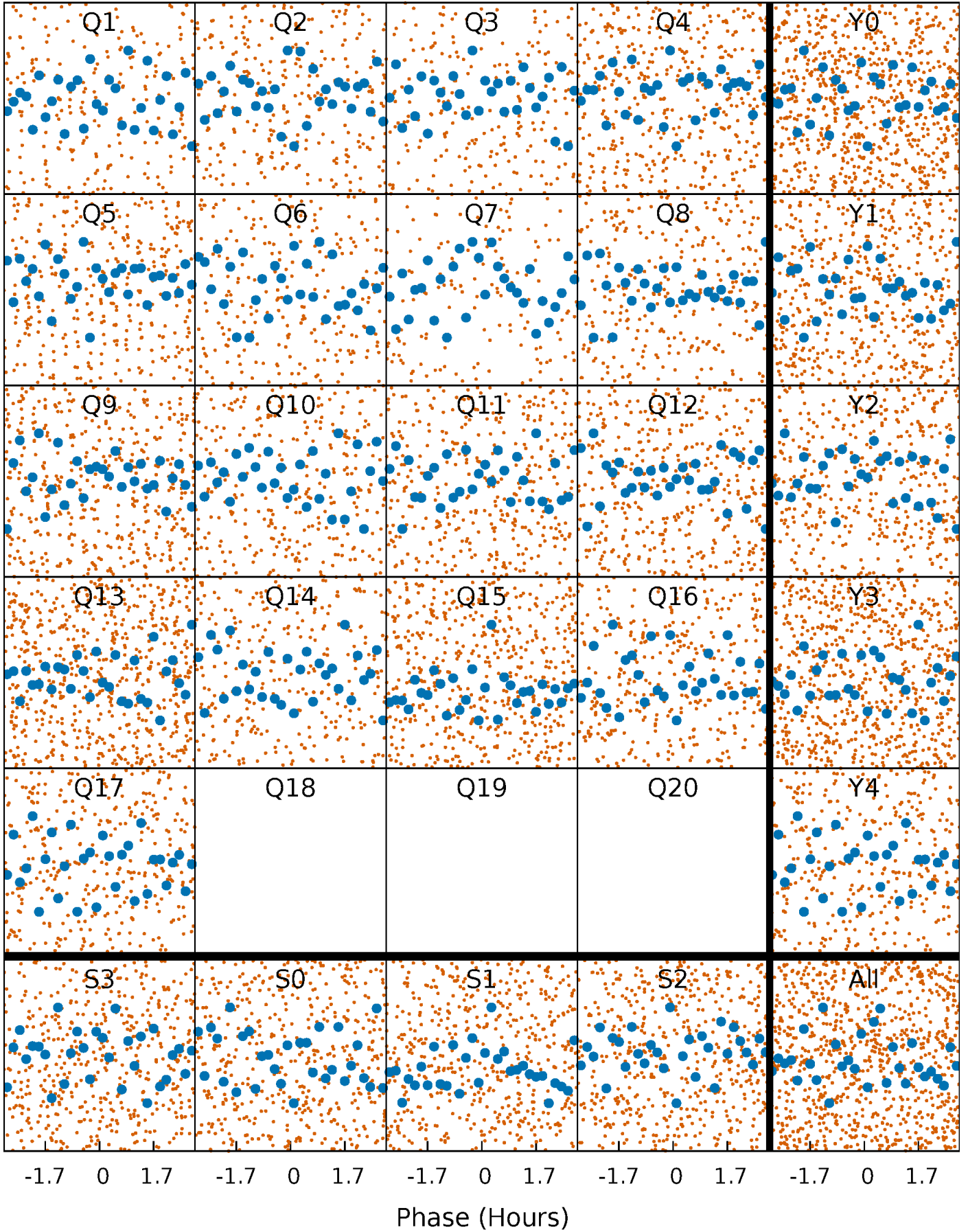


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



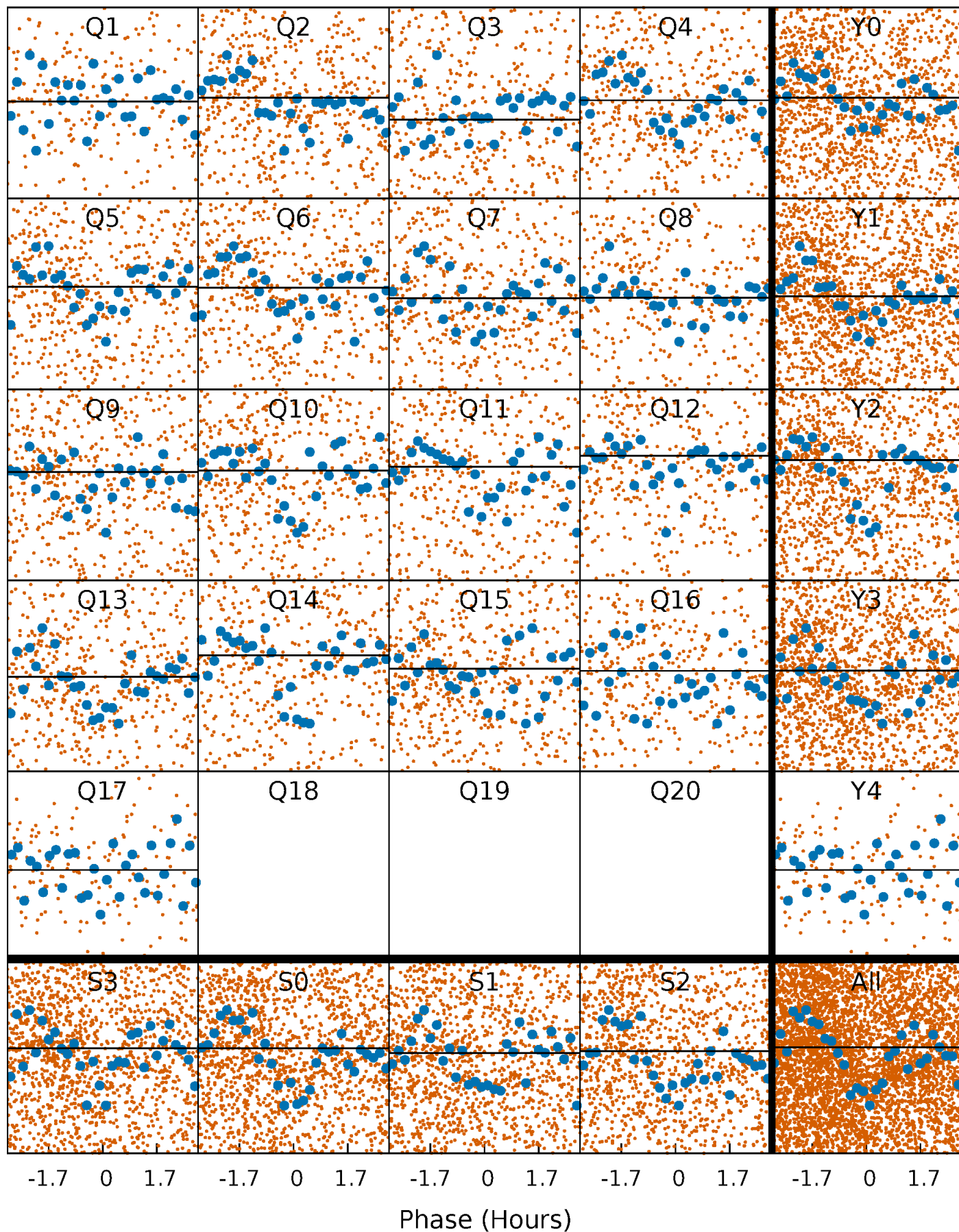
PDC Quarter-Phased Transit Curves

TCE 001849235-04 P= 0.520614 Days $T_0=131.535994$ (BKJD)



