

KIC 008458690

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})
008458690-01	OBS	No	0.501122	131.872769	11.7	3.412	11.8	1.5	2.26	7848	0.78	79231.52
008458690-02	OBS	No	0.728794	131.907308	526.4	3.162	14.2	24.0	2.26	7848	6.06	48085.78
008458690-03	OBS	No	0.942993	131.698494	334.6	2.500	15.2	-1.0	2.26	7848	4.16	34104.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008458690-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008458690-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008458690-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

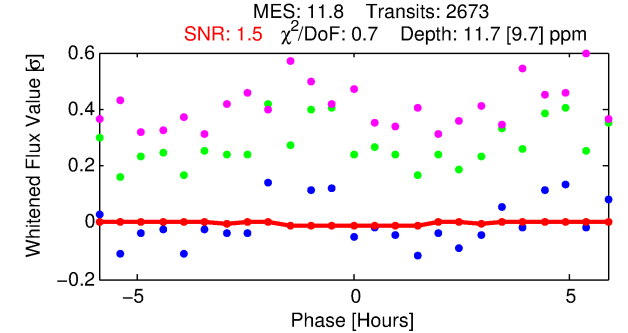
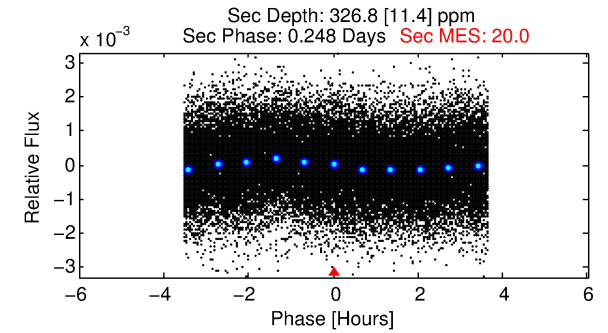
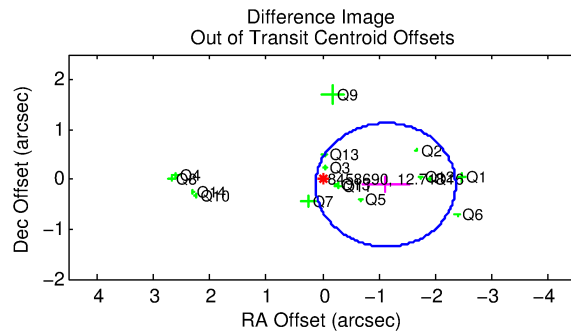
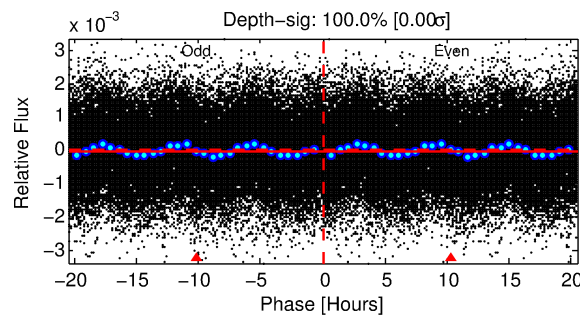
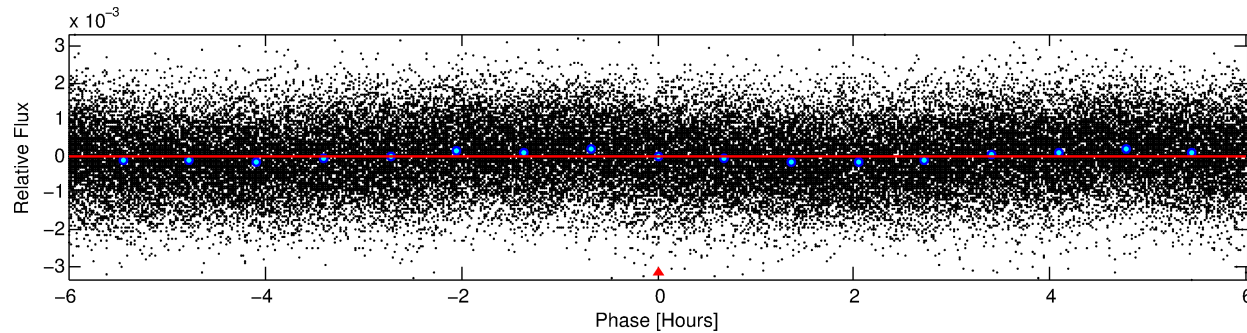
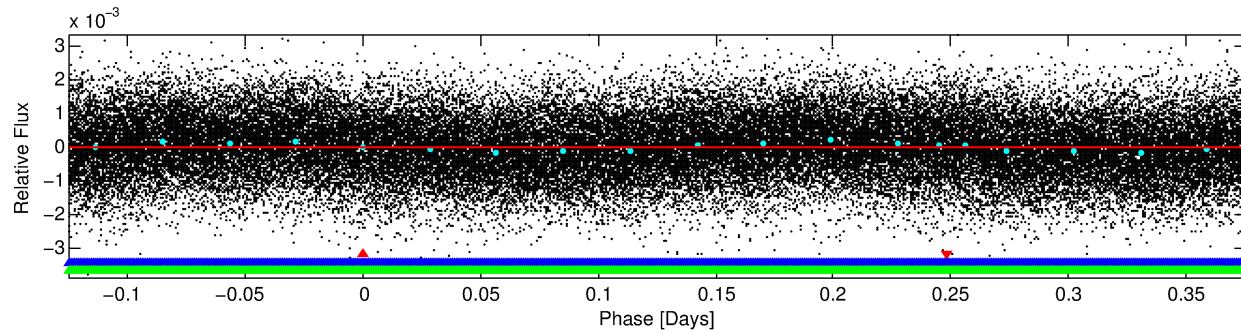
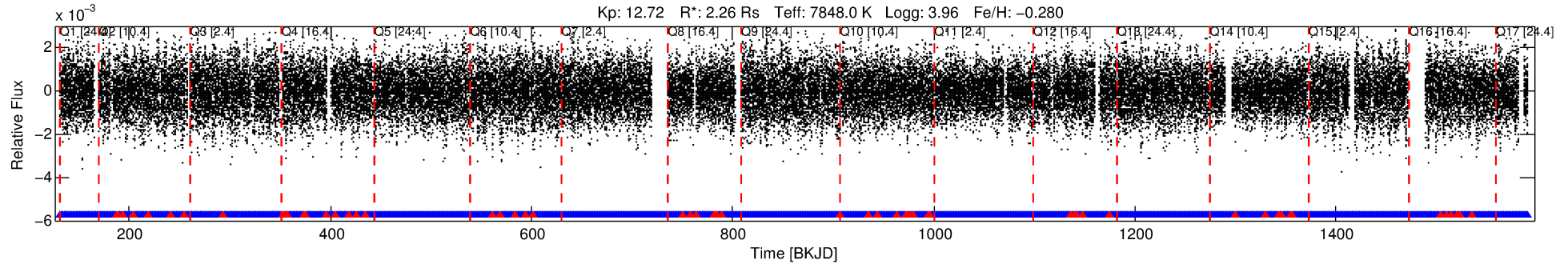
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008458690-01

No Significant Match Found

DV One-Page Summary

KIC: 8458690 Candidate: 1 of 3 Period: 0.501 d



DV Fit Results:

Period = 0.50112 [0.00007] d
Epoch = 131.8728 [0.0196] BKJD
Rp/R* = 0.0032 [0.0177]
a/R* = 1.29 [15.68]
b = 0.10 [306.32]
Seff = 79231.52 [39563.44]
Teq = 4278 [534] K
Rp = 0.78 [4.37] Re
a = 0.0148 [0.0044] AU
Ag = 64.80 [727.38] [0.09 σ]
Teff = 18766 [52625] K [0.28 σ]

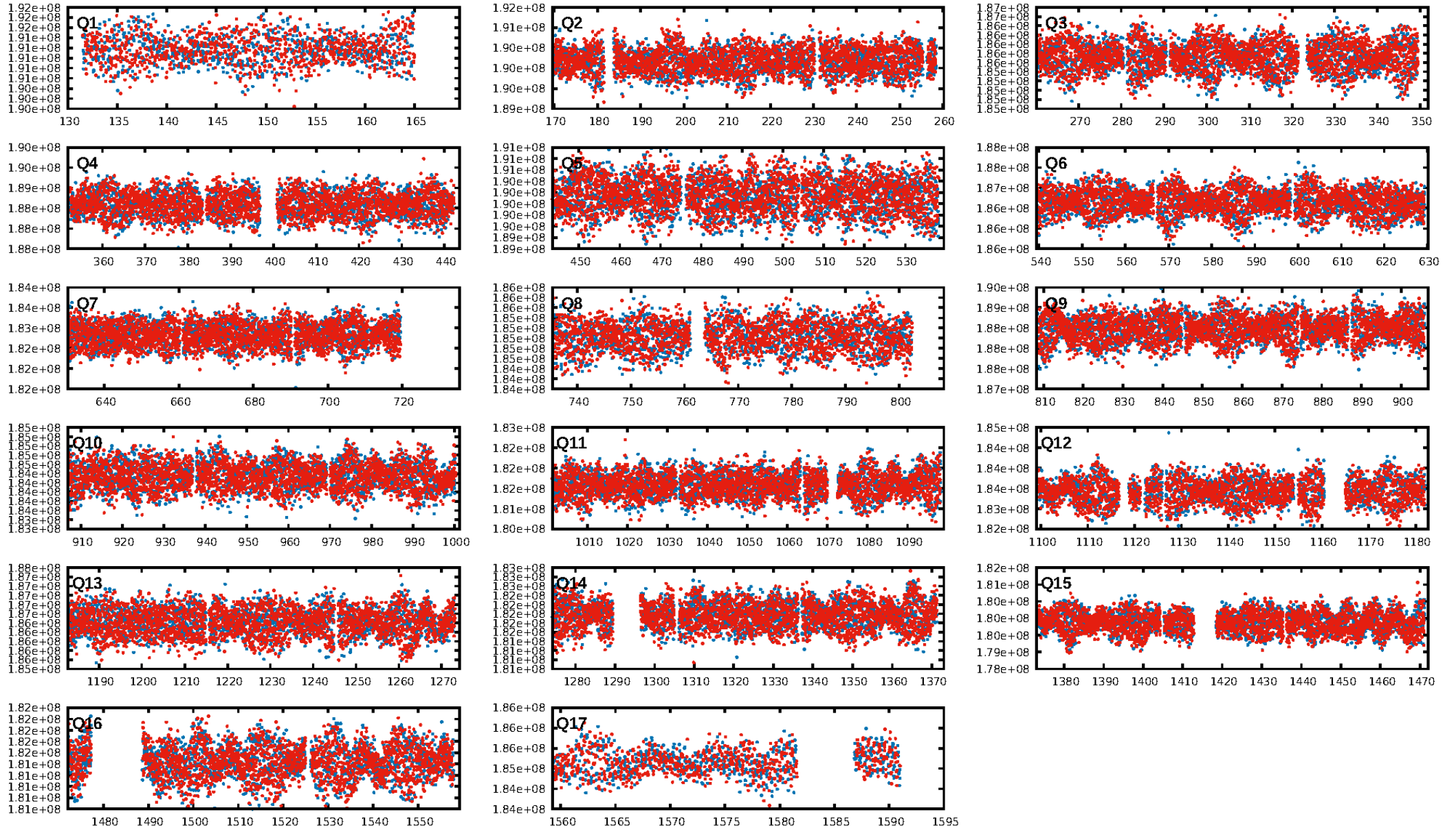
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 76.0% [1.17 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [2495/2553]
GhostDiagnostic-chr: 0.8266
Centroid-sig: 3.6%
Centroid-so: 3.220 arcsec [1.98 σ]
OotOffset-rm: 1.123 arcsec [2.72 σ]
OotOffset-st: 4/4/4 [16]
KicOffset-rm: 0.392 arcsec [0.94 σ]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.00 [0/17]

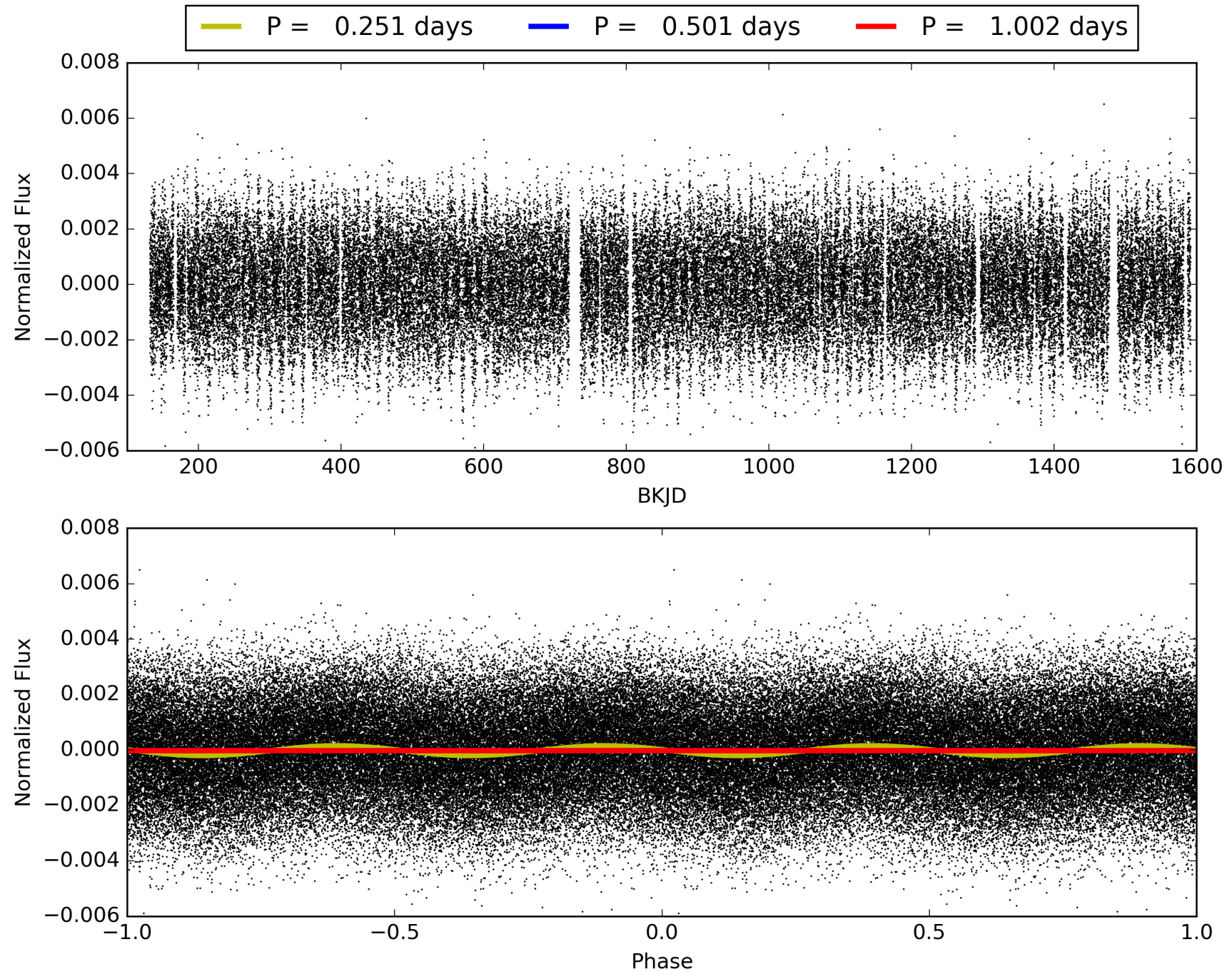
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:09:29 Z

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

TCE 008458690-01, PDC Light Curves

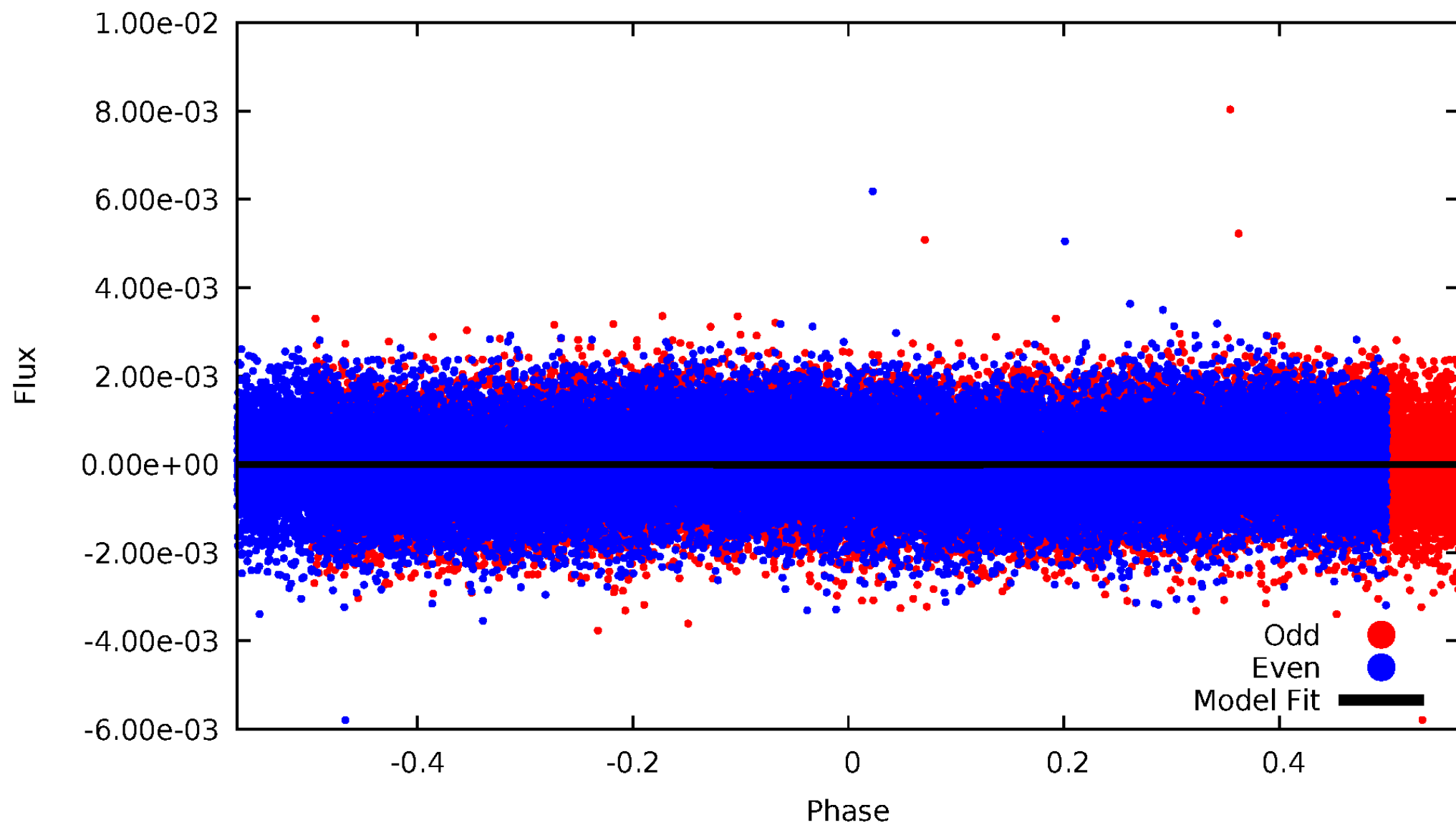


TCE 008458690-01



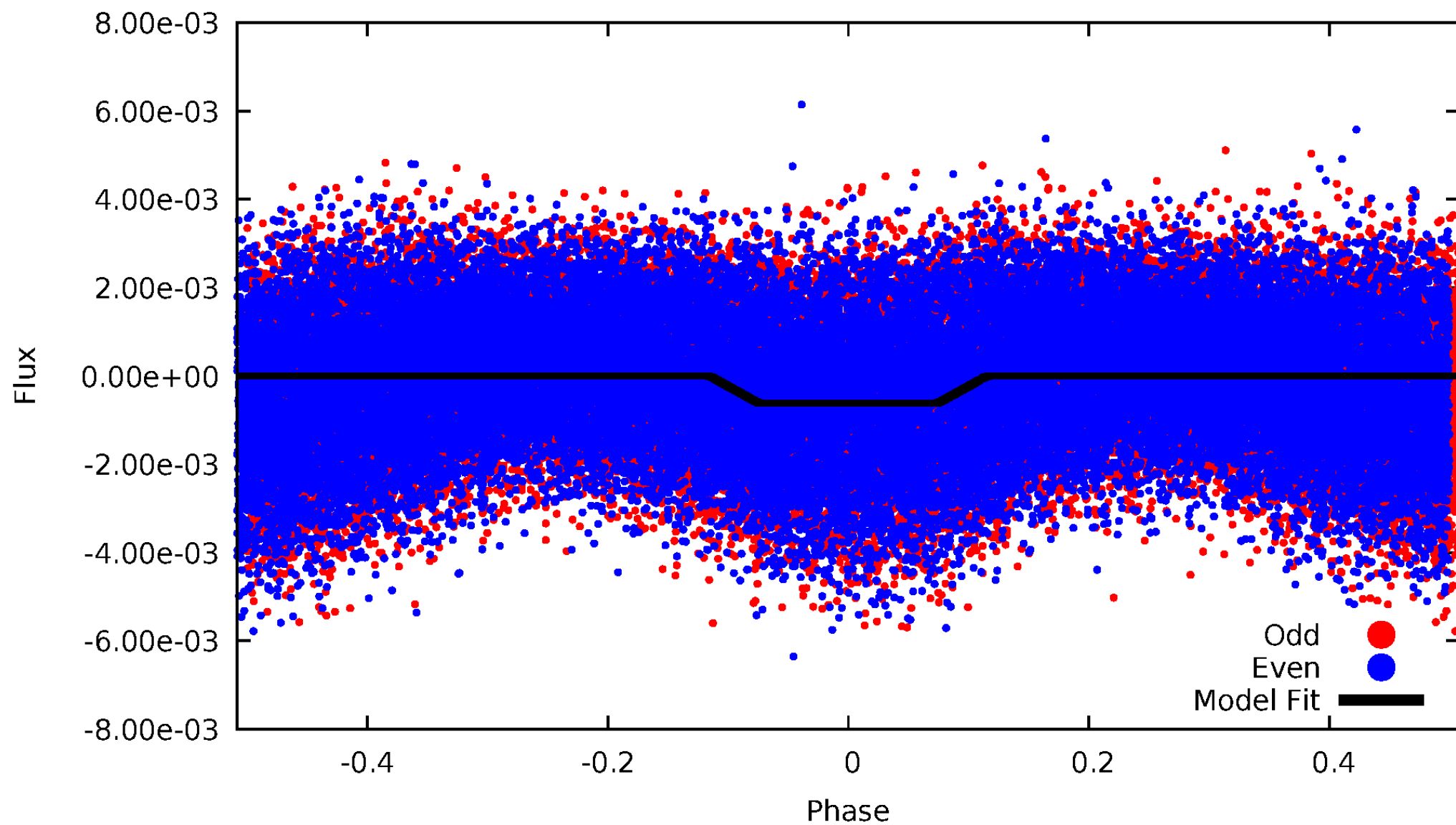
DV Odd/Even

TCE 008458690-01



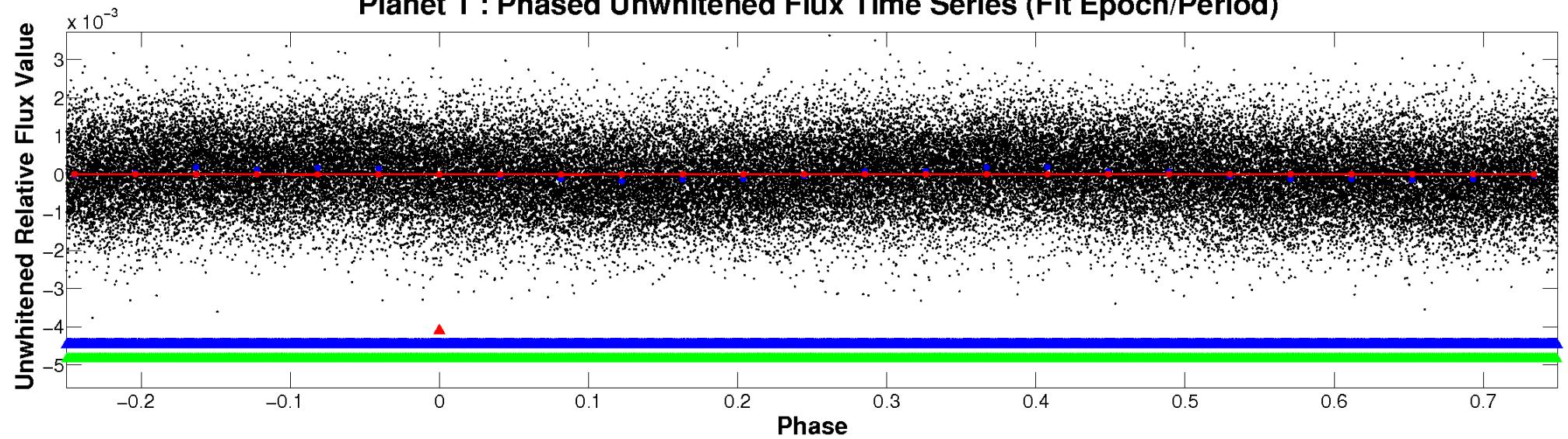
ALT Odd/Even

TCE 008458690-01

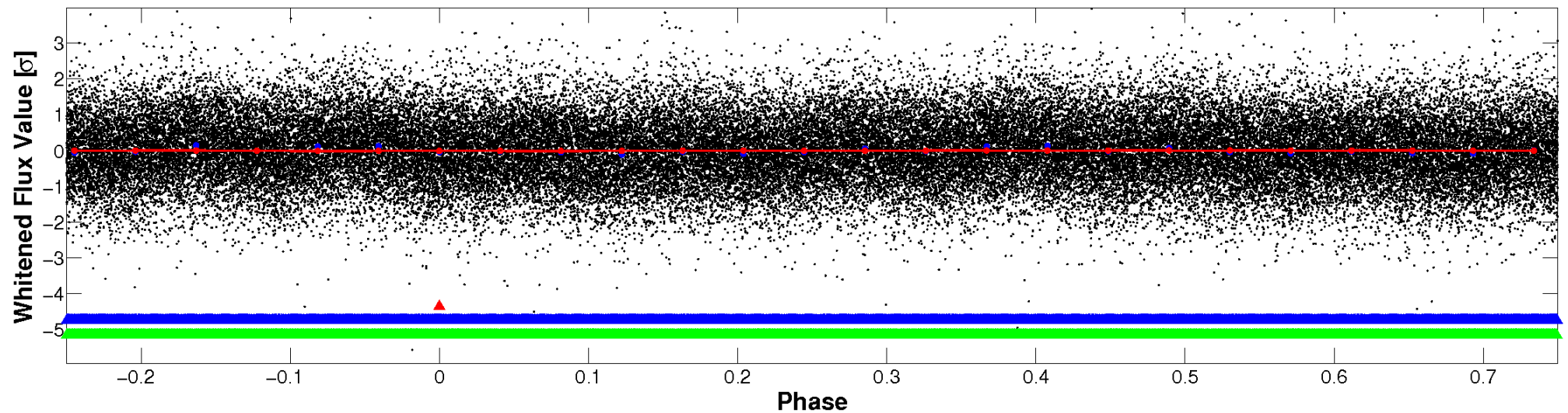


Non-Whitened Vs. Whitened Light Curve

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

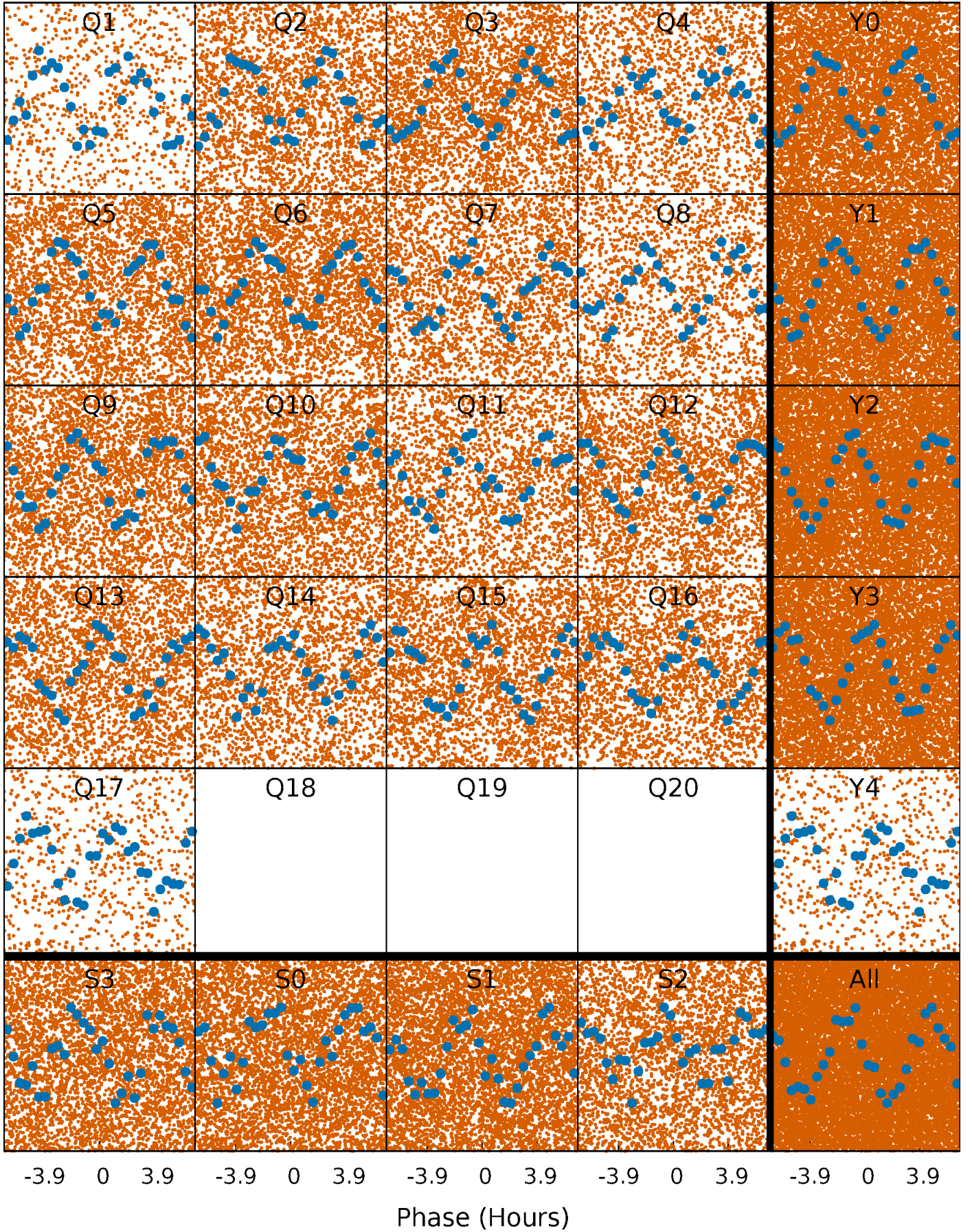


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



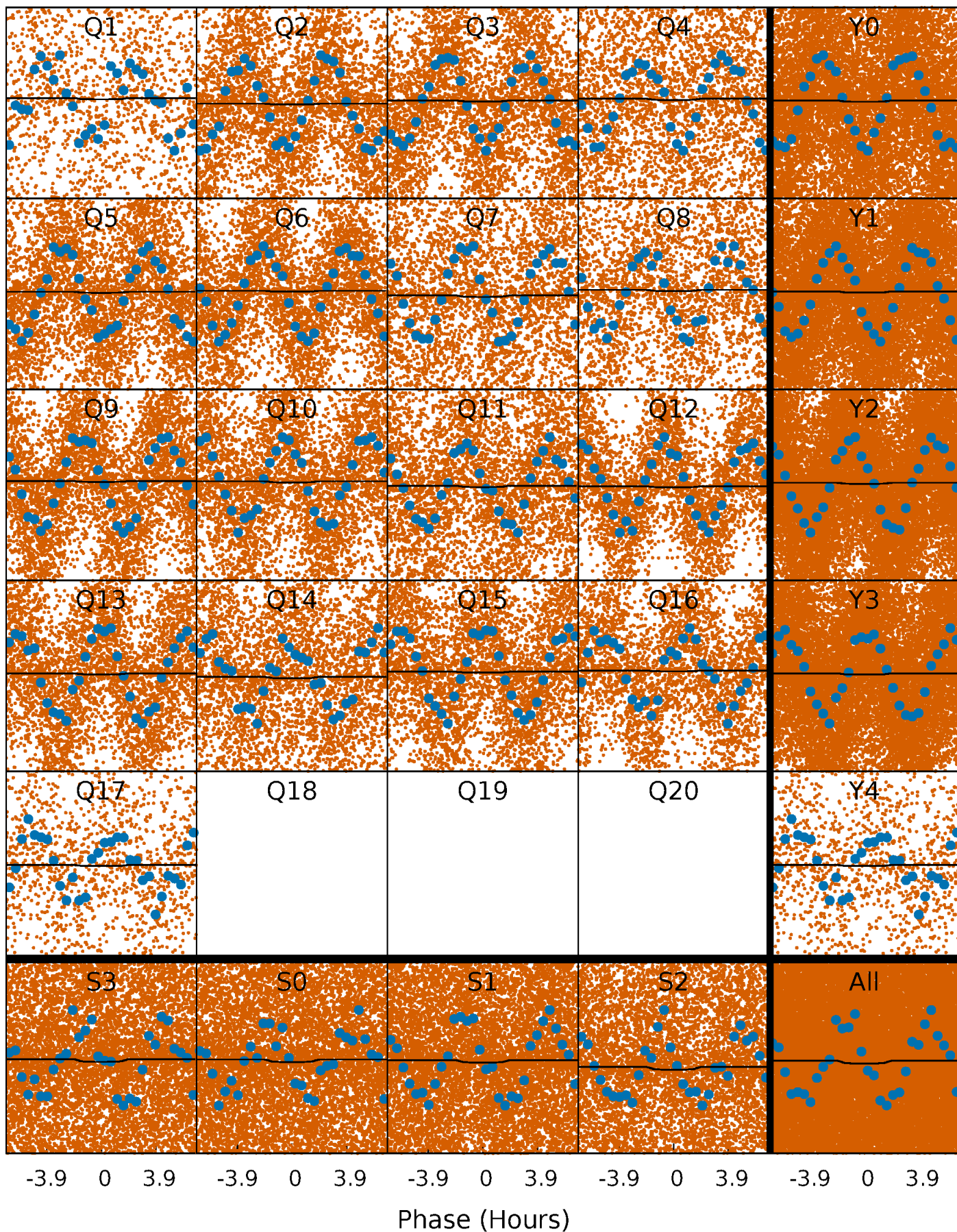
PDC Quarter-Phased Transit Curves

TCE 008458690-01 P= 0.501122 Days $T_0=131.872769$ (BKJD)



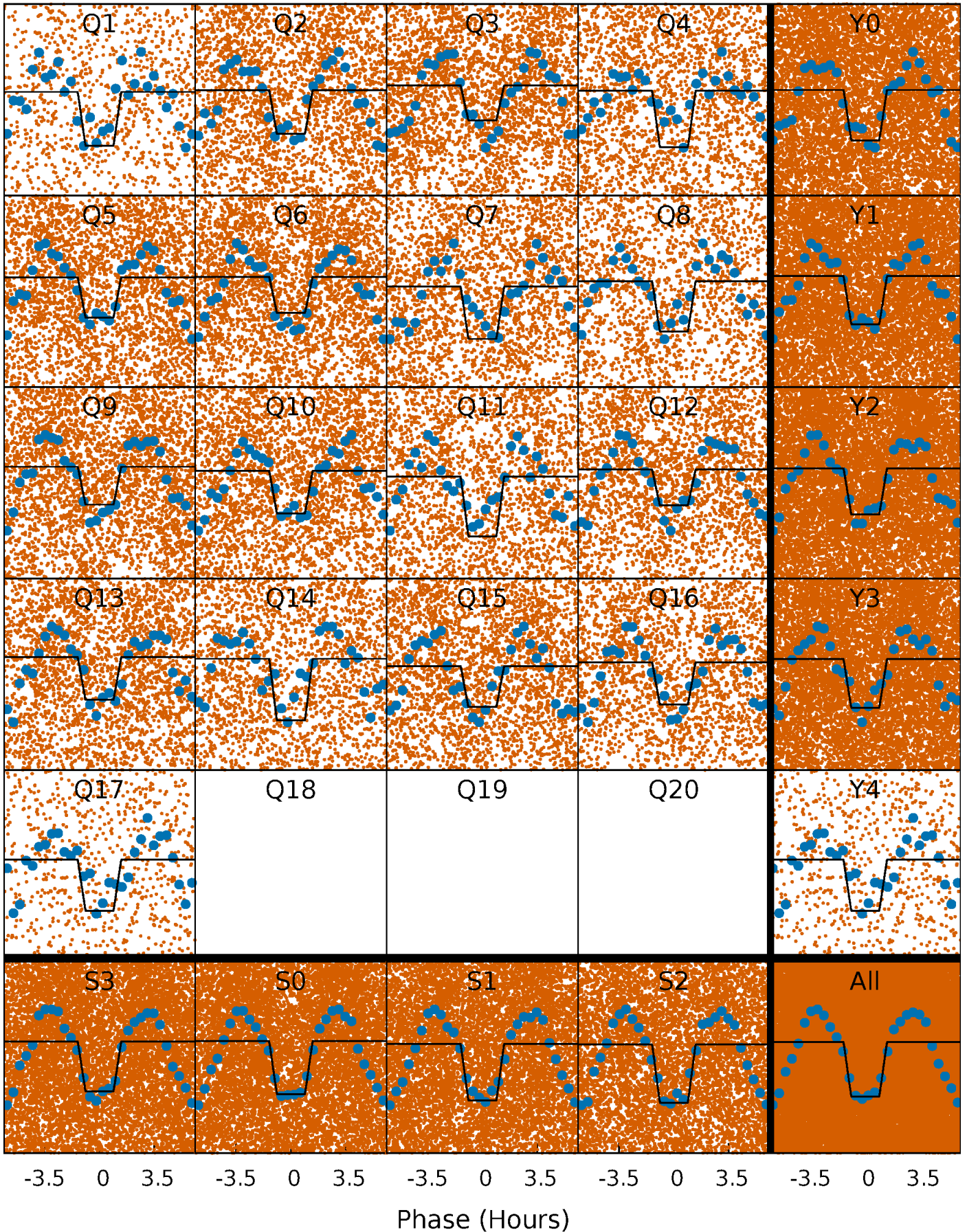
DV Quarter-Phased Transit Curves

TCE 008458690-01 P= 0.501122 Days $T_0=131.872769$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

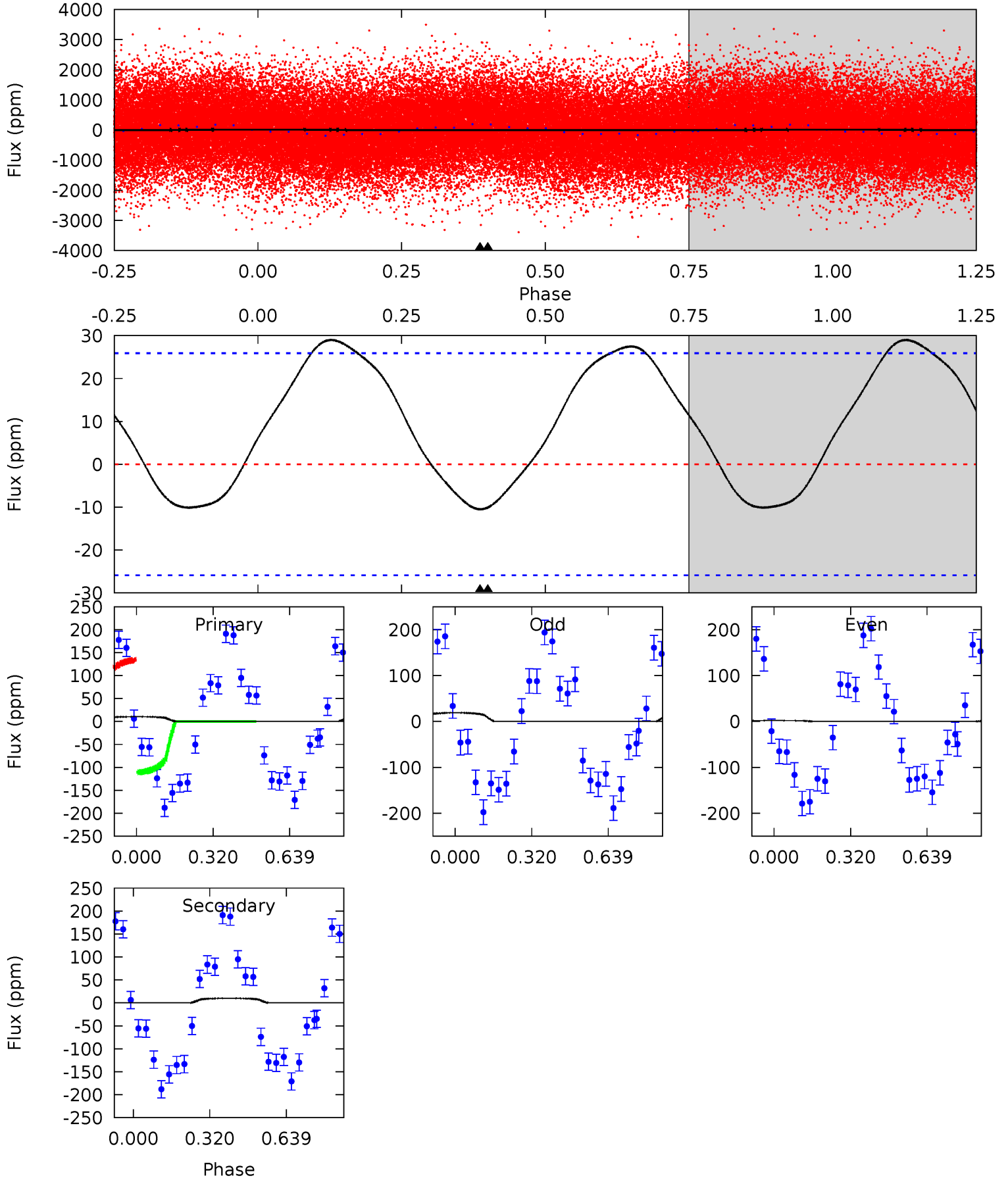
TCE 008458690-01 P= 0.501187 Days $T_0=131.851874$ (BKJD)



DV Model-Shift Uniqueness Test

008458690-01, P = 0.501122 Days, E = 131.371647 Days

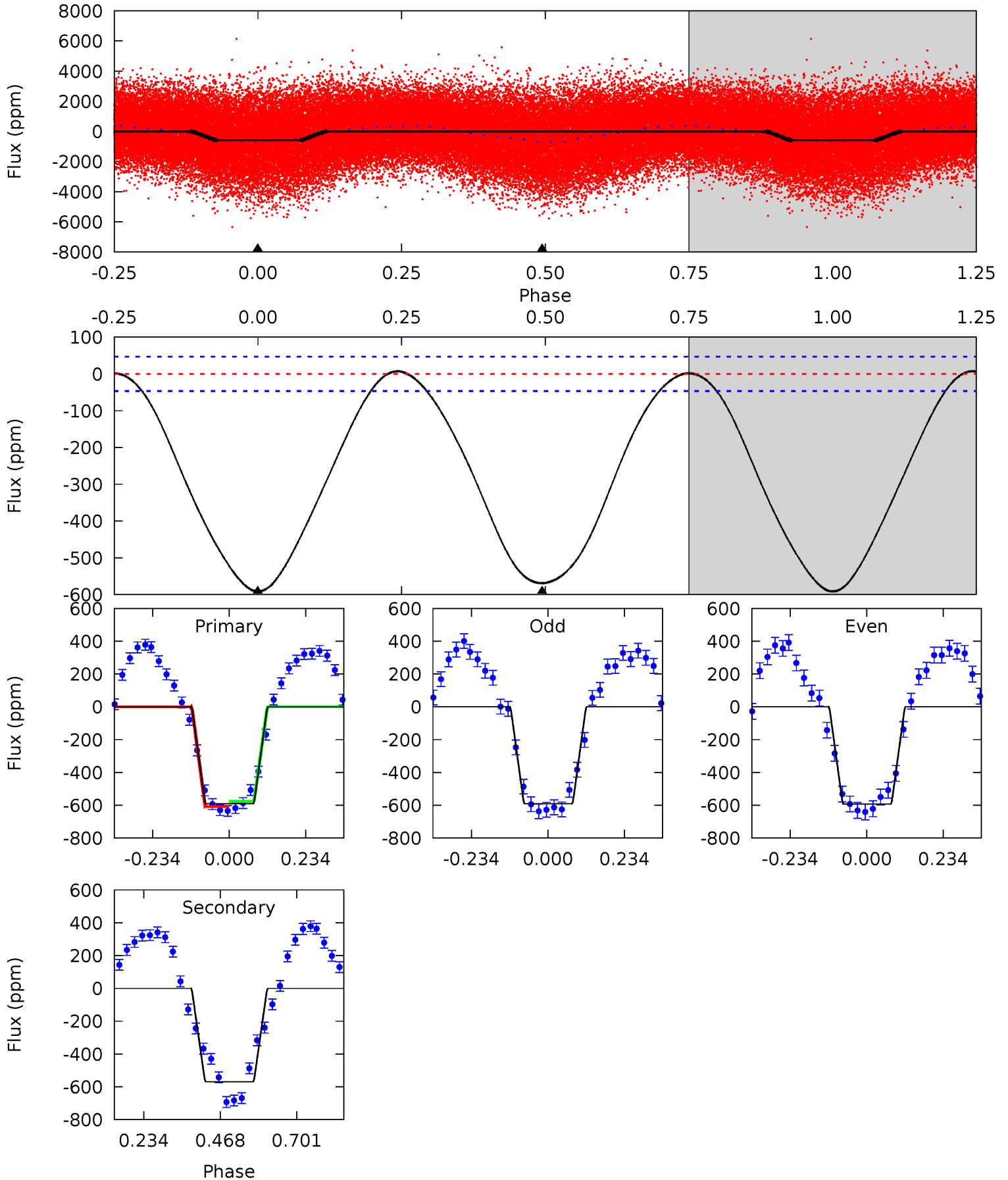
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.75	1.68	0	0	4.31	1.00	1.59	1.75	1.75	1.68	1.68	1.42	0.36	0.73	1.92