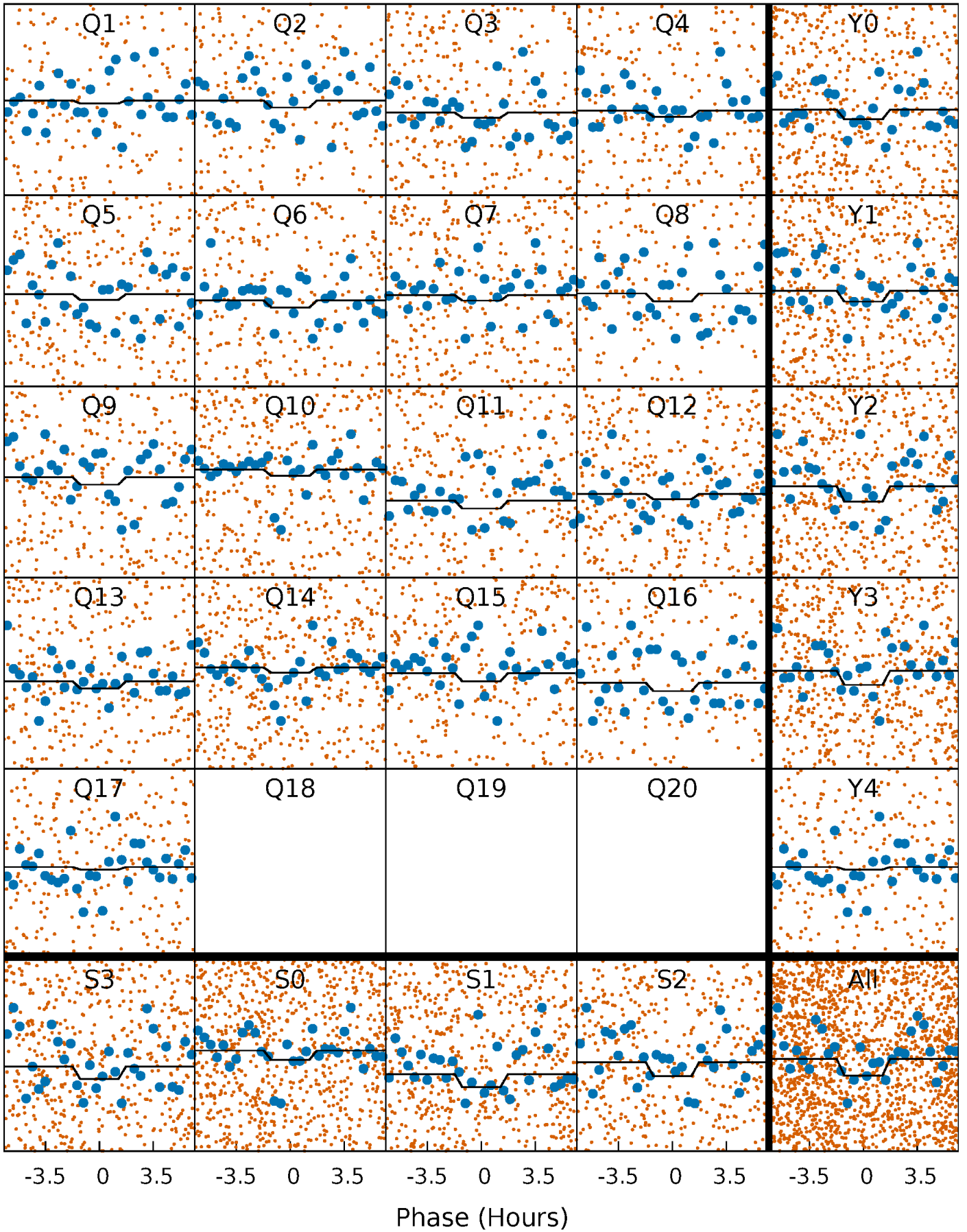
DV Quarter-Phased Transit Curves

TCE 001849235-04 P= 0.520614 Days $T_0=131.535994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

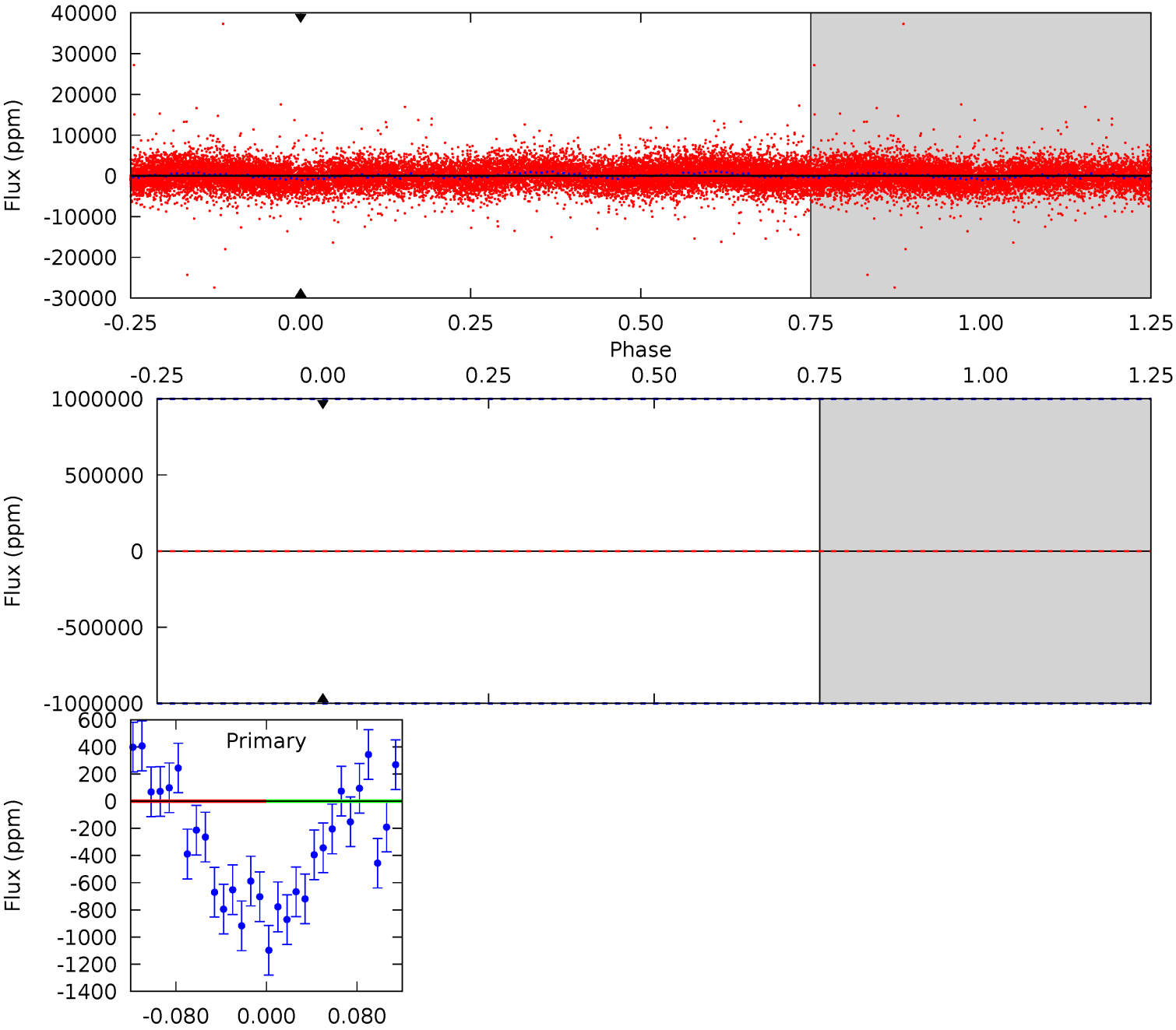
TCE 001849235-04 P= 0.520614 Days $T_0=131.571881$ (BKJD)