Alt Model-Shift Uniqueness Test

008458690-01, P = 0.501187 Days, E = 131.350687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.5	53.3	0	0	4.38	1.19	0.53	55.5	55.5	53.3	53.3	0.06	1.11	0.01	1.27



Stellar Parameters For KIC 008458690

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7848^{+244}_{-325}	$3.965^{+0.273}_{-0.117}$	$-0.280^{+0.200}_{-0.350}$	$2.256^{+0.486}_{-0.728}$	$1.710^{+0.172}_{-0.319}$	$0.210^{+0.340}_{-0.085}$
	+3%/-4%	+7%/-3%	+71%/-125%	+22%/-32%	+10%/-19%	+162%/-41%
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 008458690-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 6	$3.18^{+3.37}_{-2.18}$	5860^{+438}_{-526}	-4329^{+10093}_{-522}	$0.102^{+0.937}_{-0.086}$
Alt.	-569 ± 11	$6.01^{+4.09}_{-3.48}$	5854^{+427}_{-547}	7040^{+6673}_{-2103}	$1.908^{+8.599}_{-1.255}$

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 $A_{obs} \gg 1.0$

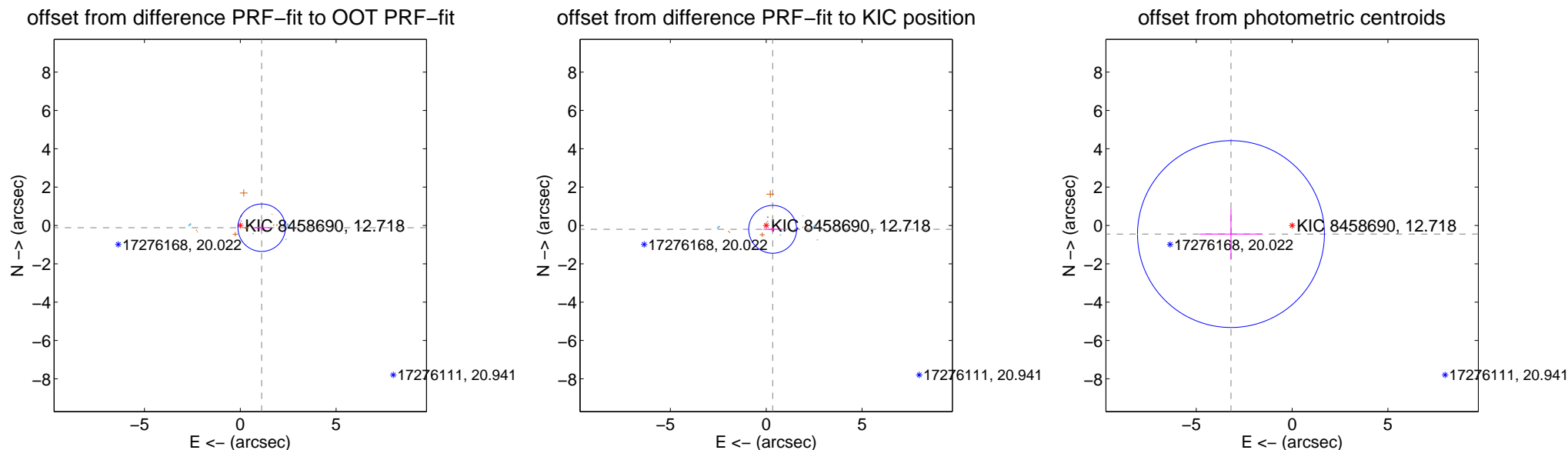
DV Centroid Data

Supplemental centroid analysis for 008458690-01. Kepler magnitude: 12.72. Transit SNR 1.45

There are 6 quarters with good PRF difference image offsets

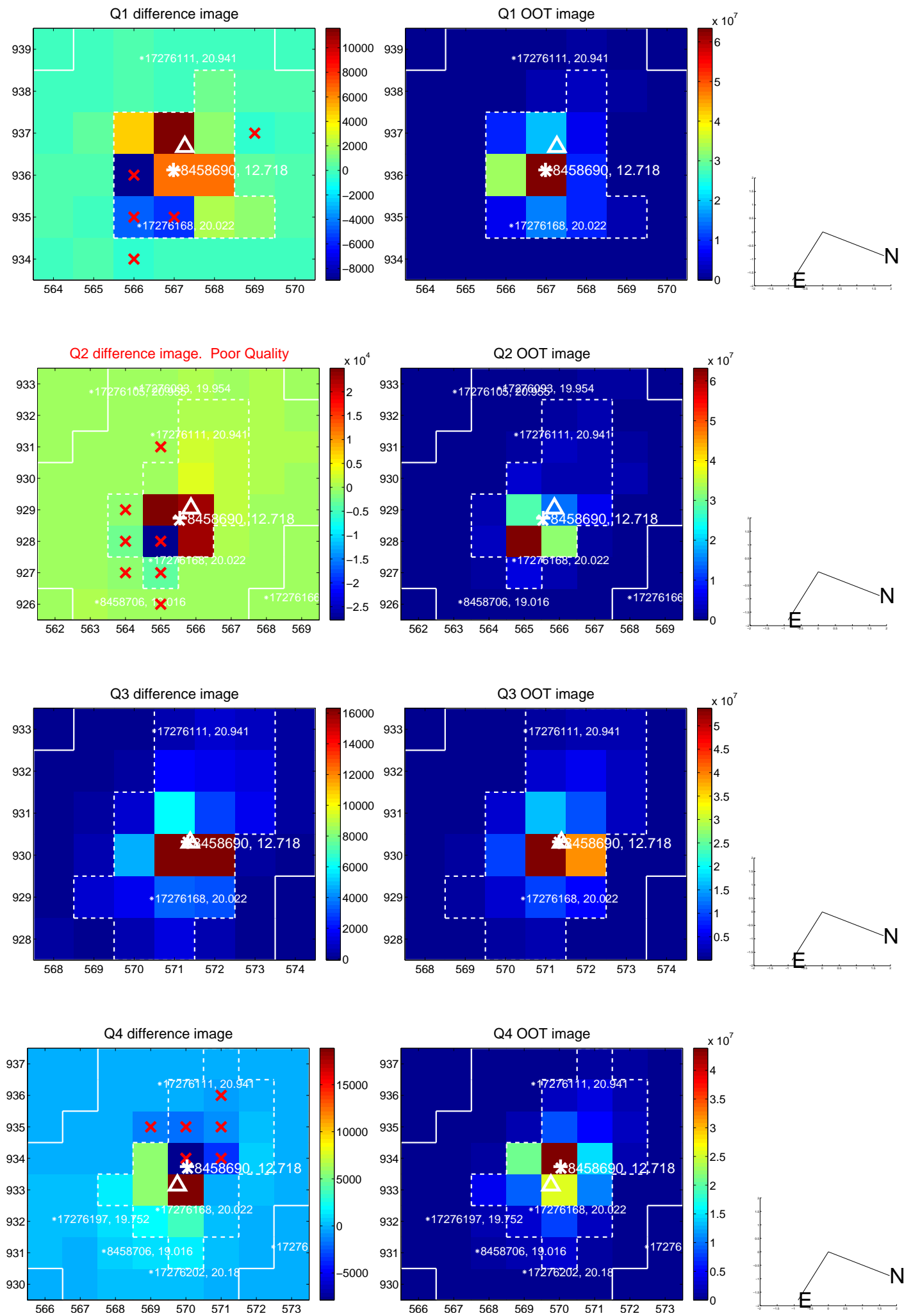
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.123 ± 0.413	2.72	-1.117 ± 0.416	-0.117 ± 0.150
PRF-fit source offset from KIC position	0.392 ± 0.416	0.94	-0.337 ± 0.481	-0.201 ± 0.095
photometric centroid source offset	3.22 ± 1.62	1.98	3.19 ± 1.63	-0.45 ± 1.33

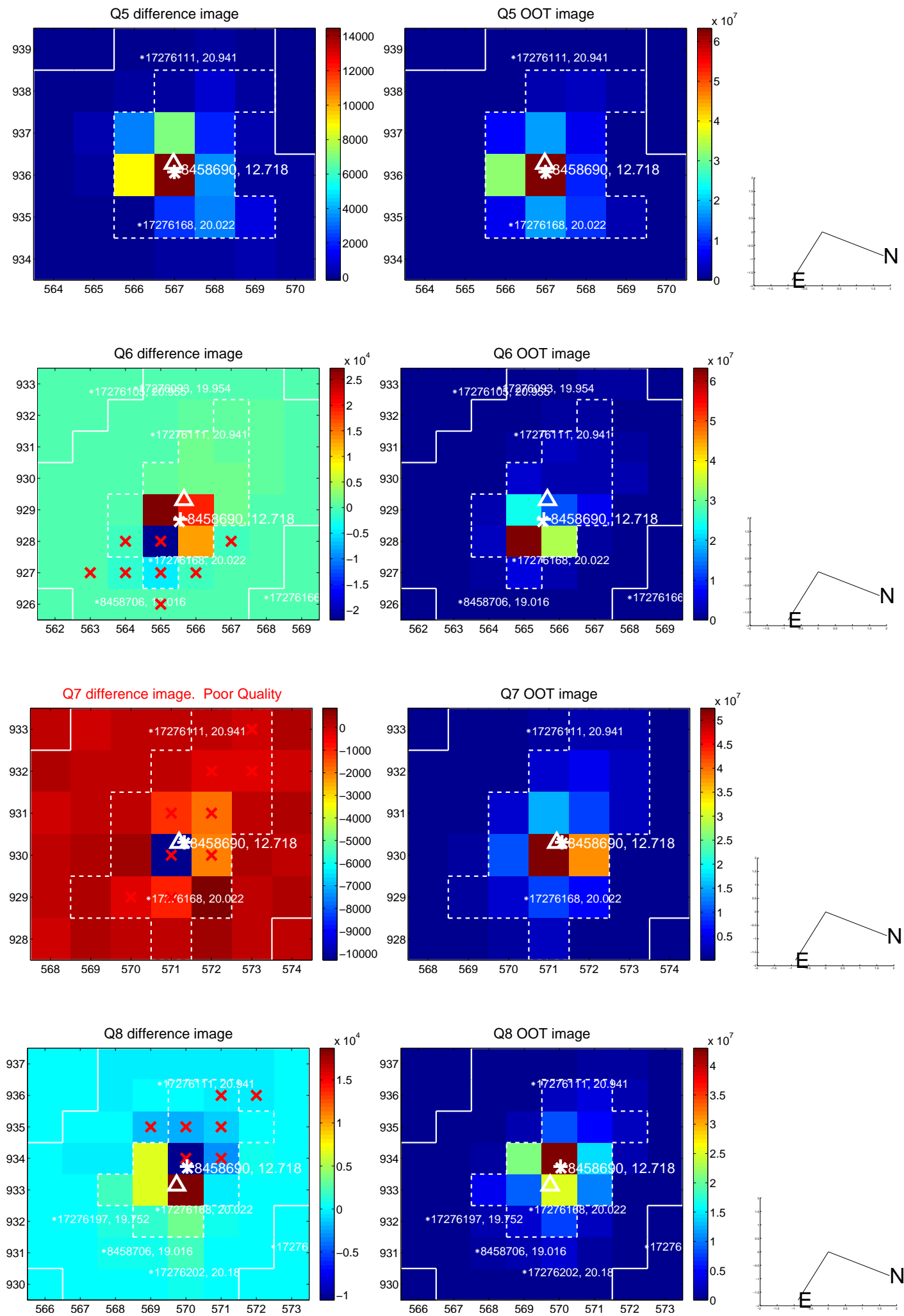


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

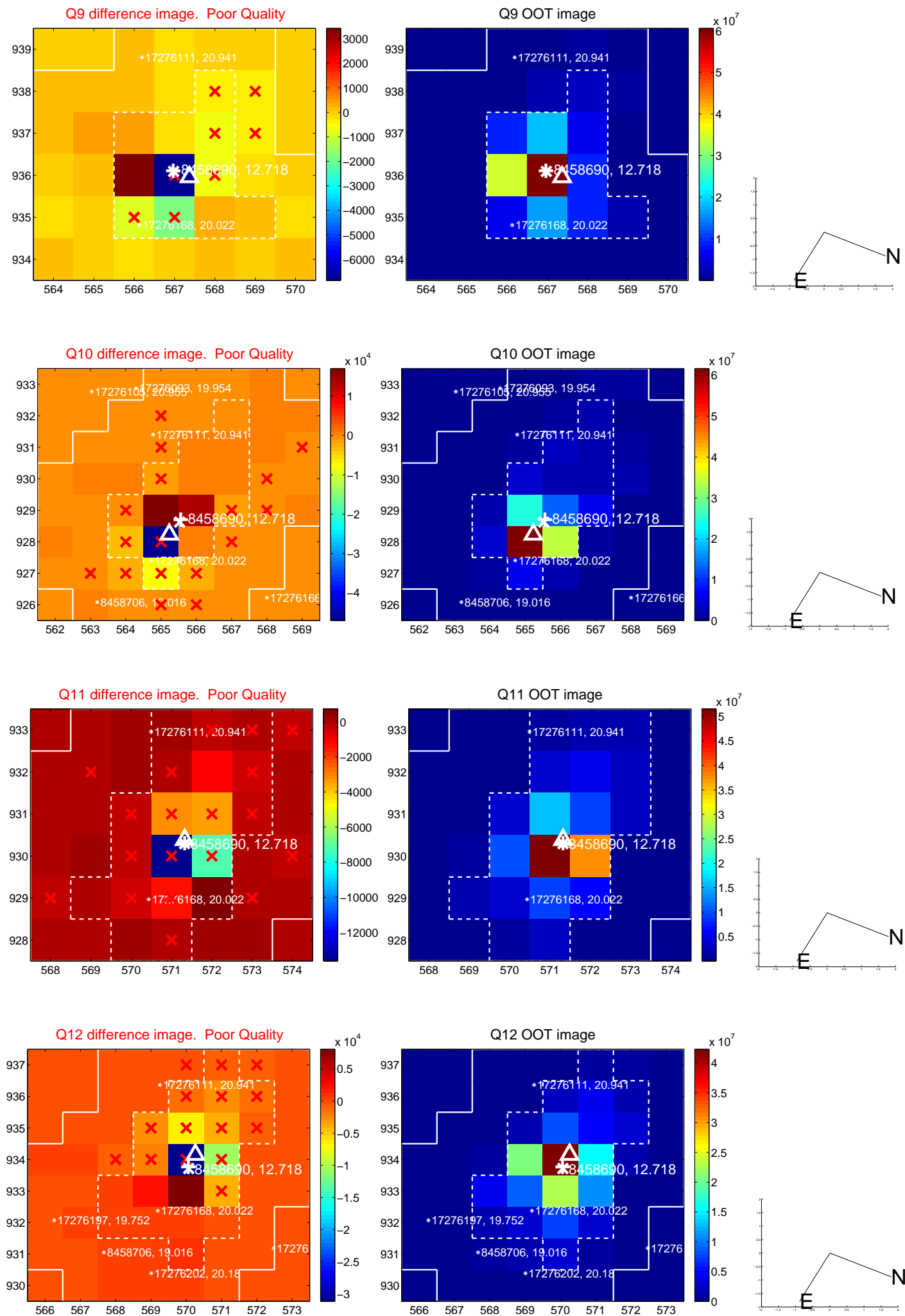
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



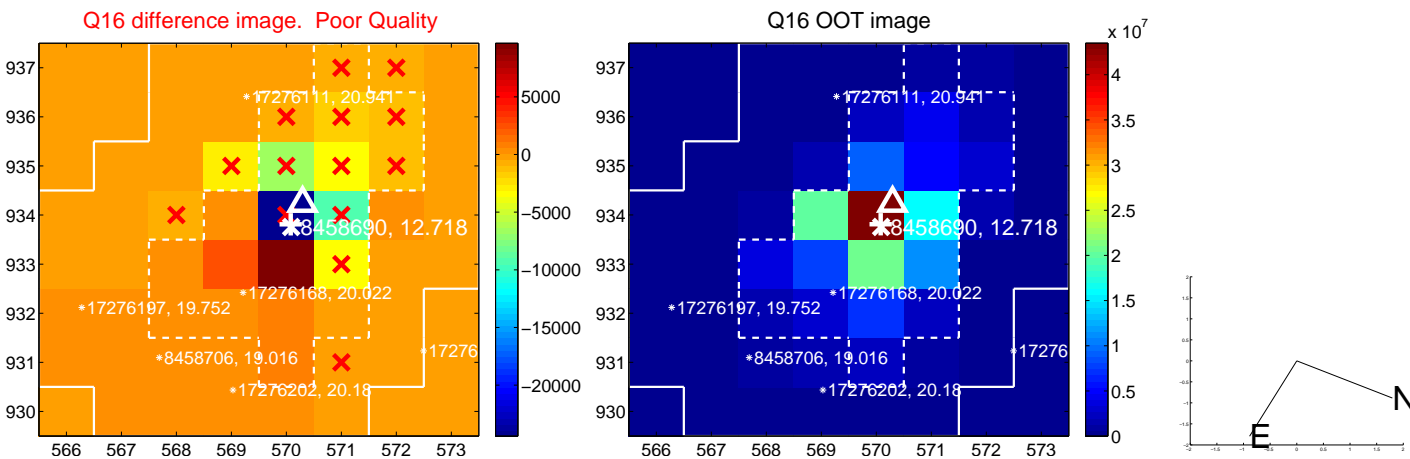
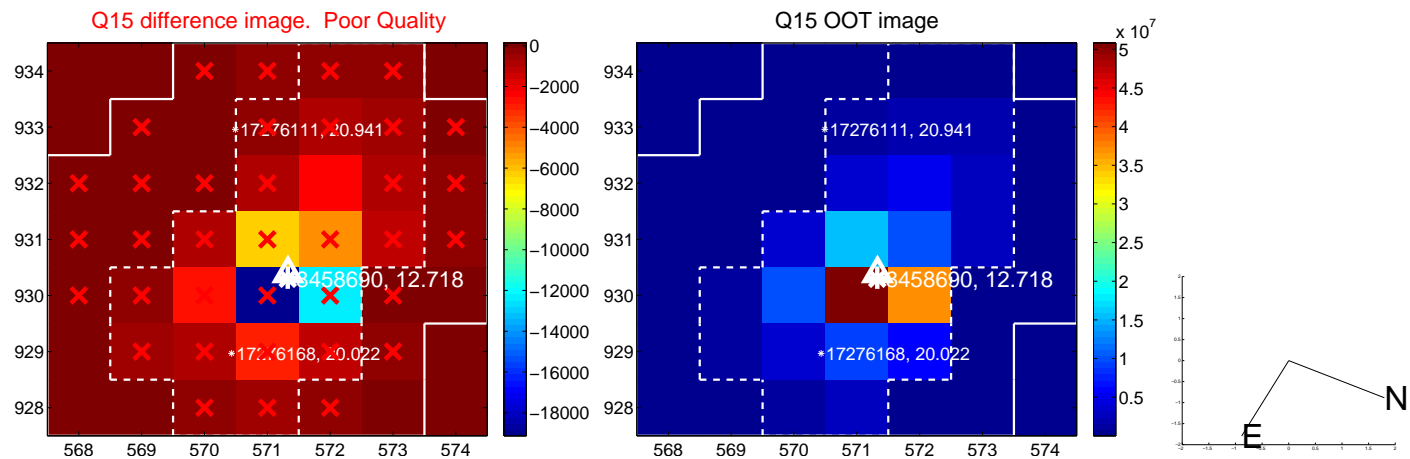
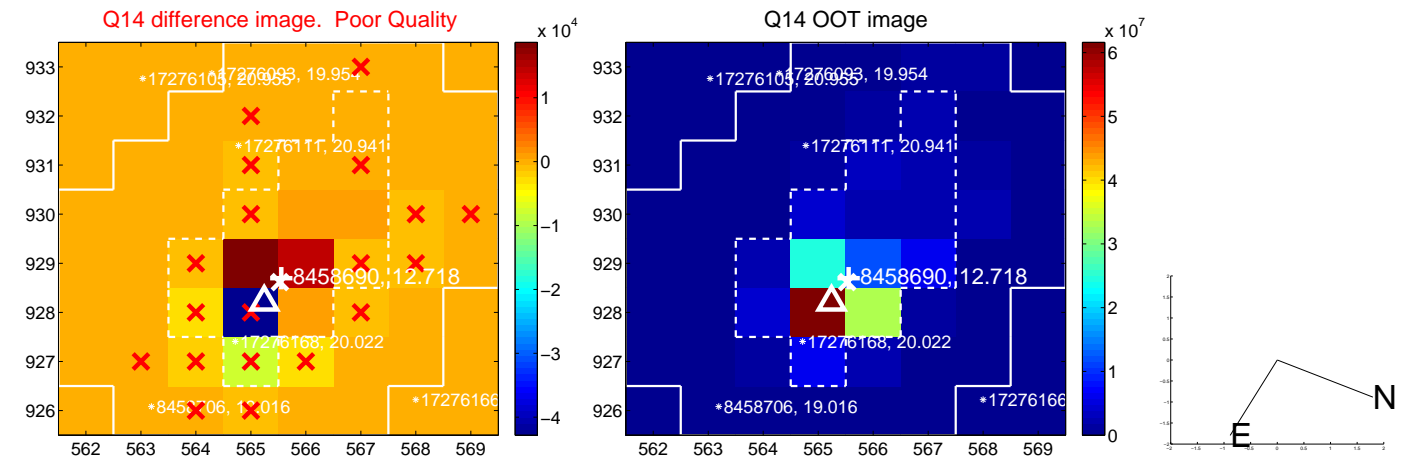
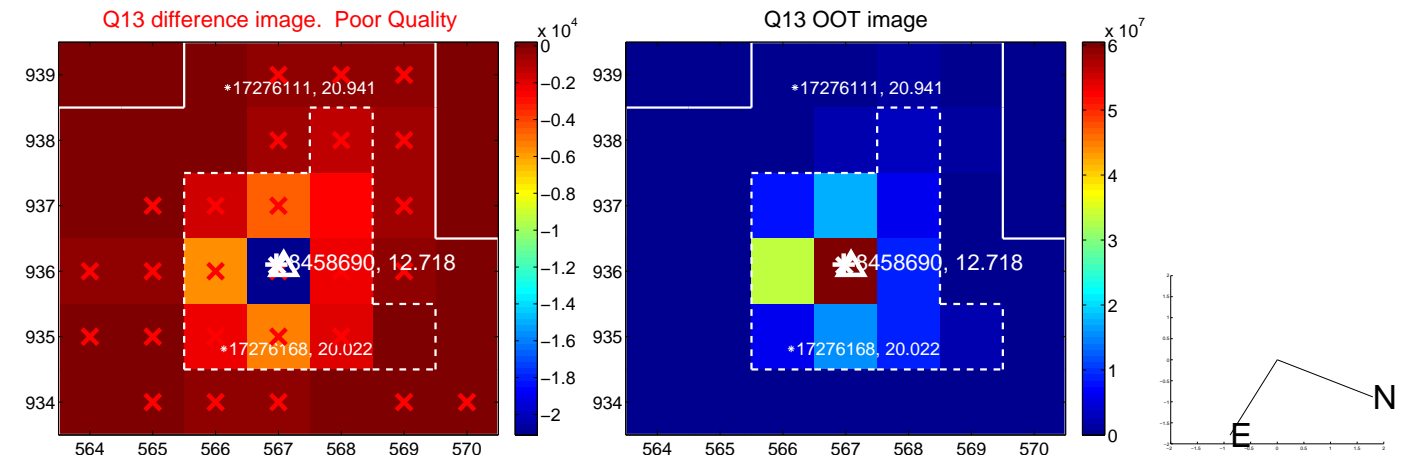
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