DV Model-Shift Uniqueness Test

001849235-04, P = 0.520614 Days, E = 131.535994 Days

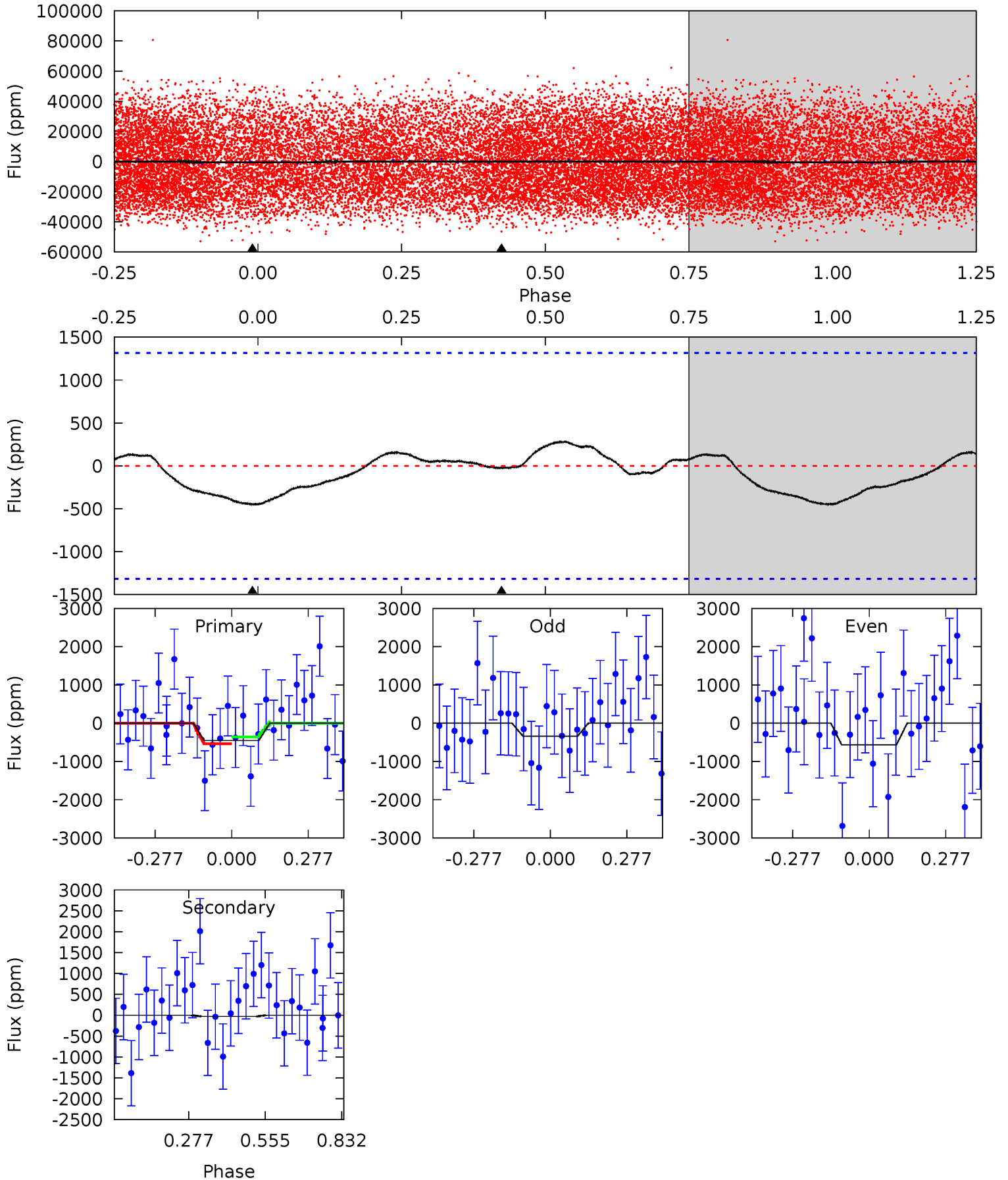
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

001849235-04, P = 0.520614 Days, E = 131.571881 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.50	0.10	0	0	4.35	1.09	0.22	1.50	1.50	0.10	0.10	0.37	1.31	0.39	0.30



Stellar Parameters For KIC 001849235

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6477^{+181}_{-227}	$4.080^{+0.258}_{-0.172}$	$-0.200^{+0.250}_{-0.300}$	$1.667^{+0.494}_{-0.494}$	$1.221^{+0.201}_{-0.201}$	$0.371^{+0.603}_{-0.176}$
	+3%/-4%	+6%/-4%	+125%/-150%	+30%/-30%	+16%/-16%	+163%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001849235-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$12.11^{+14.07}_{-8.28}$	4375^{+370}_{-362}	-4581^{+38176}_{-24591}	$-0.361^{+151.463}_{-116.778}$
Alt.	-30 ± 303	$14.45^{+15.38}_{-10.48}$	4380^{+382}_{-363}	-3941^{+6498}_{-584}	$0.002^{+0.325}_{-0.318}$

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

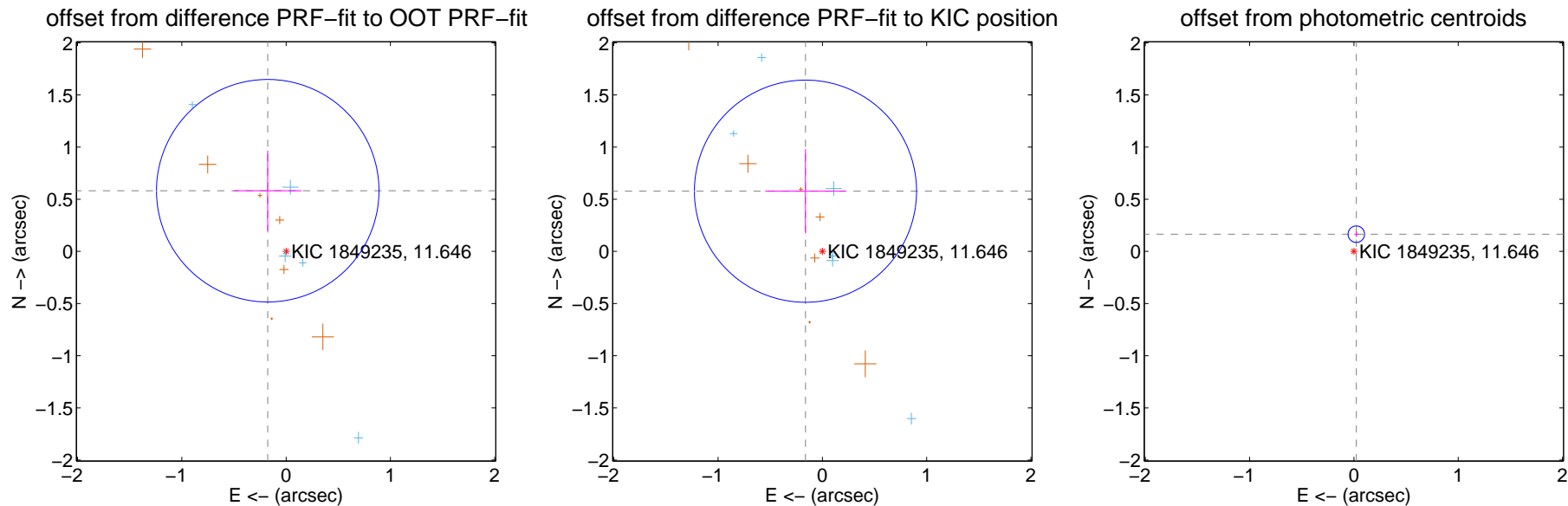
DV Centroid Data

Supplemental centroid analysis for 001849235-04. **Kepler magnitude: 11.65**. Transit SNR -1.00