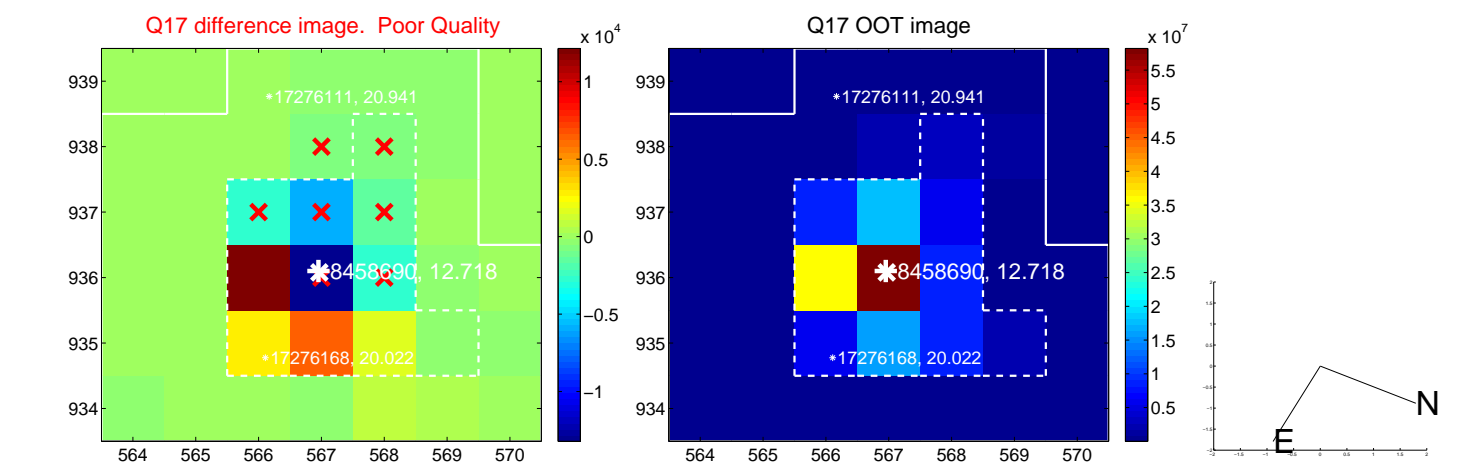
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



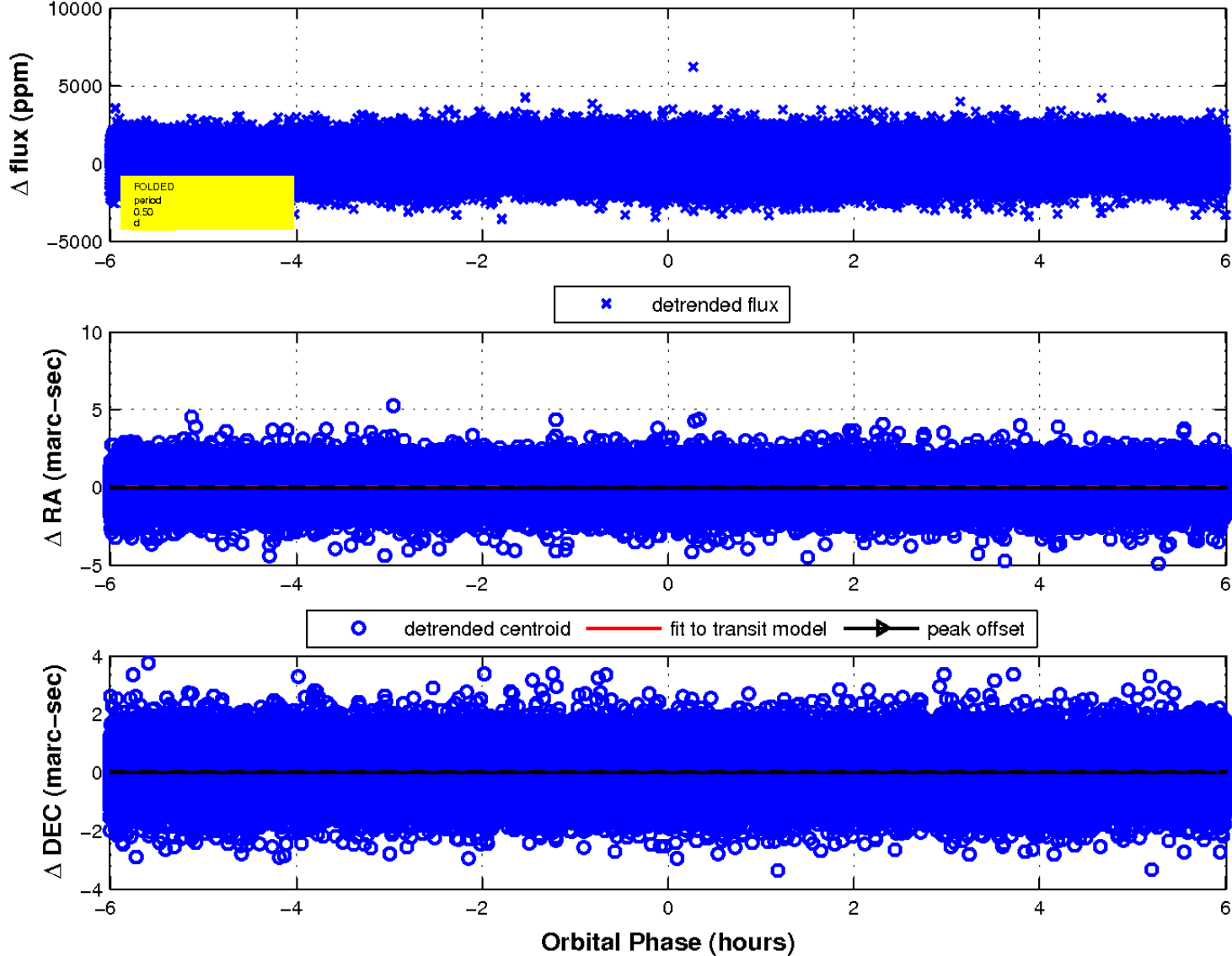
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

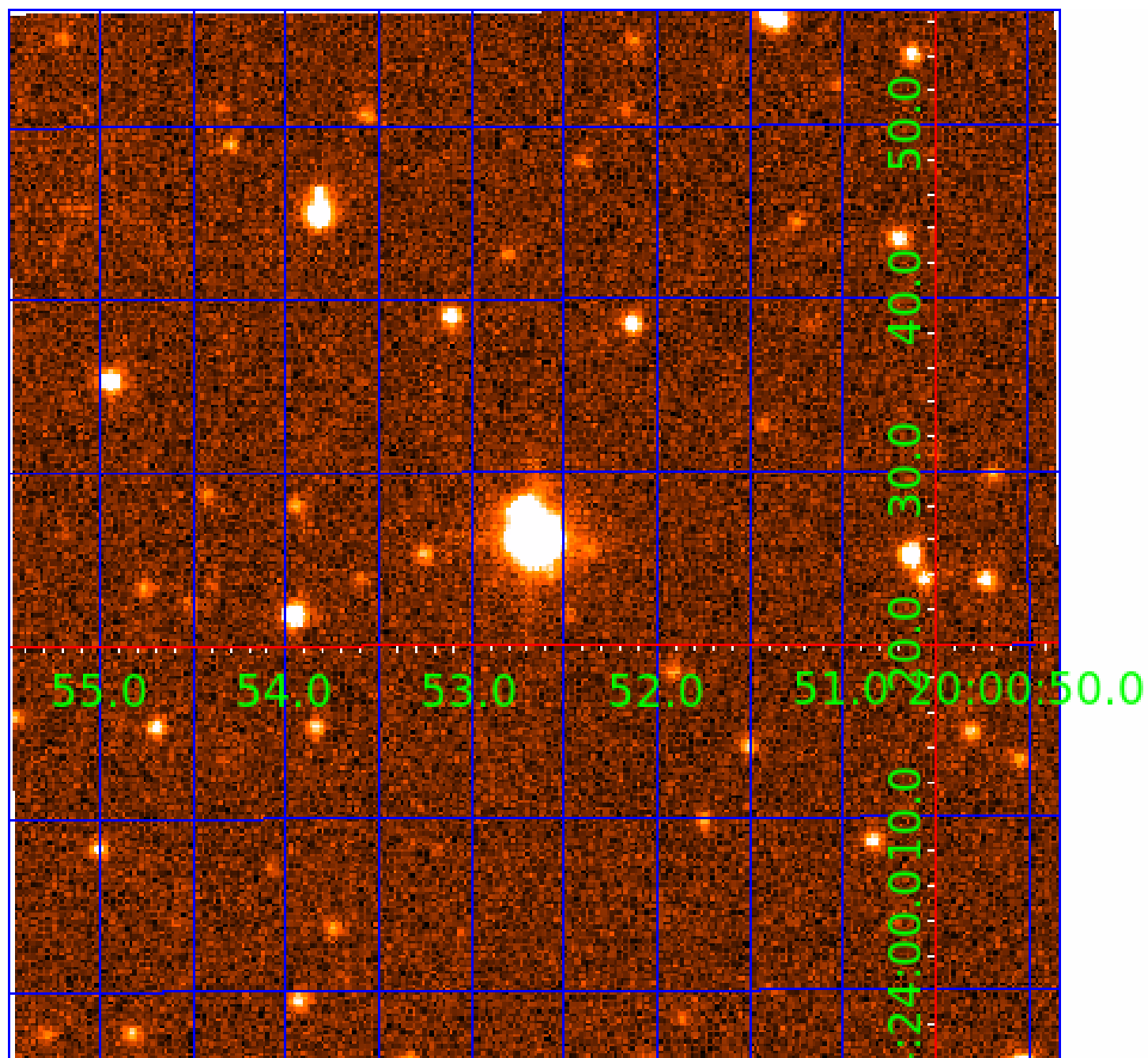


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 008458690

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})
008458690-01	OBS	No	0.501122	131.872769	11.7	3.412	11.8	1.5	2.26	7848	0.78	79231.52
008458690-02	OBS	No	0.728794	131.907308	526.4	3.162	14.2	24.0	2.26	7848	6.06	48085.78
008458690-03	OBS	No	0.942993	131.698494	334.6	2.500	15.2	-1.0	2.26	7848	4.16	34104.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008458690-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008458690-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008458690-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

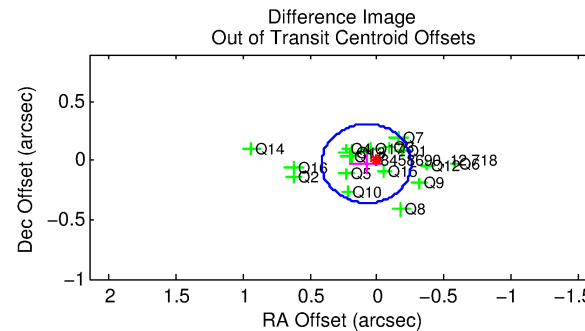
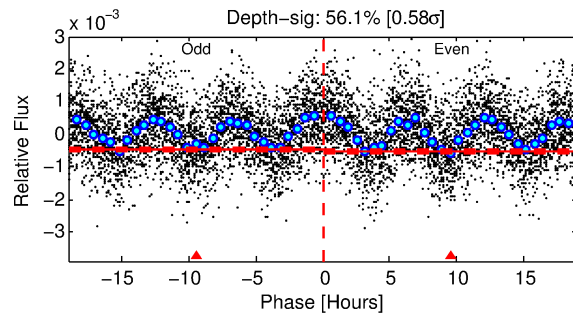
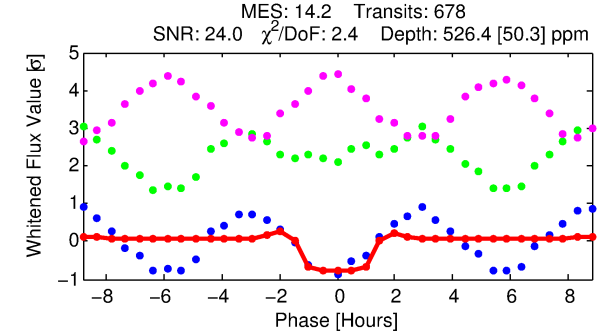
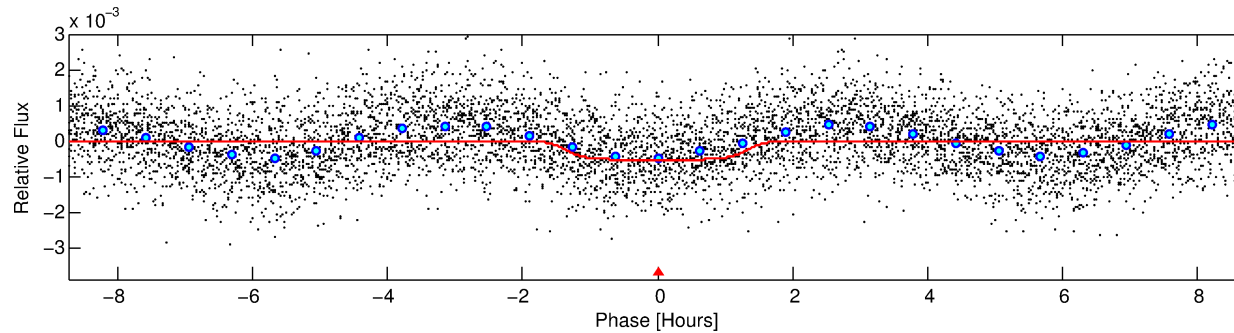
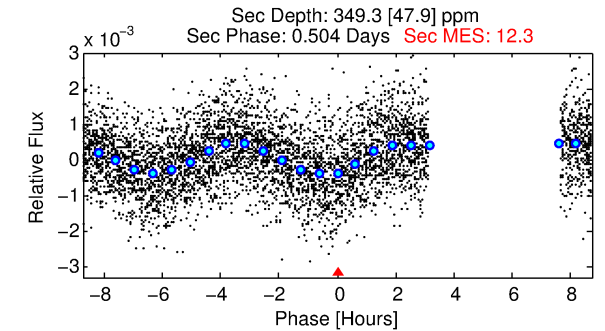
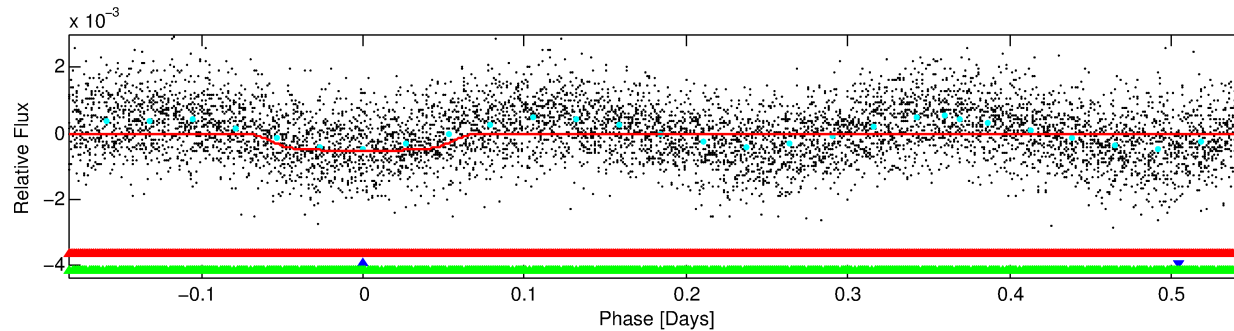
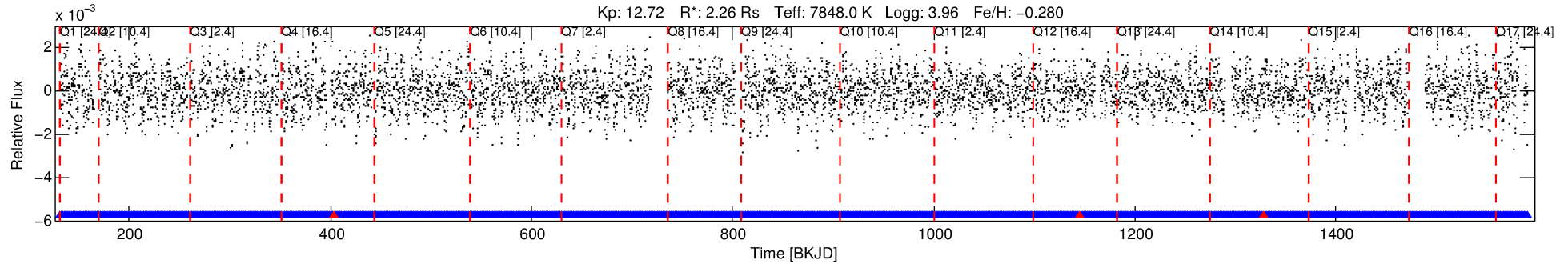
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008458690-02

No Significant Match Found

DV One-Page Summary

KIC: 8458690 Candidate: 2 of 3 Period: 0.729 d



DV Fit Results:

Period = 0.72879 [0.00001] d
Epoch = 131.9073 [0.0019] BKJD
Rp/R* = 0.0246 [0.0027]
a/R* = 1.28 [0.26]
b = 0.90 [0.11]
Seff = 48085.78 [24011.13]
Teq = 3776 [471] K
Rp = 6.06 [2.07] Re
a = 0.0190 [0.0057] AU
Ag = 1.88 [1.01] [0.87σ]
Teffp = 6837 [526] K [4.34σ]

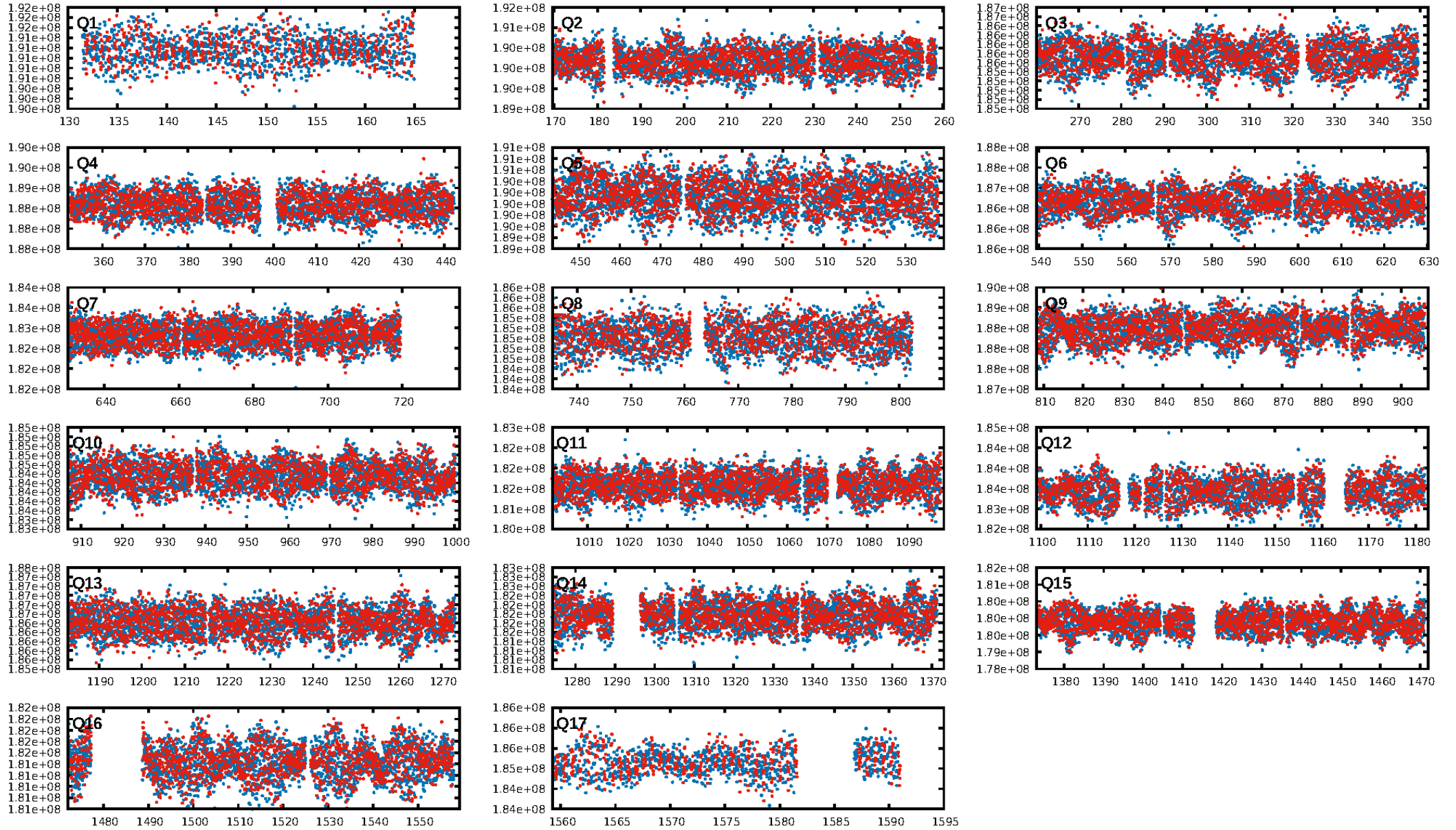
DV Diagnostic Results:

ShortPeriod-sig: 76.0% [1.17σ]
LongPeriod-sig: 79.8% [1.28σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [644/647]
GhostDiagnostic-chr: -7.085
Centroid-sig: 0.0%
Centroid-so: 0.160 arcsec [4.15σ]
OotOffset-rm: 0.082 arcsec [0.74σ]
KicOffset-rm: 0.102 arcsec [1.19σ]
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]

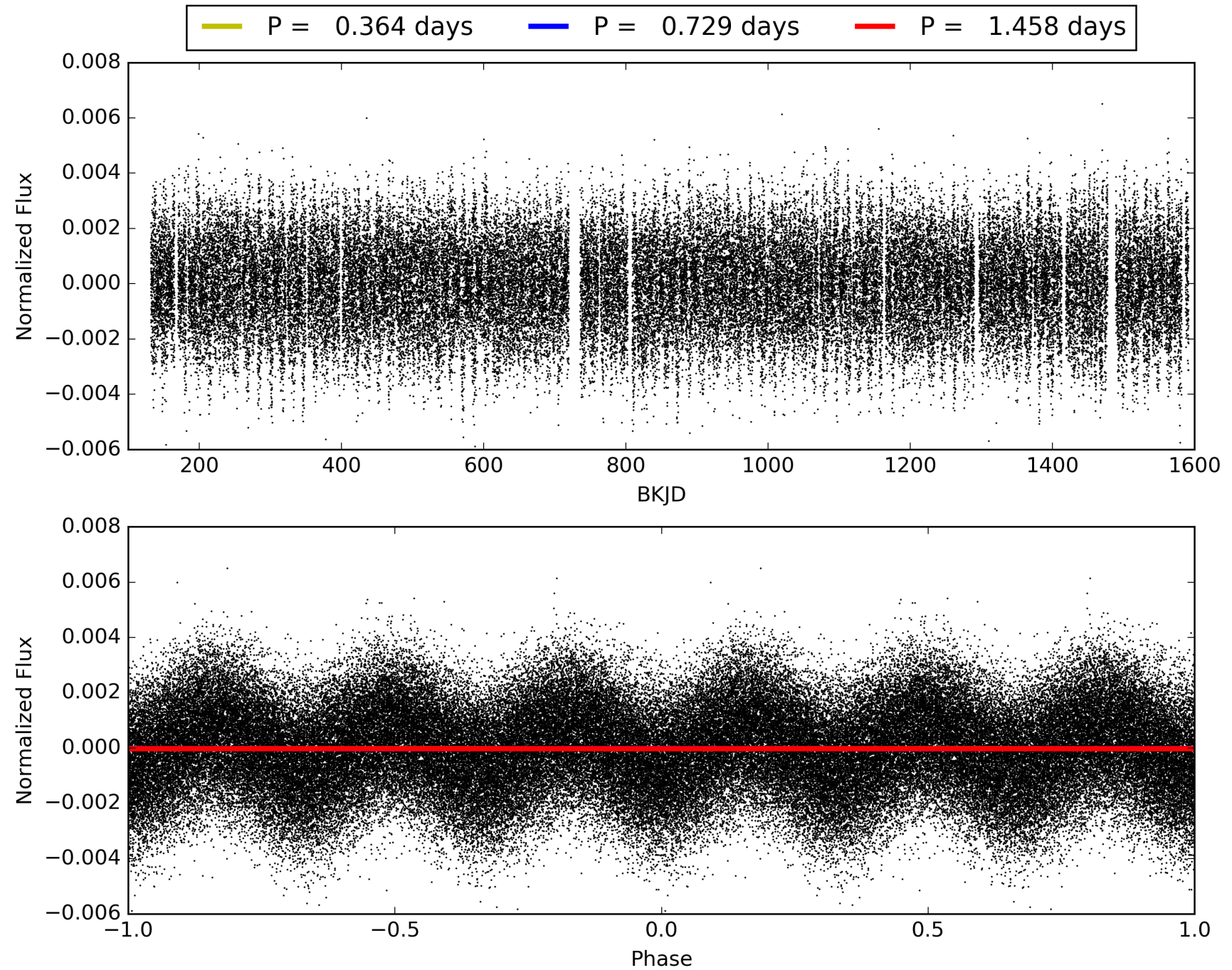
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:09:42 Z

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

TCE 008458690-02, PDC Light Curves

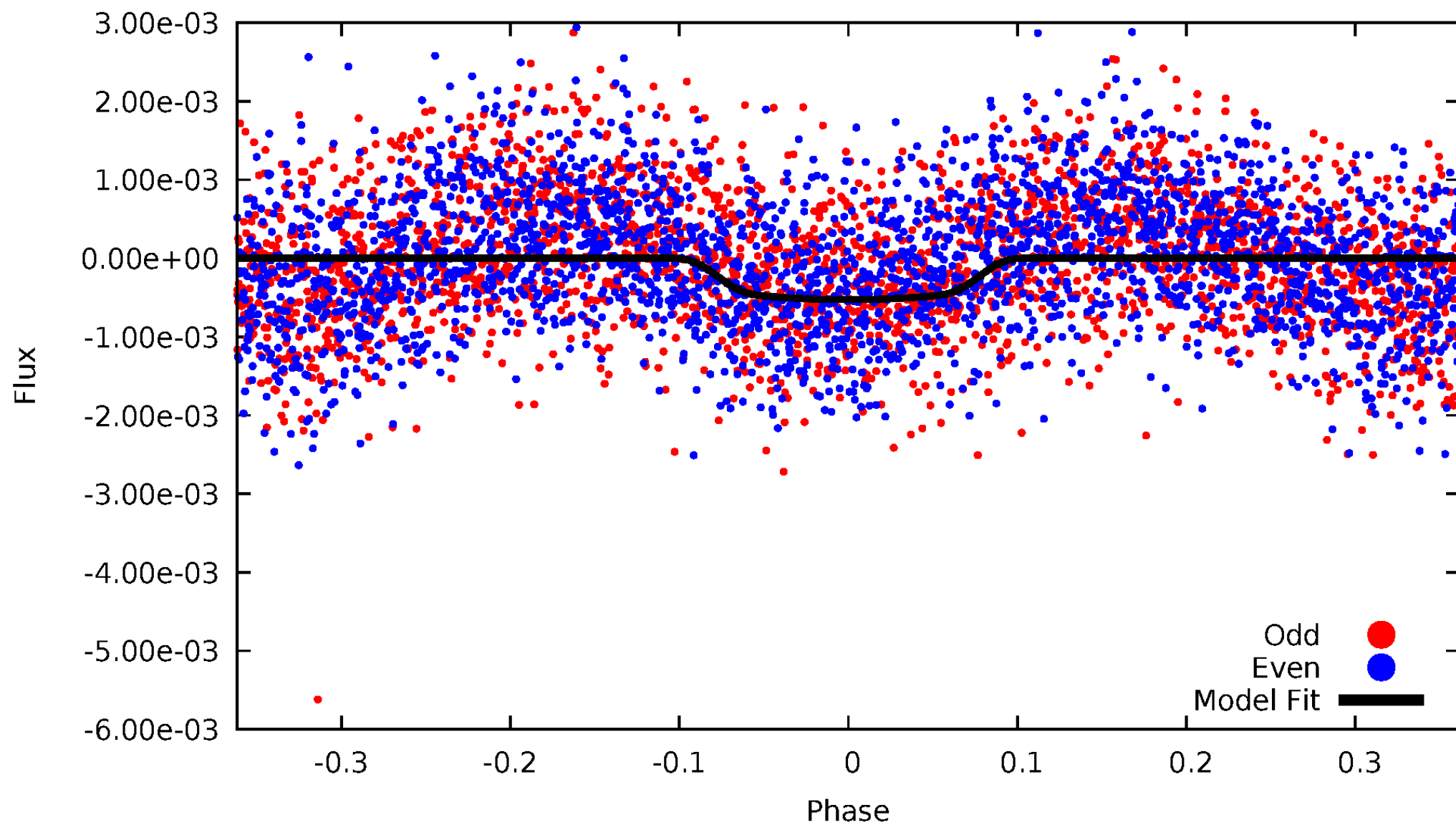


TCE 008458690-02



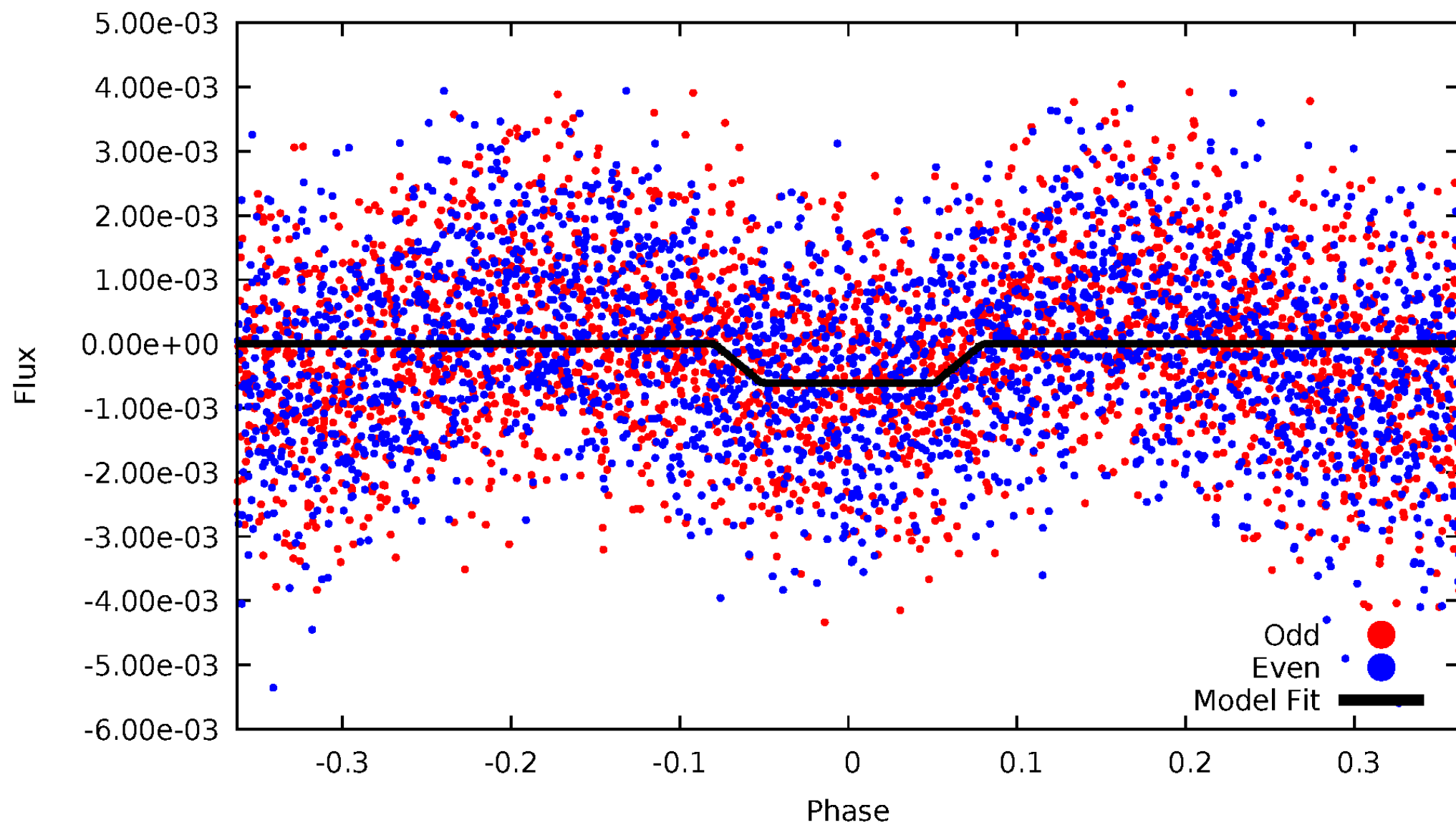
DV Odd/Even

TCE 008458690-02



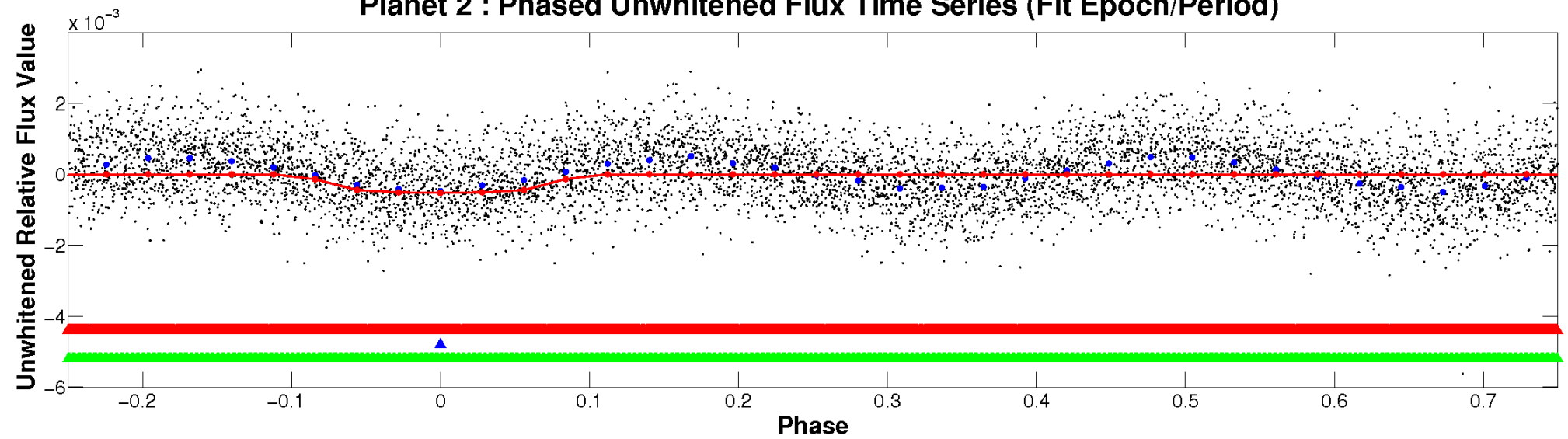
ALT Odd/Even

TCE 008458690-02

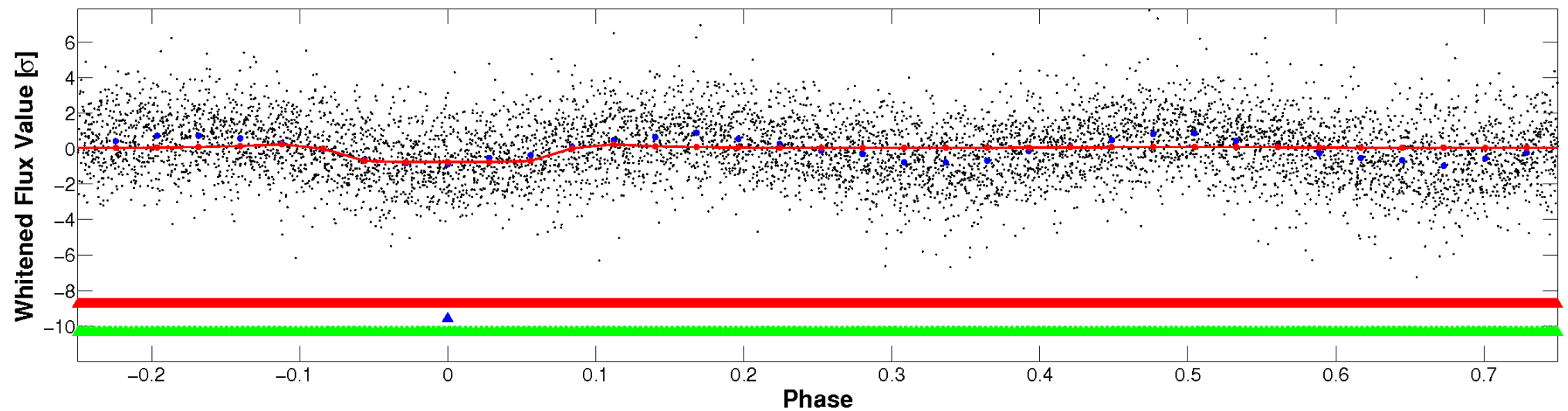


Non-Whitened Vs. Whitened Light Curve

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

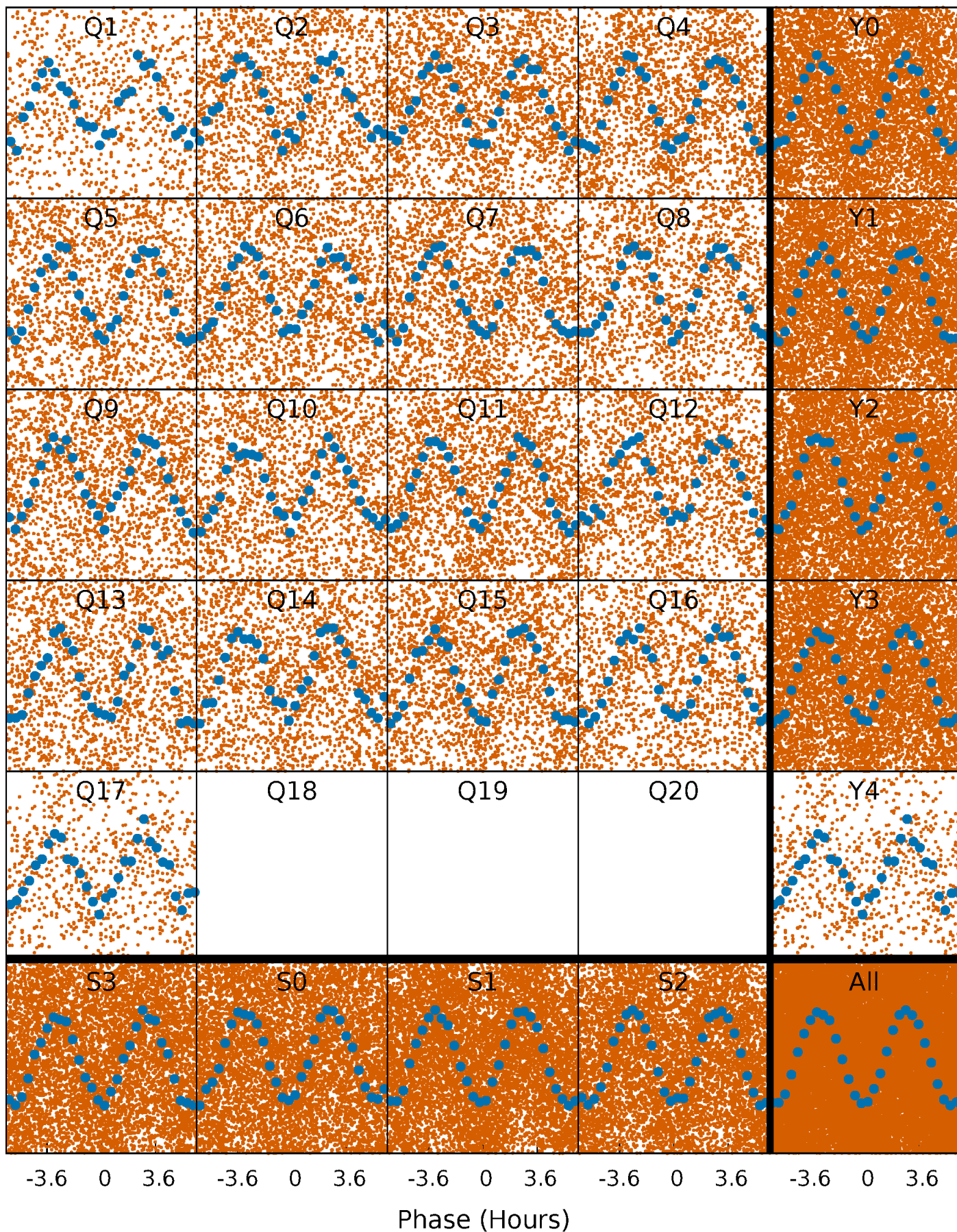


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



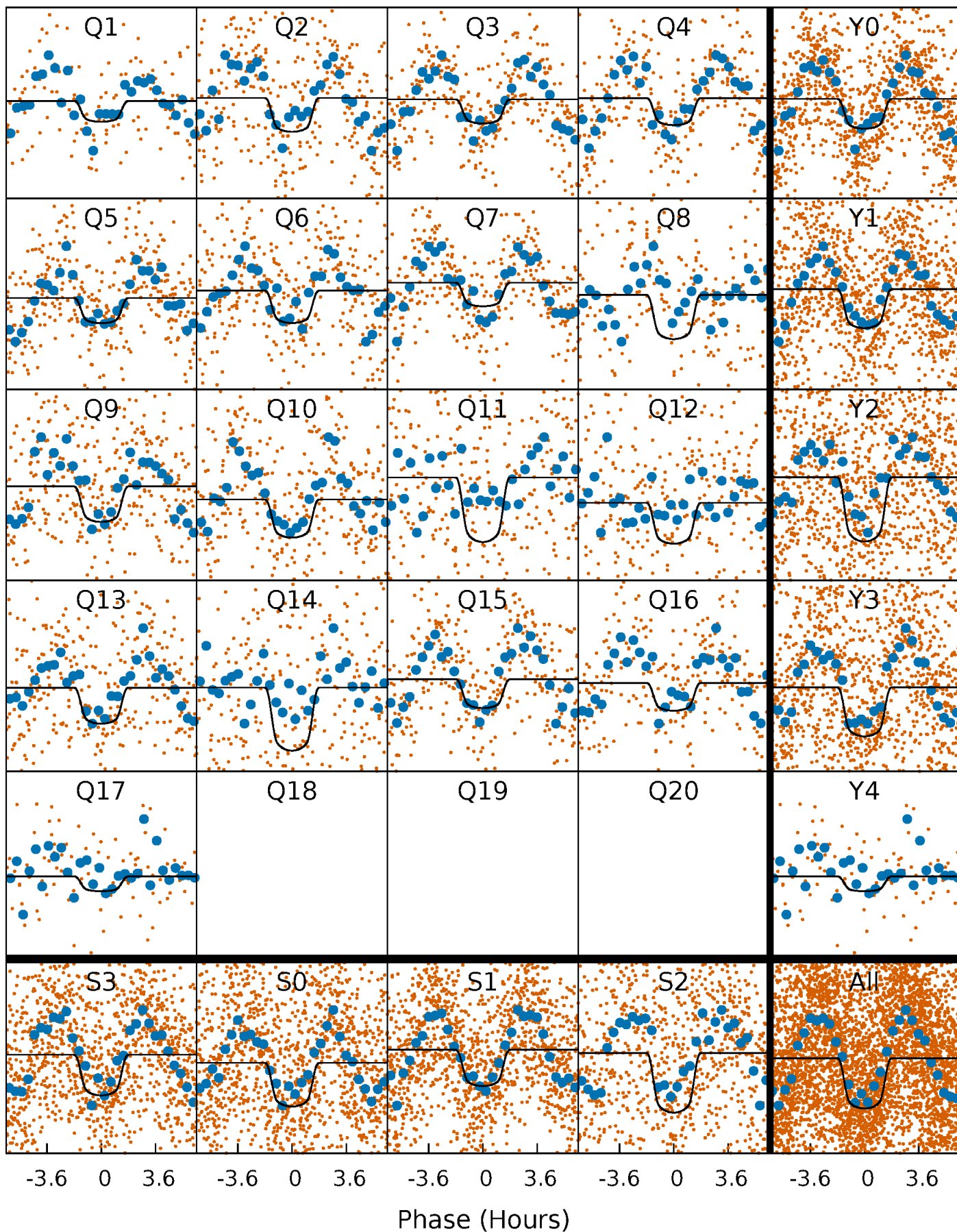
PDC Quarter-Phased Transit Curves

TCE 008458690-02 P= 0.728794 Days $T_0=131.907308$ (BKJD)