There are 6 quarters with good PRF difference image offsets

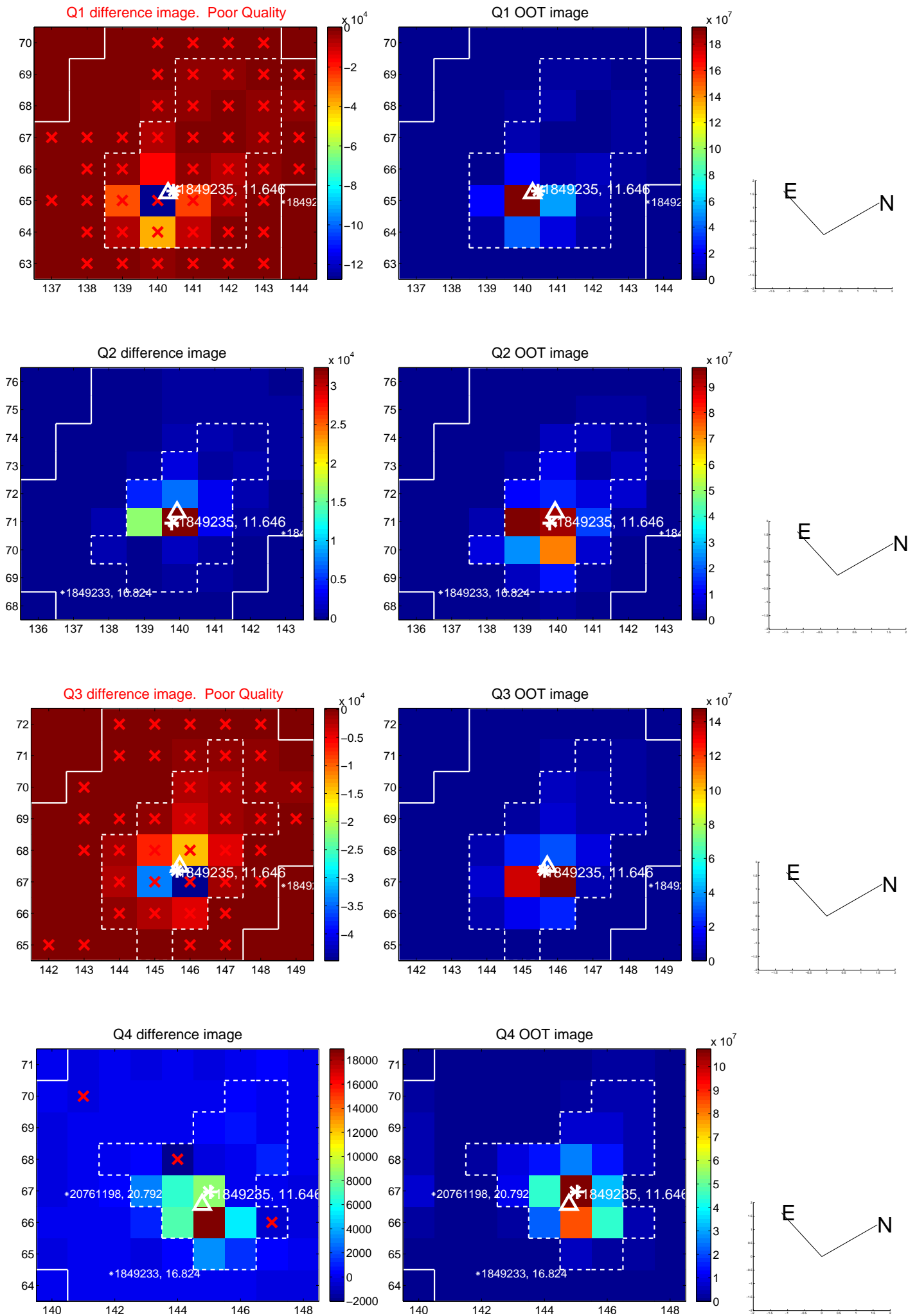
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.608 ± 0.356	1.71	0.176 ± 0.326	0.582 ± 0.383
PRF-fit source offset from KIC position	0.600 ± 0.355	1.69	0.162 ± 0.388	0.577 ± 0.404
photometric centroid source offset	0.17 ± 0.03	6.34	-0.02 ± 0.02	0.17 ± 0.03