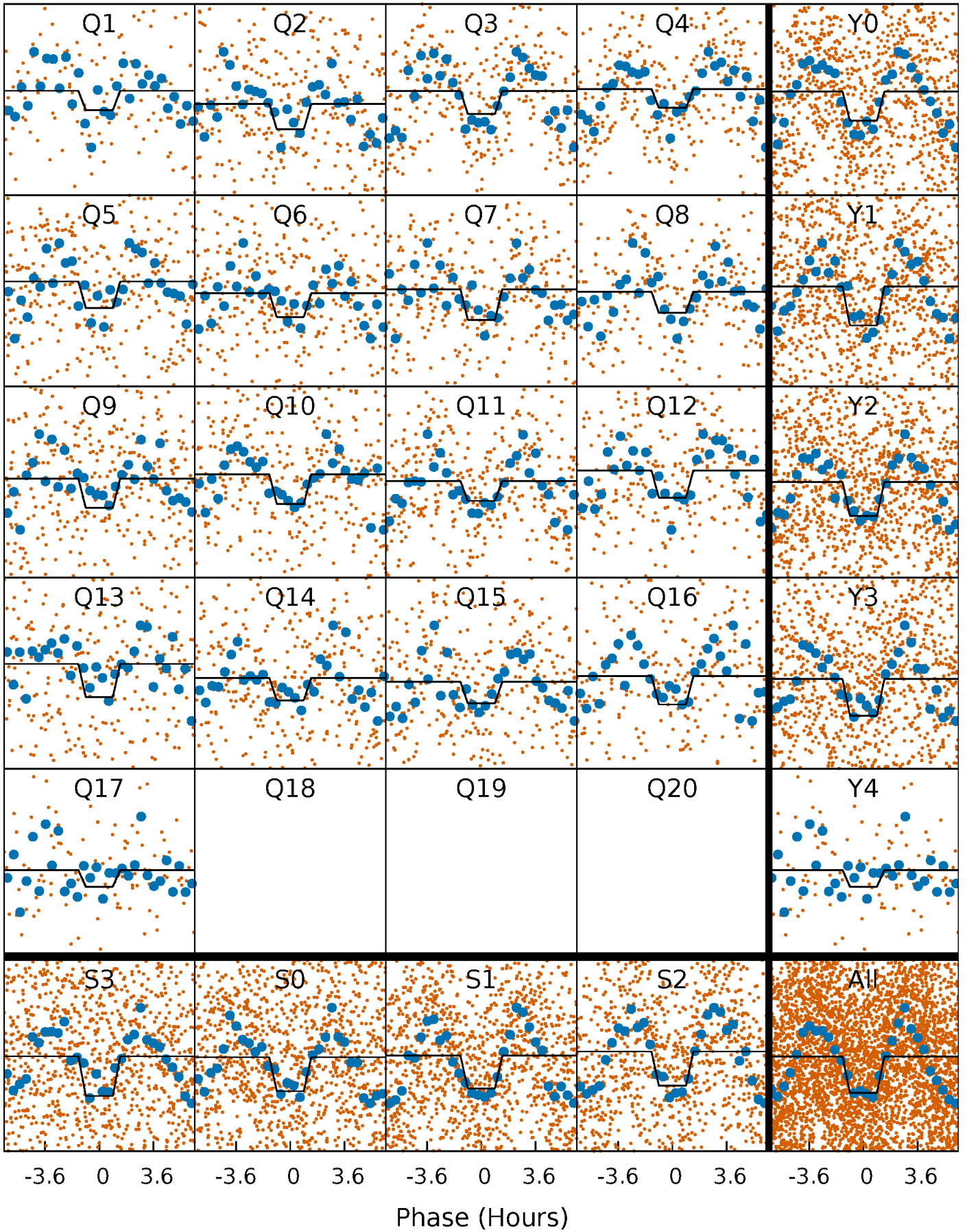
DV Quarter-Phased Transit Curves

TCE 008458690-02 P= 0.728794 Days $T_0=131.907308$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

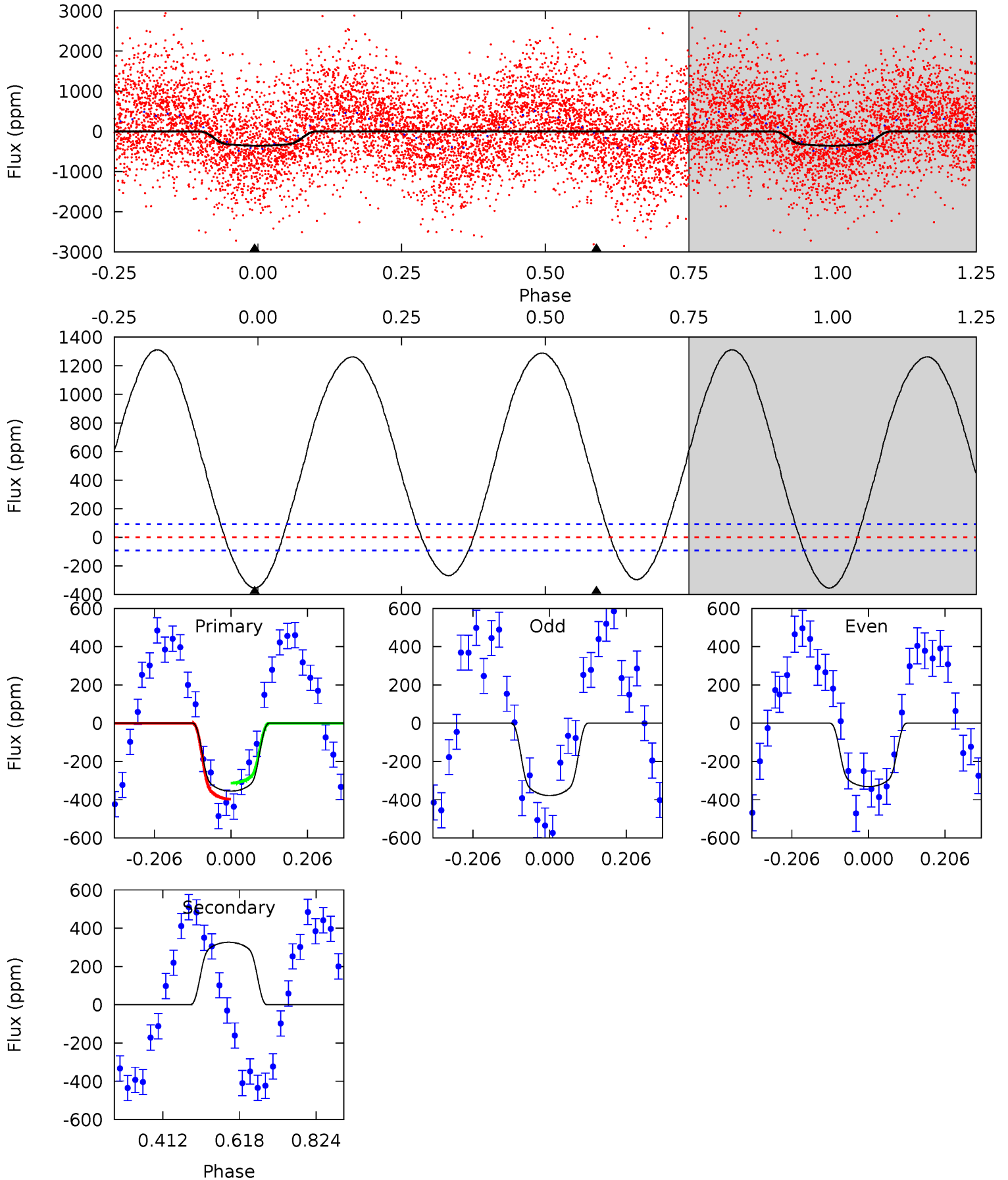
TCE 008458690-02 P= 0.728796 Days $T_0=131.907471$ (BKJD)



DV Model-Shift Uniqueness Test

008458690-02, P = 0.728794 Days, E = 131.178514 Days

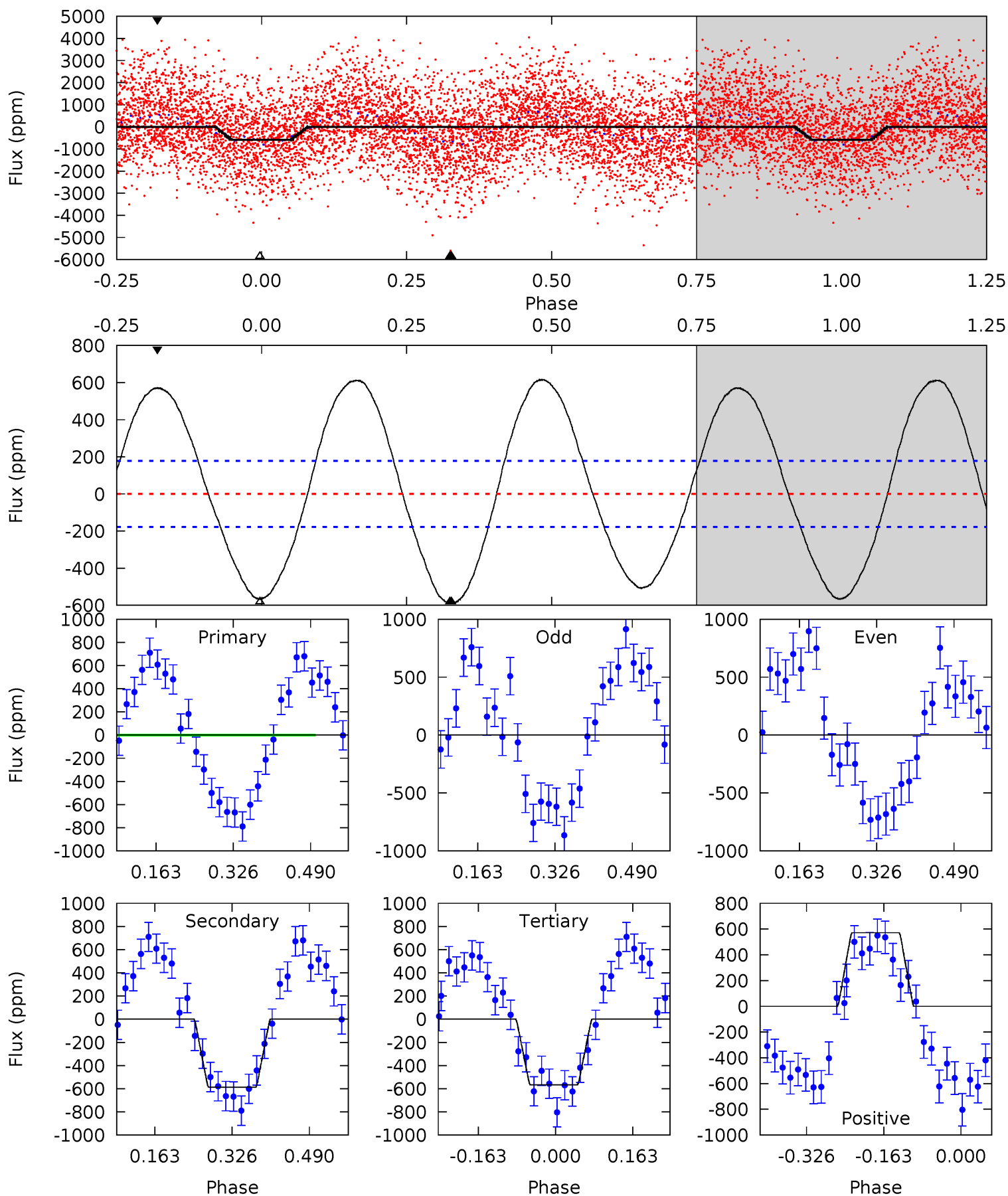
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	-15.7	0	0	4.41	1.26	20.1	17.1	17.1	-15.7	-15.7	1.14	0.83	0.79	2.09



Alt Model-Shift Uniqueness Test

008458690-02, P = 0.728796 Days, E = 131.178675 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	14.7	14.2	14.3	4.46	1.39	9.90	0.50	0.39	0.50	0.40	0.64	0.96	0.51	0.44



Stellar Parameters For KIC 008458690

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7848^{+244}_{-325}	$3.965^{+0.273}_{-0.117}$	$-0.280^{+0.200}_{-0.350}$	$2.256^{+0.486}_{-0.728}$	$1.710^{+0.172}_{-0.319}$	$0.210^{+0.340}_{-0.085}$
	+3%/-4%	+7%/-3%	+71%/-125%	+22%/-32%	+10%/-19%	+162%/-41%
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 008458690-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	327 ± 21	$5.78^{+1.08}_{-1.07}$	5192^{+357}_{-445}	-6851^{+392}_{-484}	$-1.909^{+0.546}_{-0.906}$
Alt.	-587 ± 40	$5.85^{+1.08}_{-1.14}$	5182^{+361}_{-423}	7522^{+609}_{-584}	$3.347^{+1.644}_{-0.972}$

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 $A_{obs} \gg 1.0$

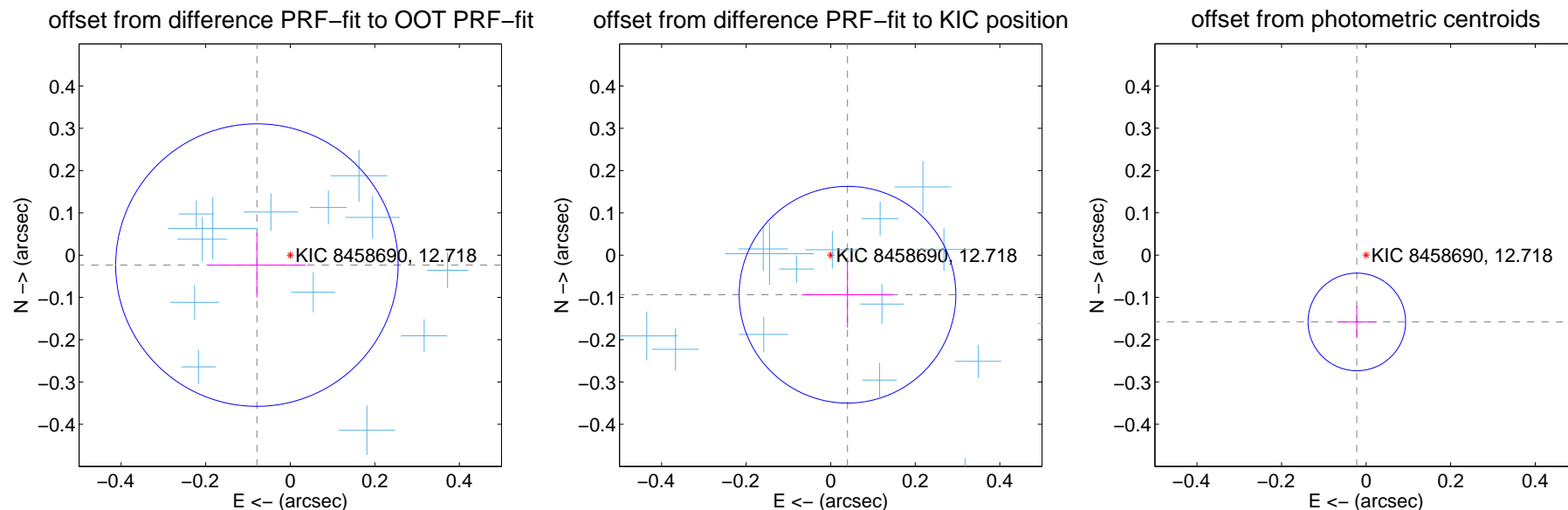
DV Centroid Data

Supplemental centroid analysis for 008458690-02. Kepler magnitude: 12.72. Transit SNR 23.99

There are 17 quarters with good PRF difference image offsets

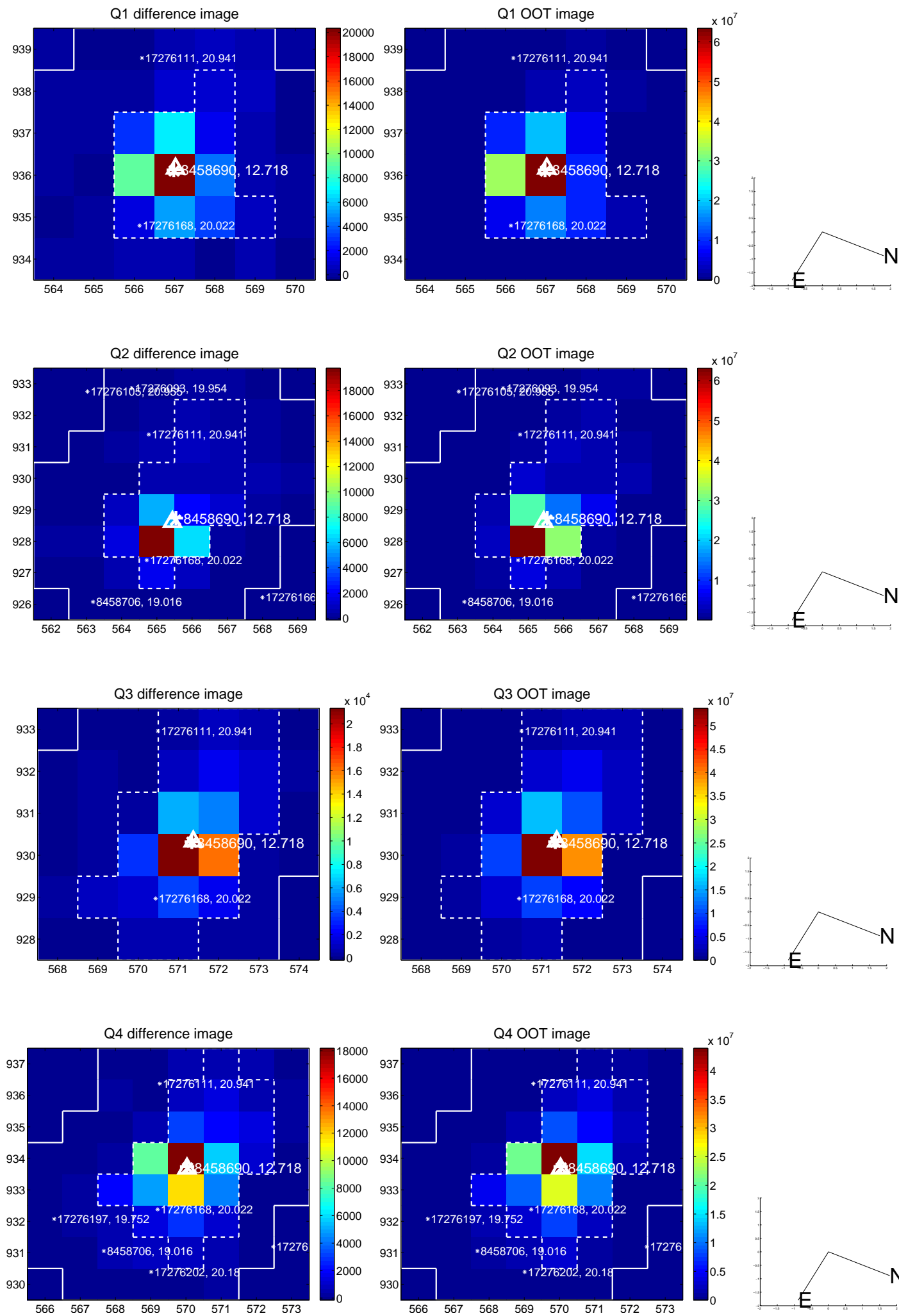
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.111	0.74	0.079 ± 0.115	-0.023 ± 0.077
PRF-fit source offset from KIC position	0.102 ± 0.085	1.19	-0.040 ± 0.107	-0.094 ± 0.078
photometric centroid source offset	0.16 ± 0.04	4.15	0.02 ± 0.05	-0.16 ± 0.04

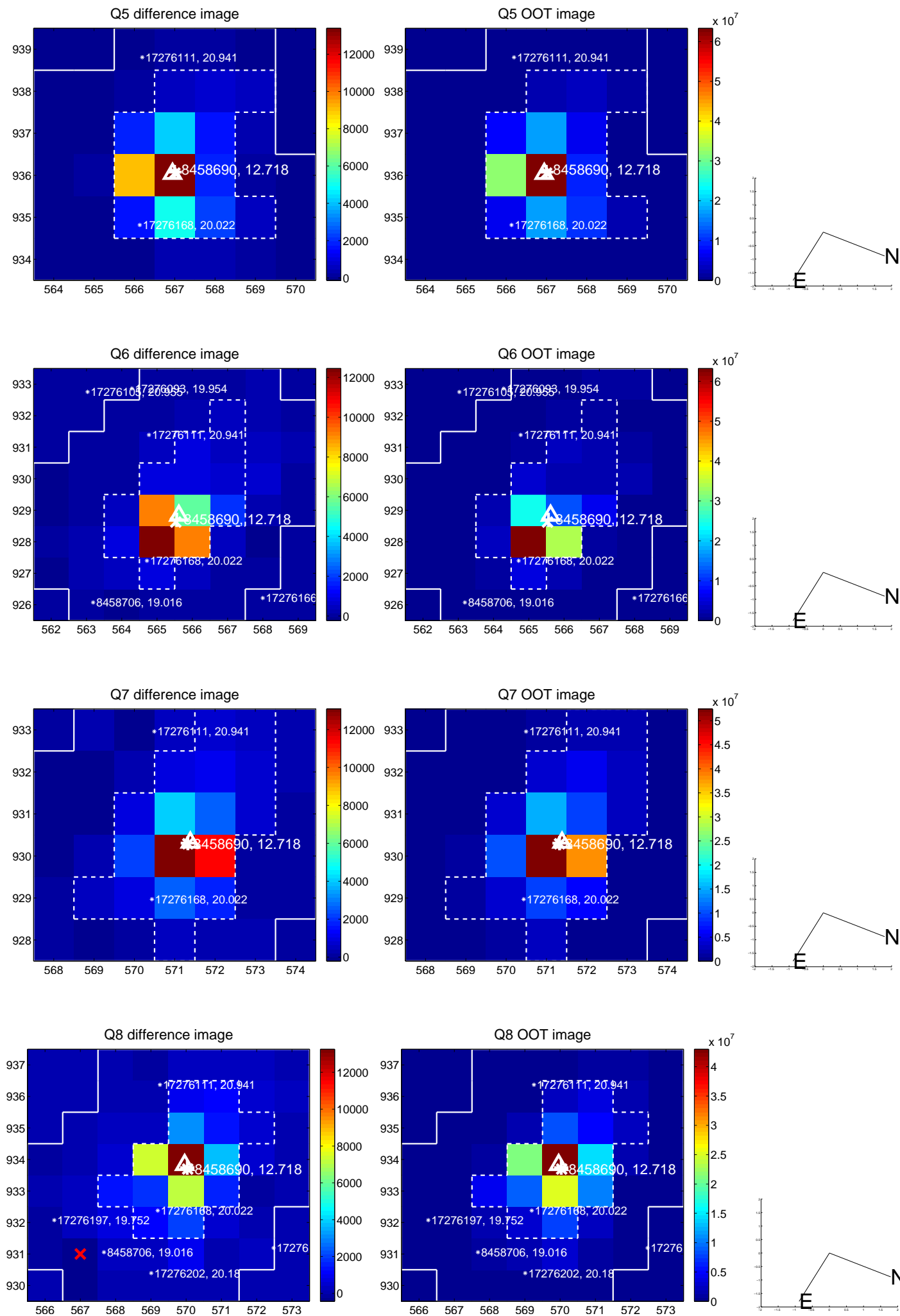


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

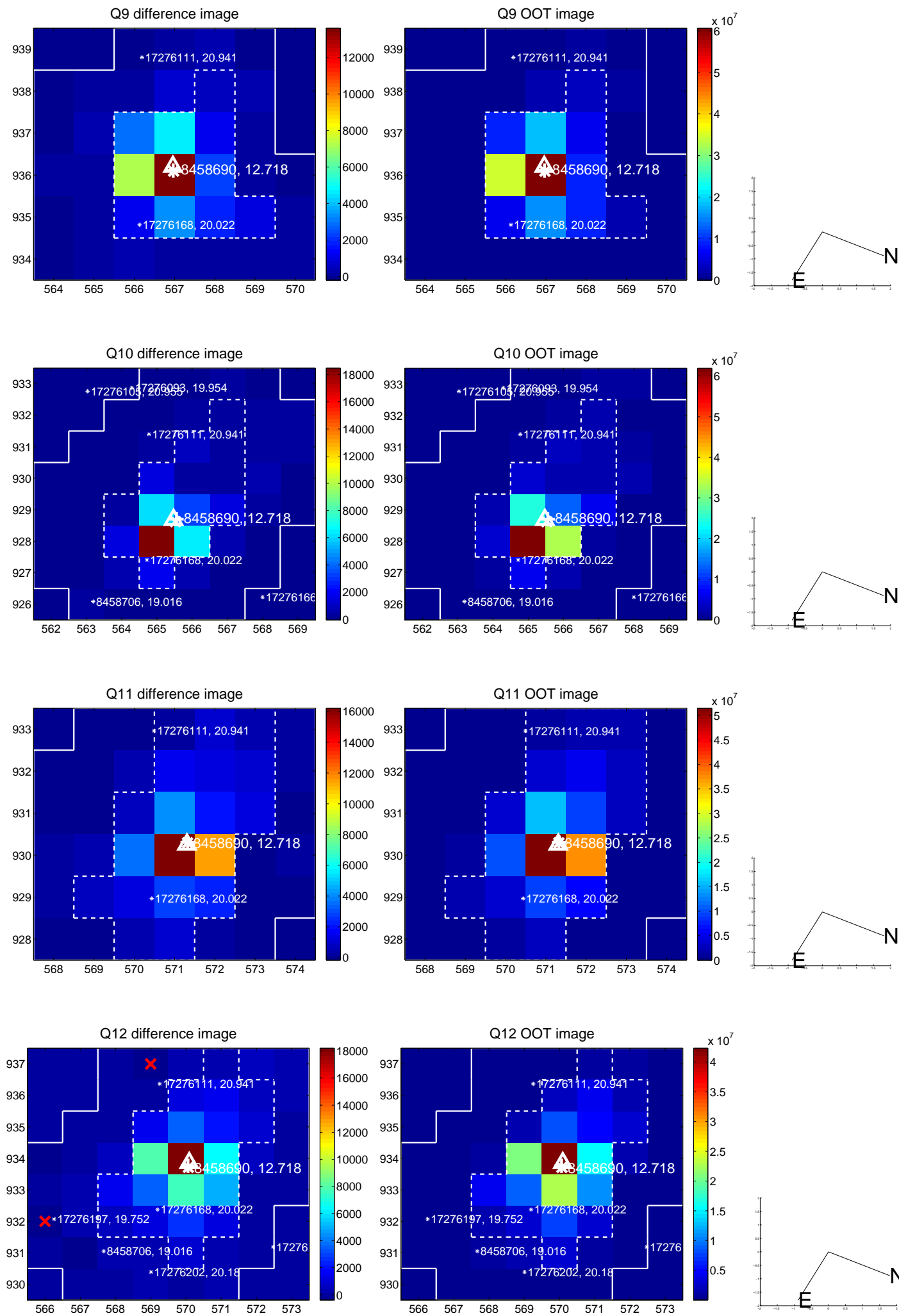
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



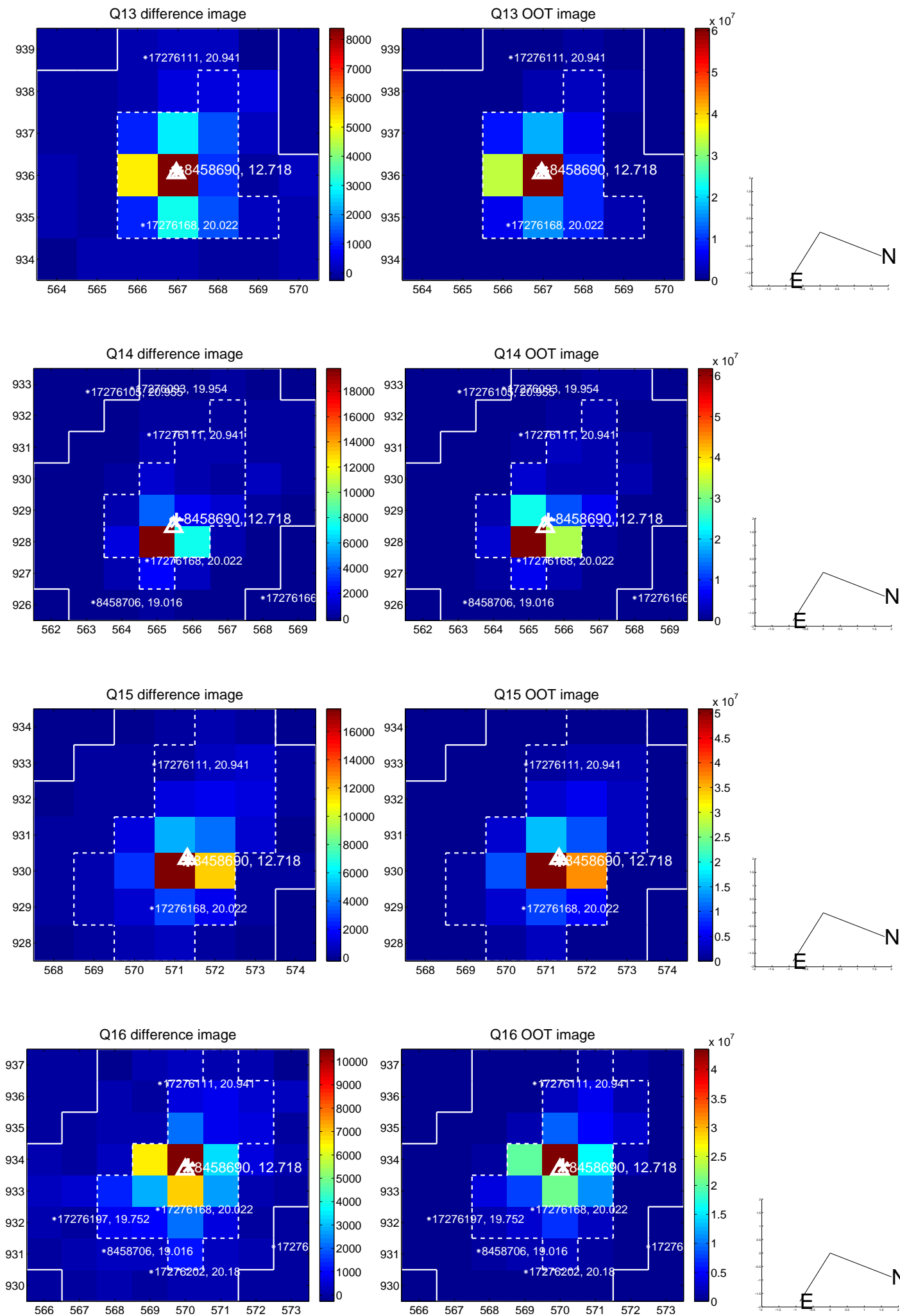
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



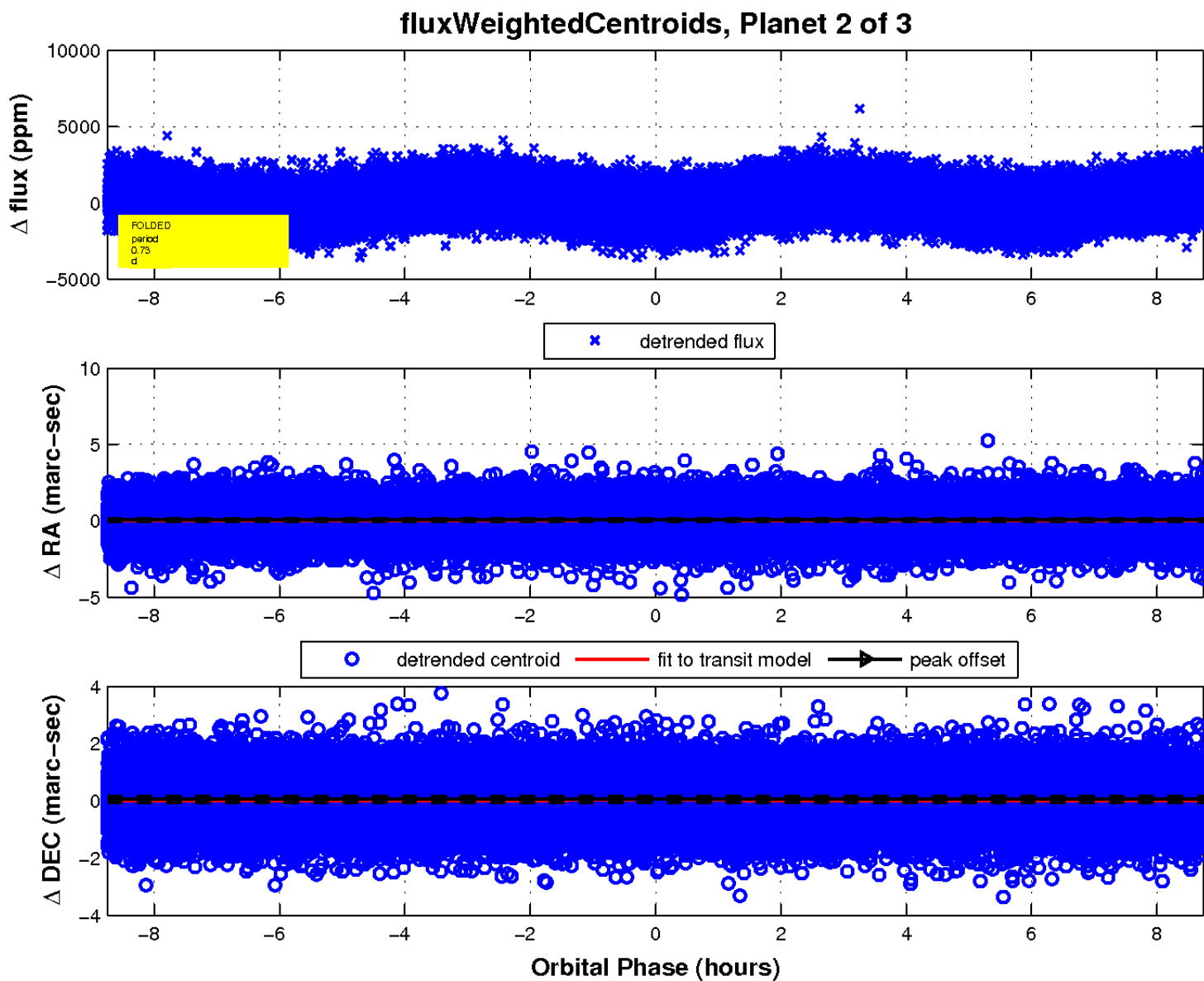
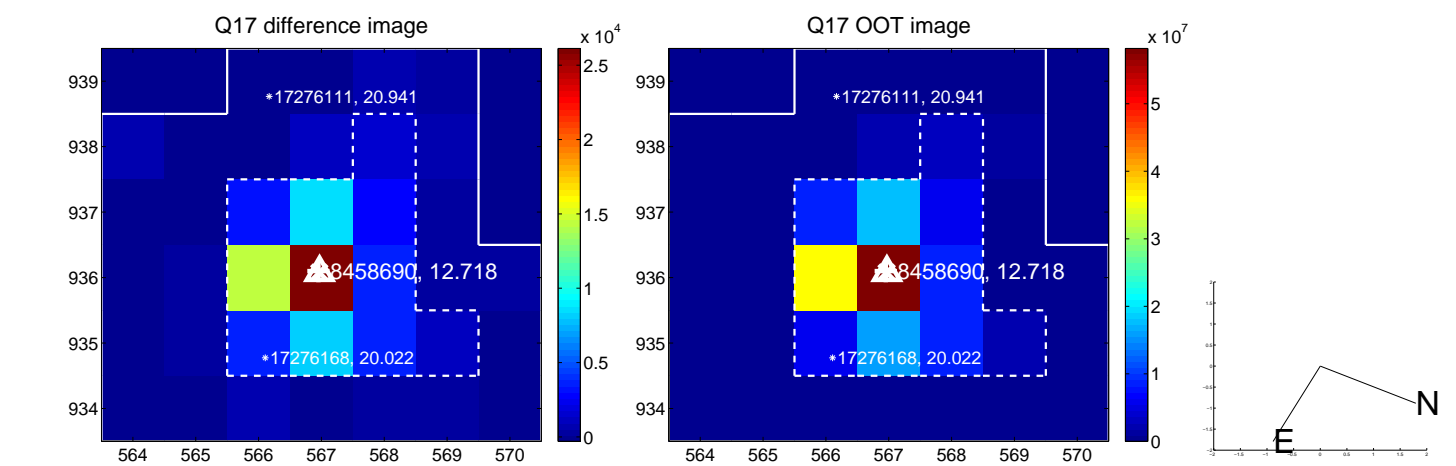
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

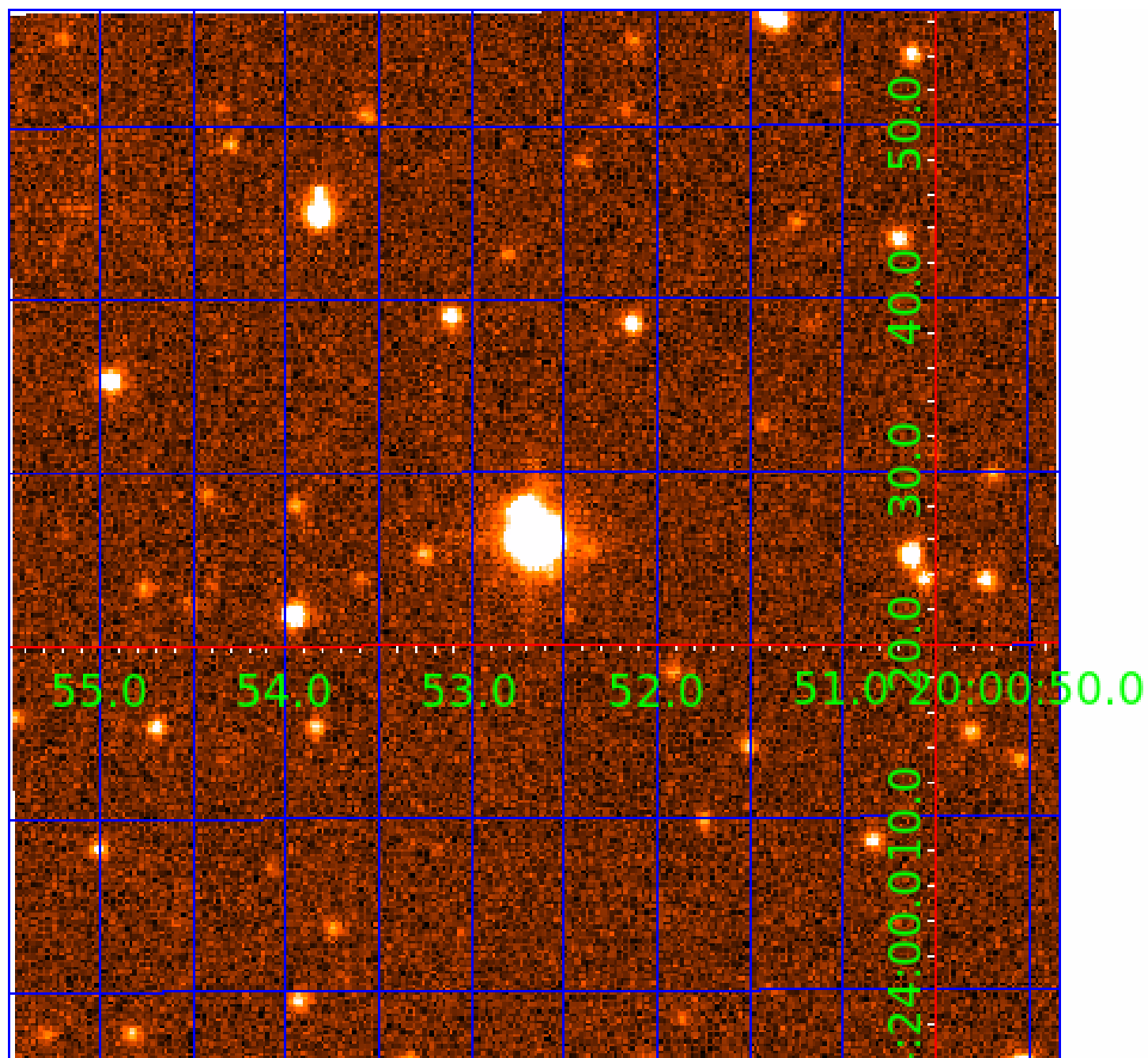


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008458690

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})
008458690-01	OBS	No	0.501122	131.872769	11.7	3.412	11.8	1.5	2.26	7848	0.78	79231.52
008458690-02	OBS	No	0.728794	131.907308	526.4	3.162	14.2	24.0	2.26	7848	6.06	48085.78
008458690-03	OBS	No	0.942993	131.698494	334.6	2.500	15.2	-1.0	2.26	7848	4.16	34104.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008458690-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008458690-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008458690-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