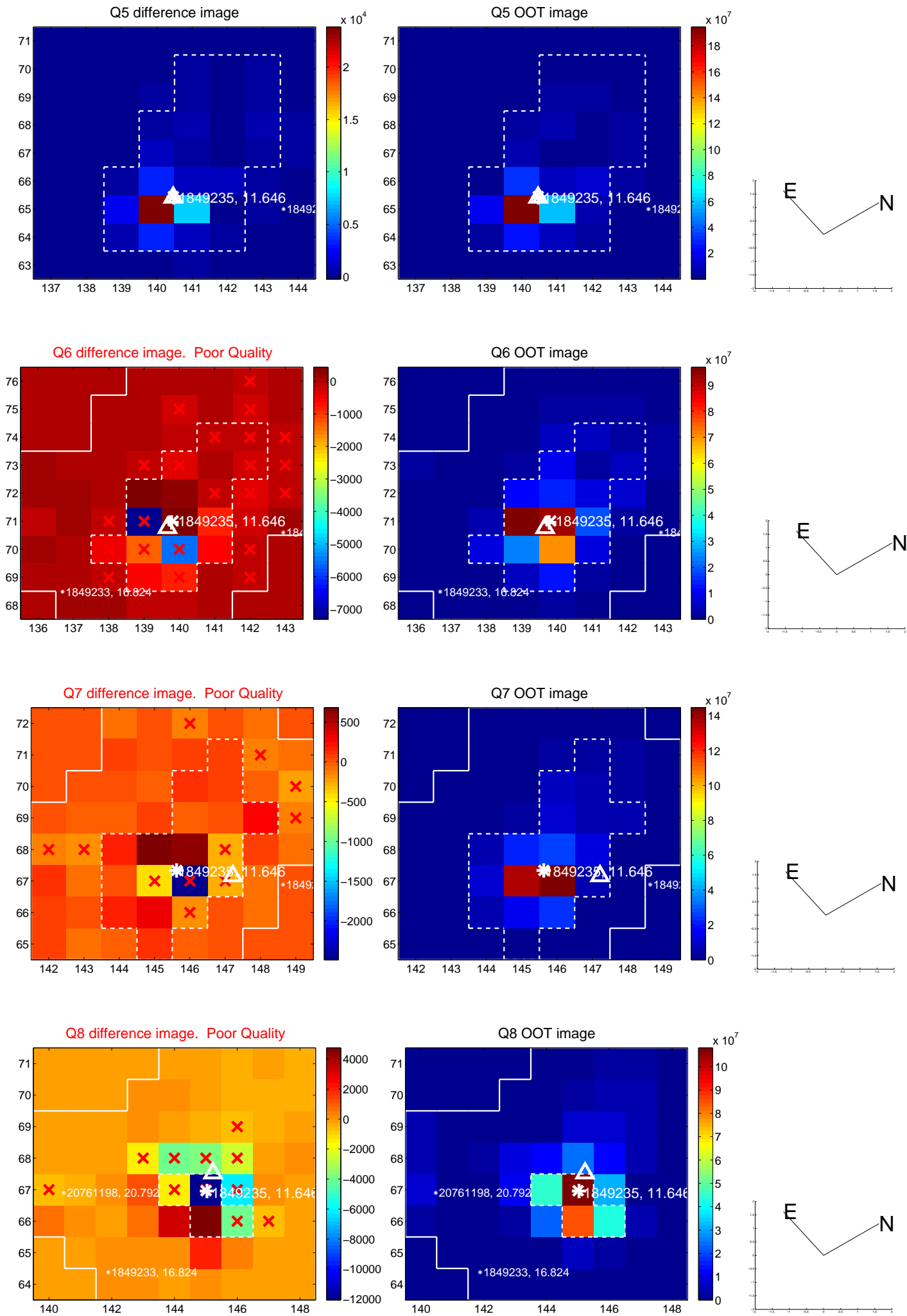


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

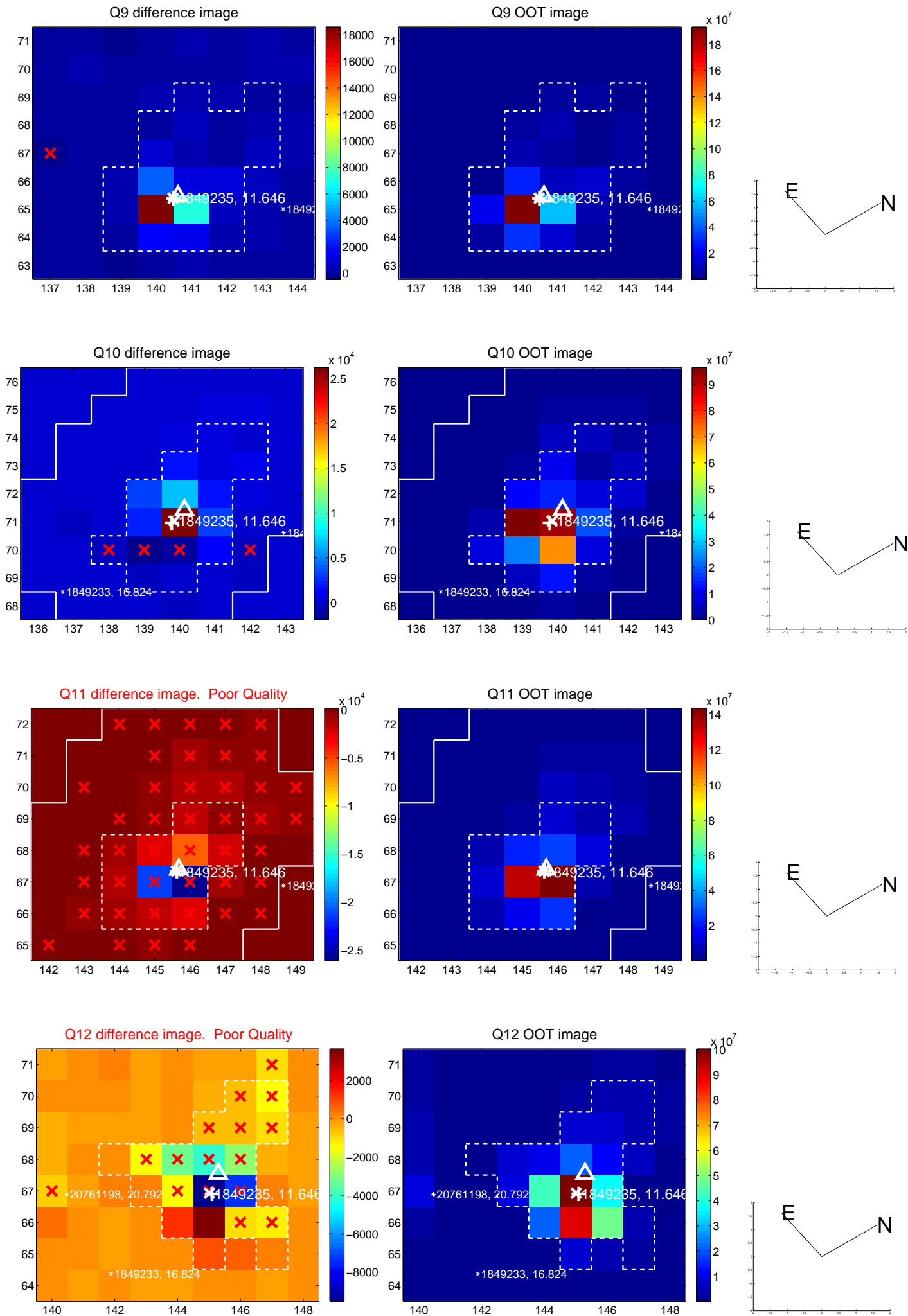
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



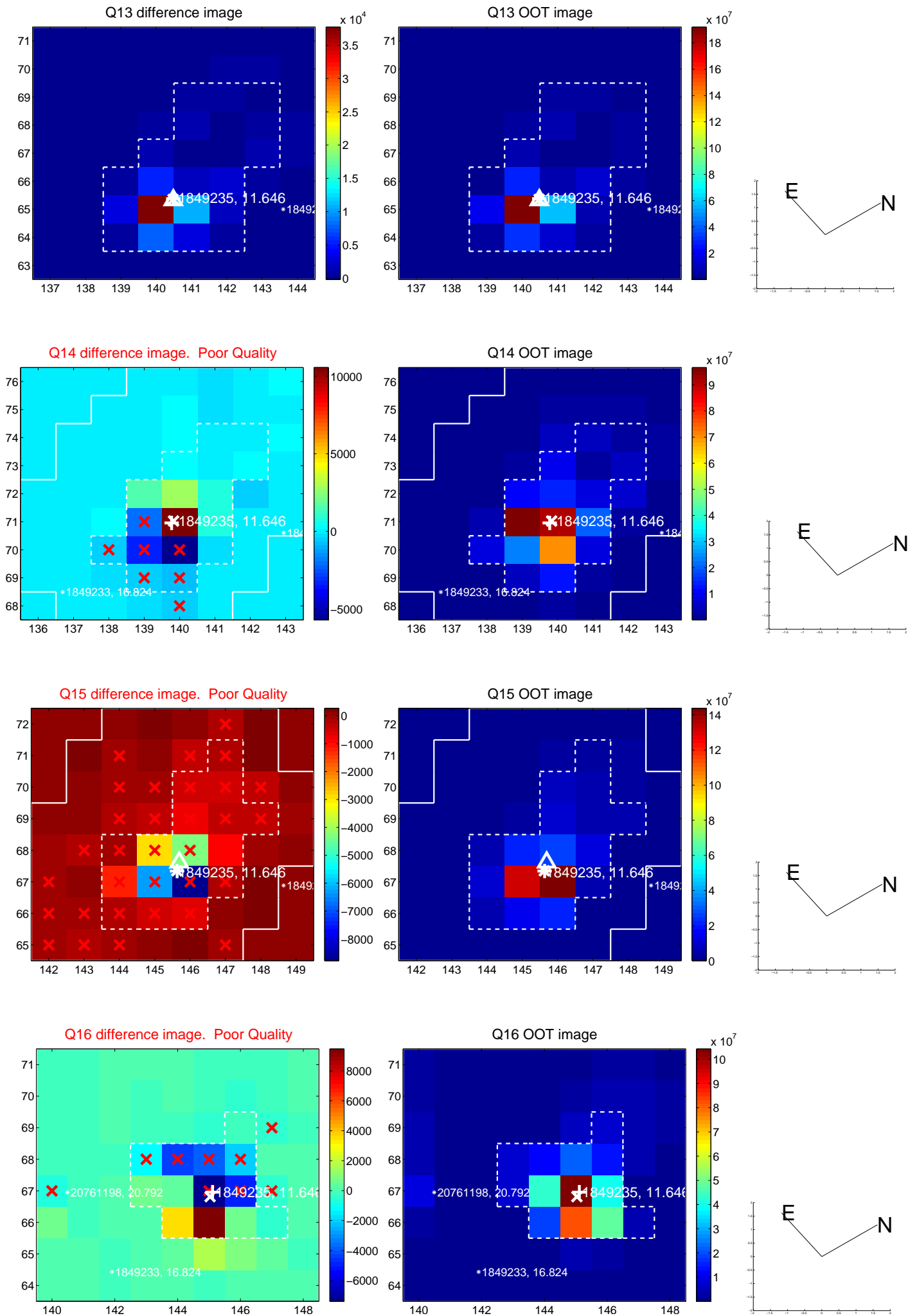
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



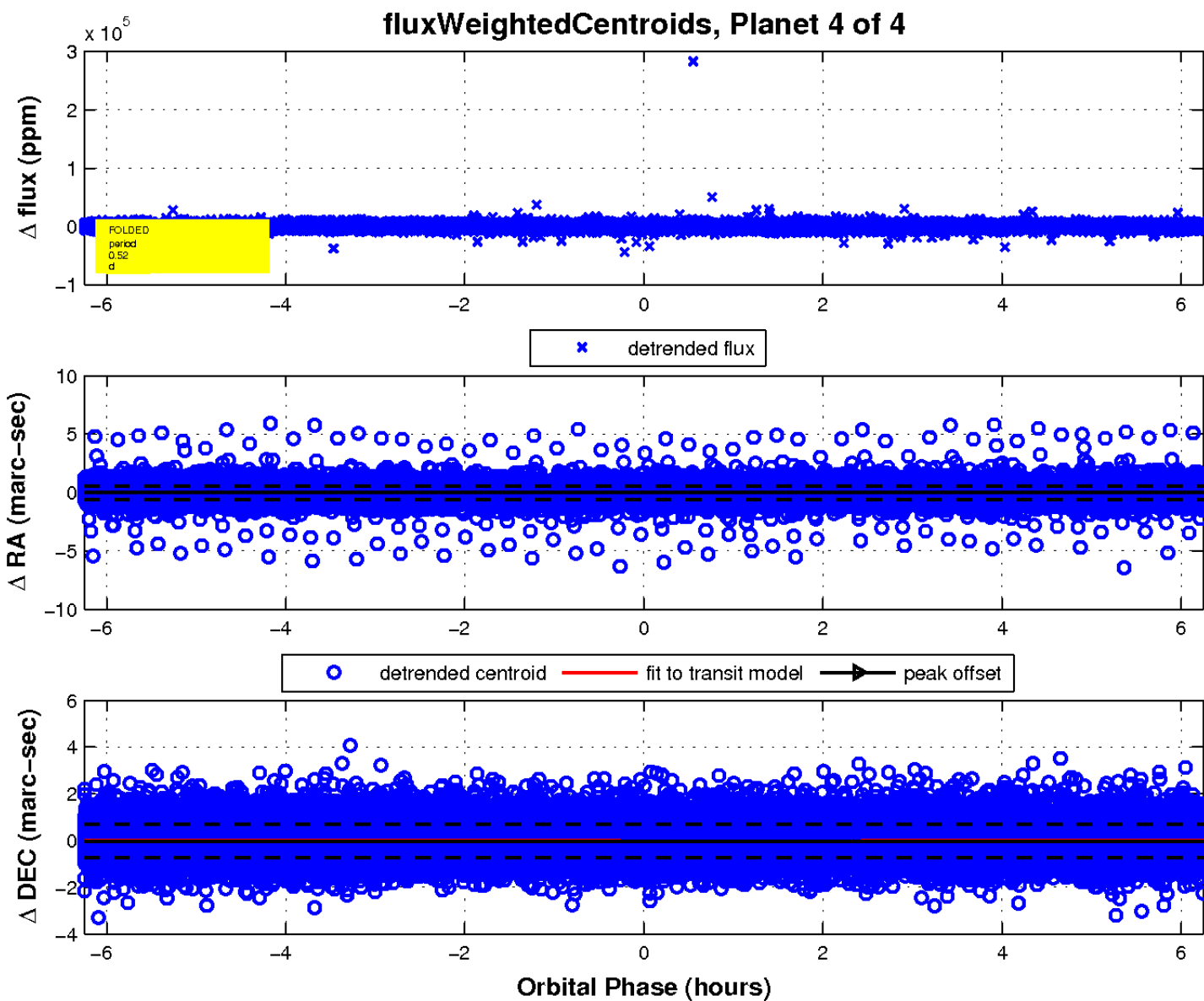
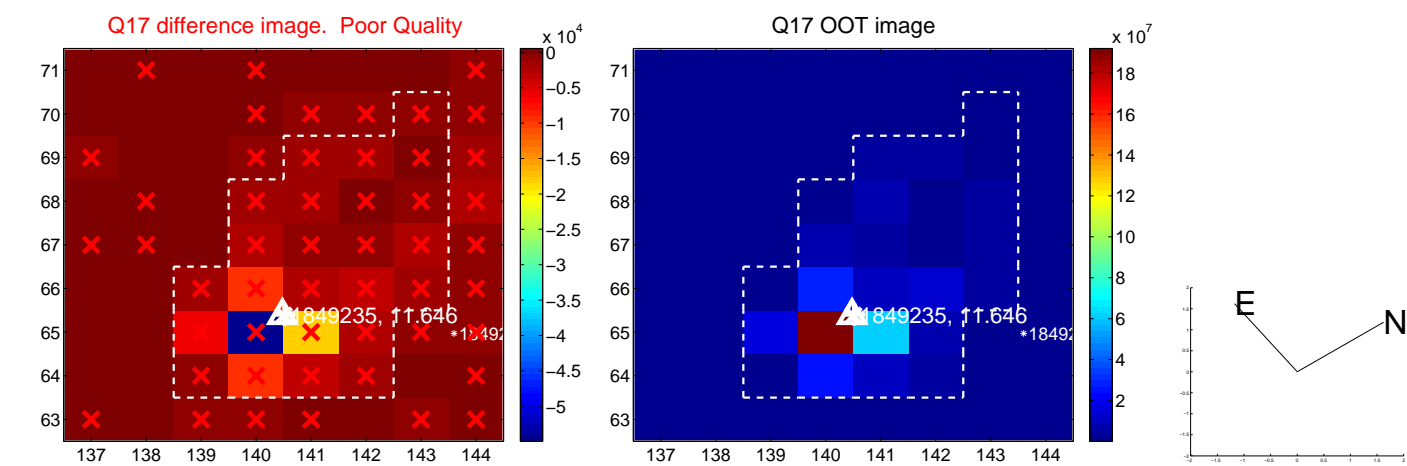
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