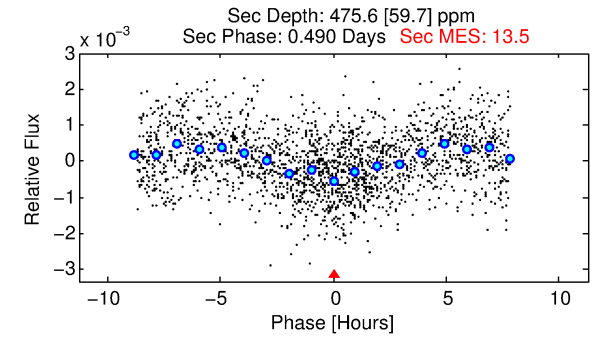
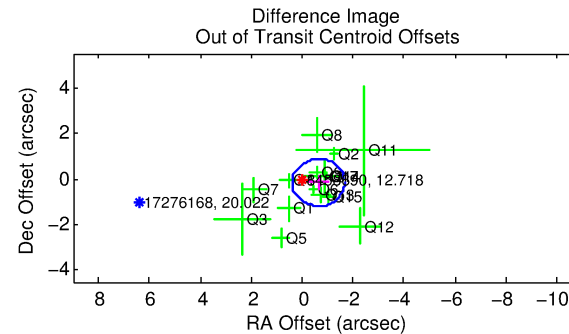
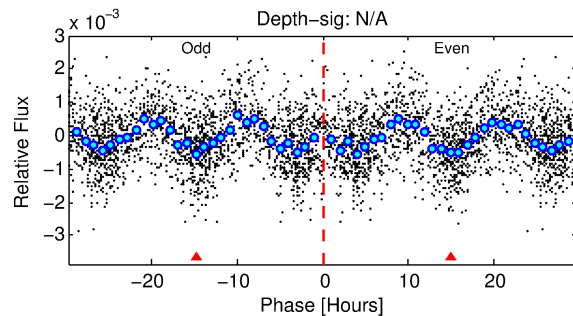
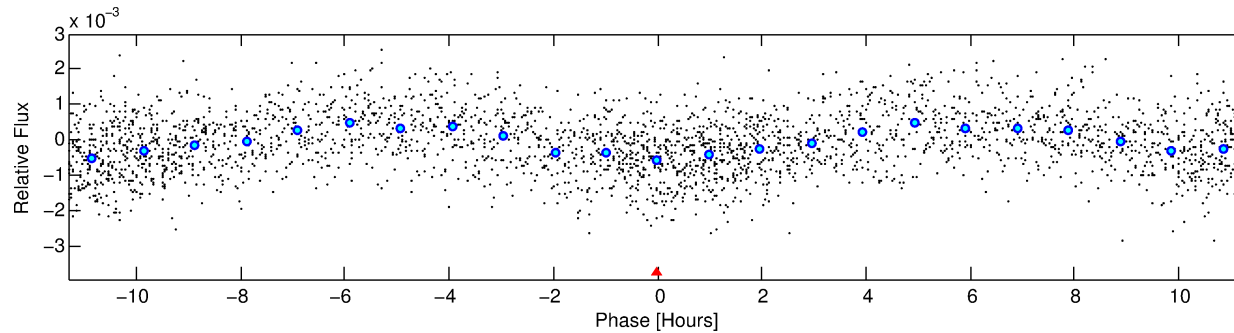
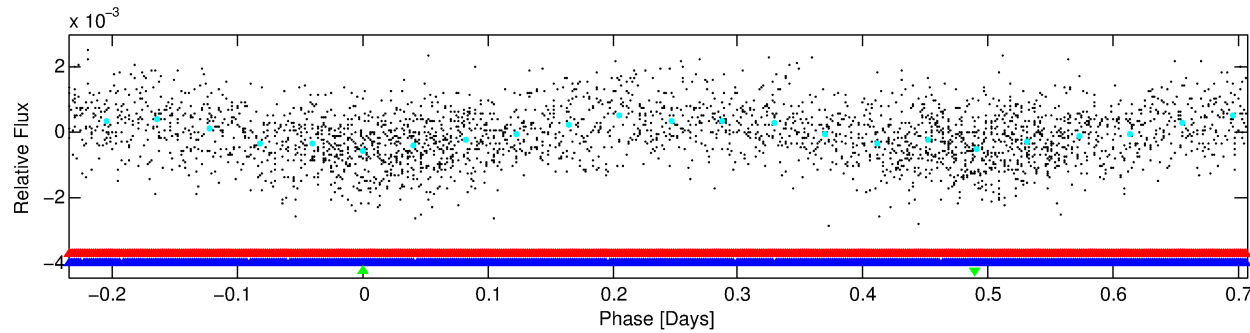
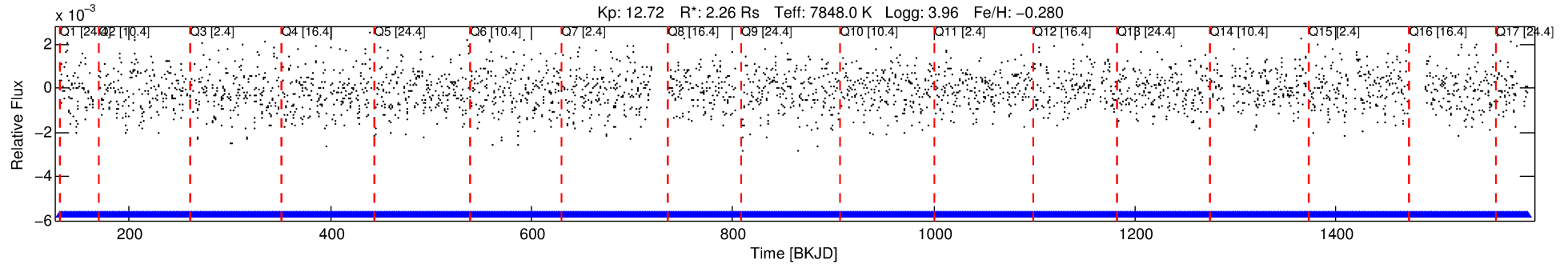
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008458690-03

No Significant Match Found

DV One-Page Summary

KIC: 8458690 Candidate: 3 of 3 Period: 0.943 d



TPS TCE Results:

Period = 0.94299 d
Epoch = 131.6985 BKJD

DV fit results are unavailable

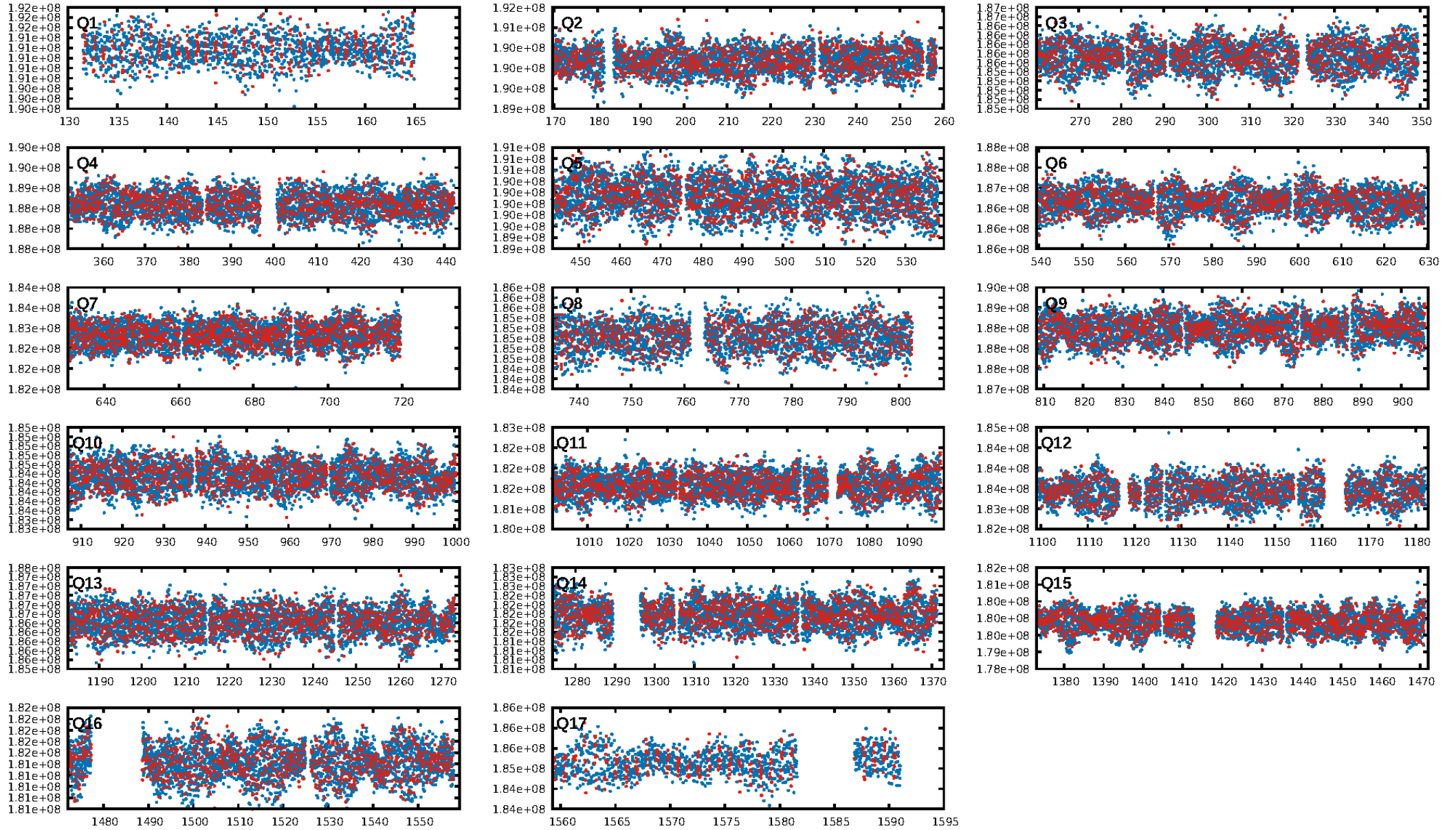
DV Diagnostic Results:

ShortPeriod-sig: 79.8% [1.28 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [408/408]
GhostDiagnostic-chr: 1.25
Centroid-sig: 3.0%
Centroid-so: 0.130 arcsec [4.13 σ]
OotOffset-rm: 0.658 arcsec [1.92 σ]
KicOffset-rm: 0.891 arcsec [2.75 σ]
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]

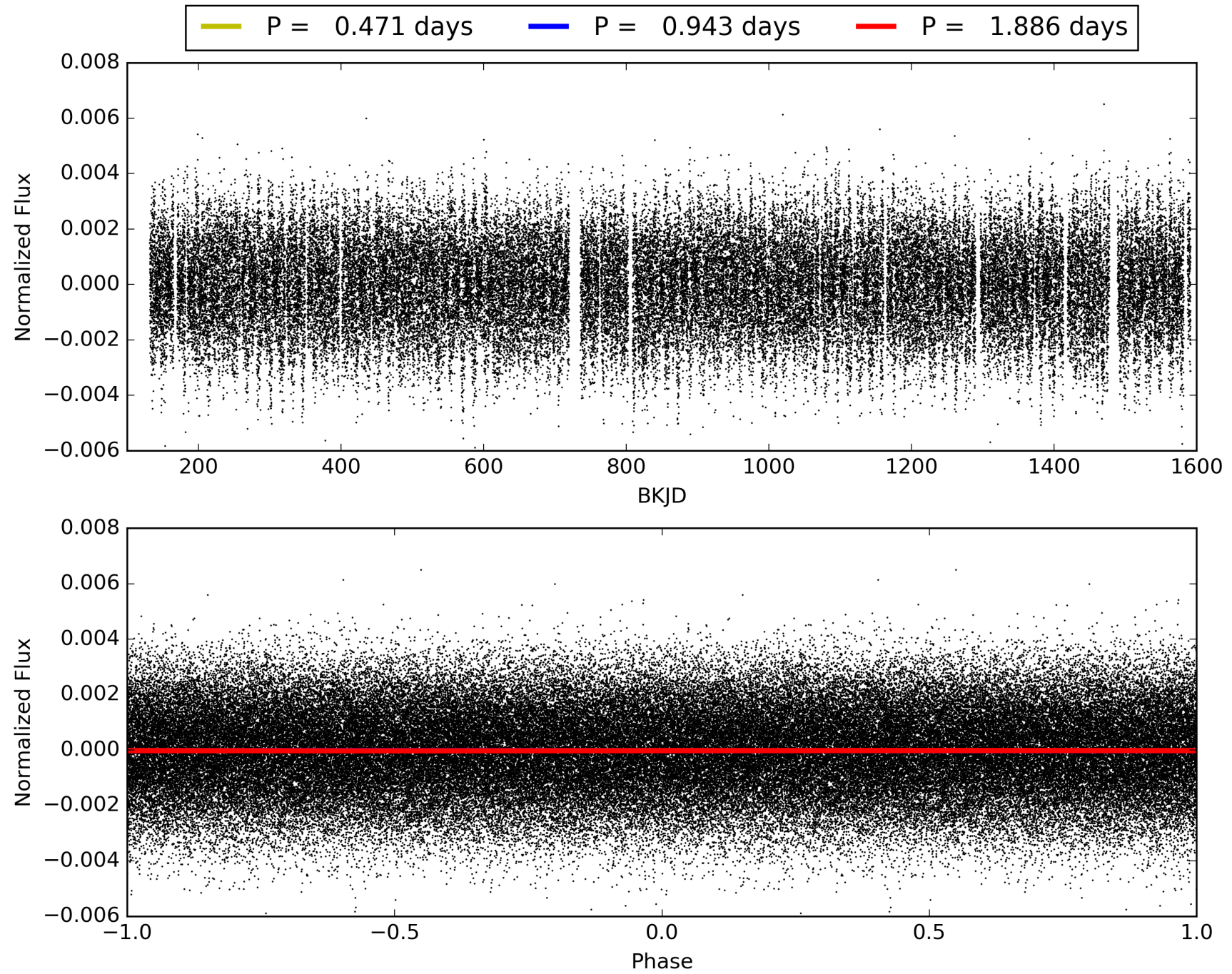
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:09:49 Z

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

TCE 008458690-03, PDC Light Curves

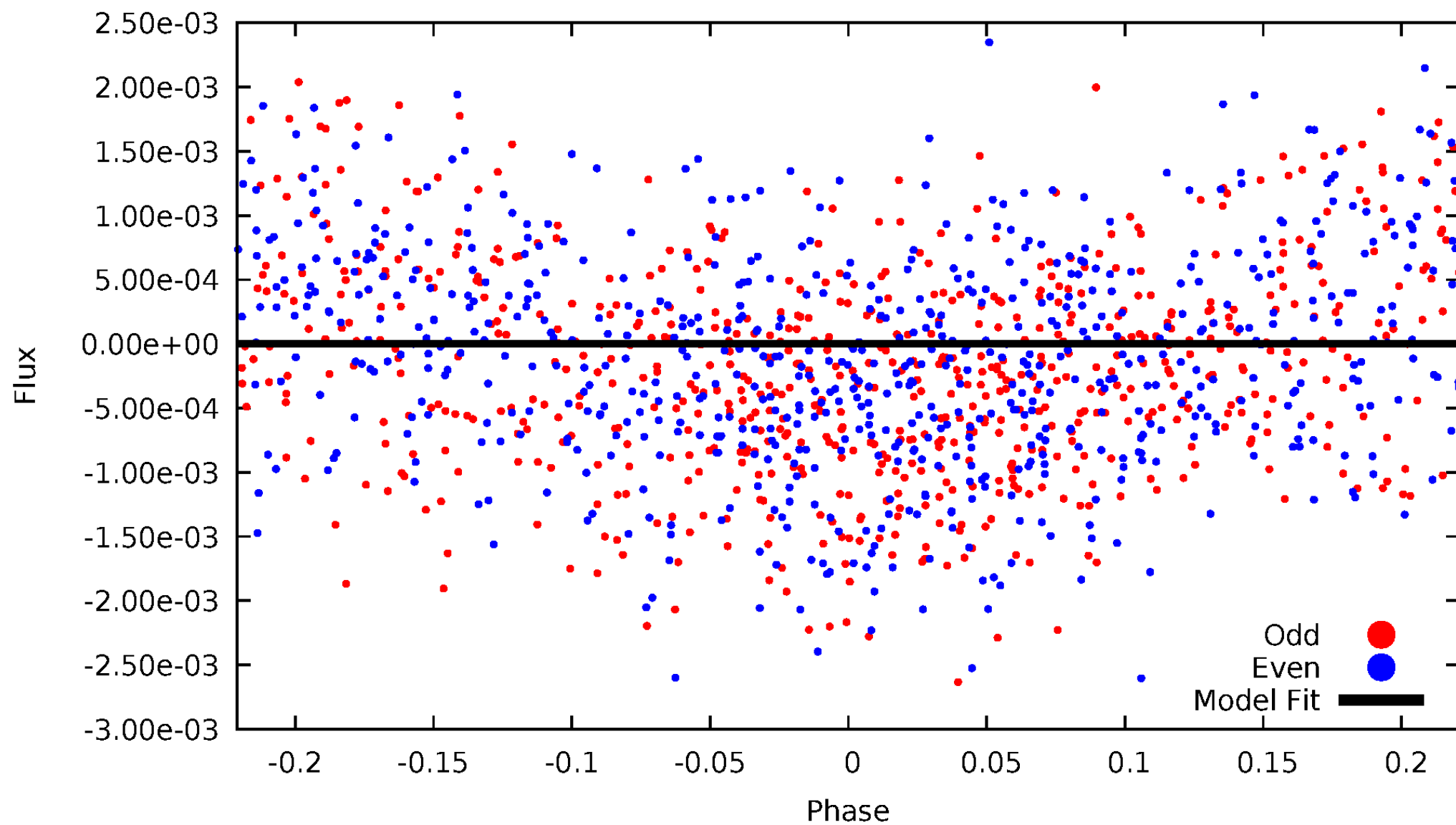


TCE 008458690-03



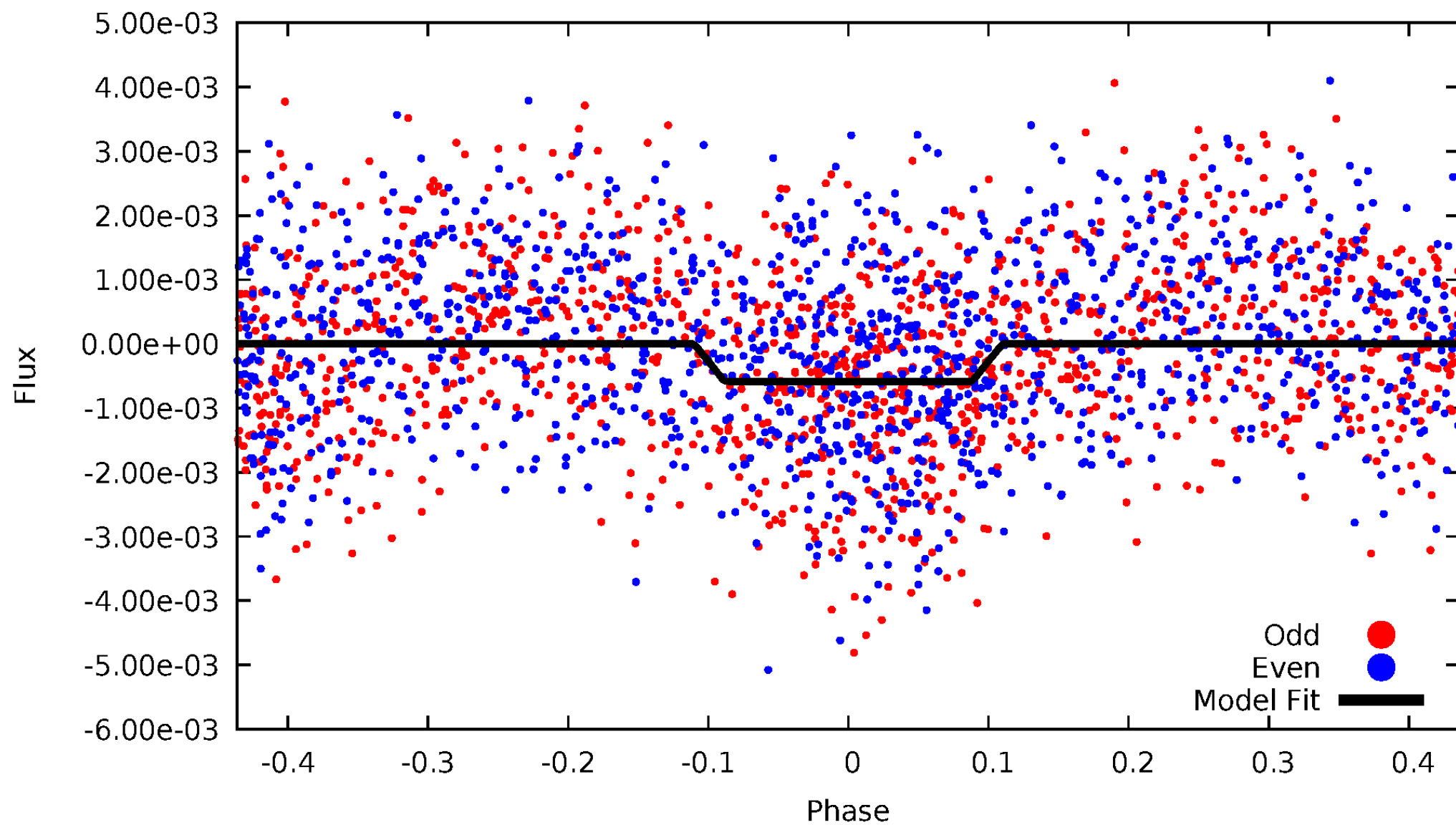
DV Odd/Even

TCE 008458690-03



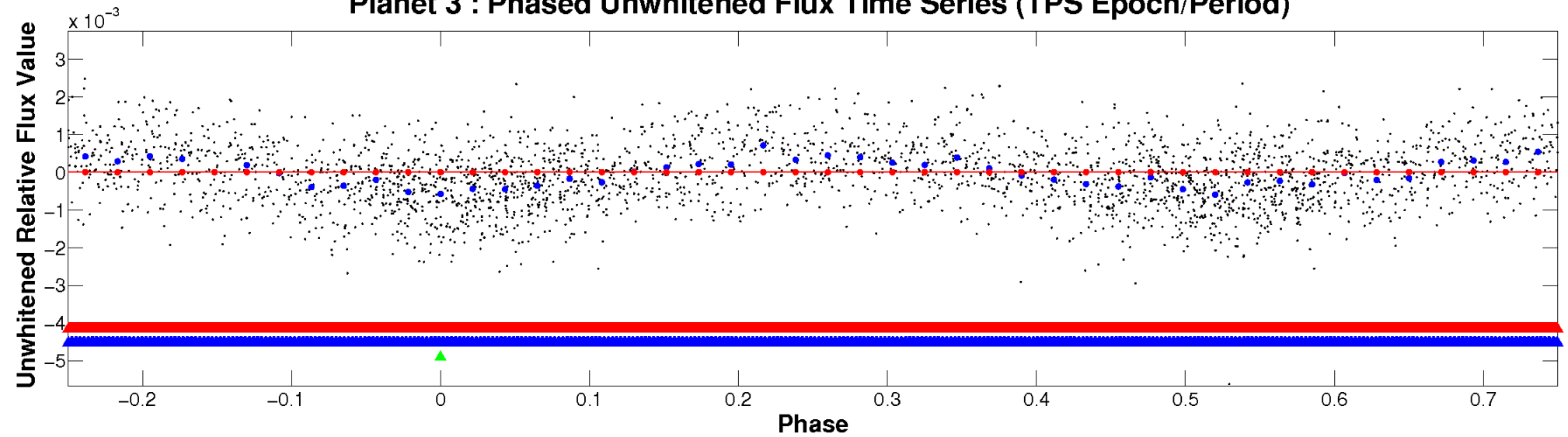
ALT Odd/Even

TCE 008458690-03

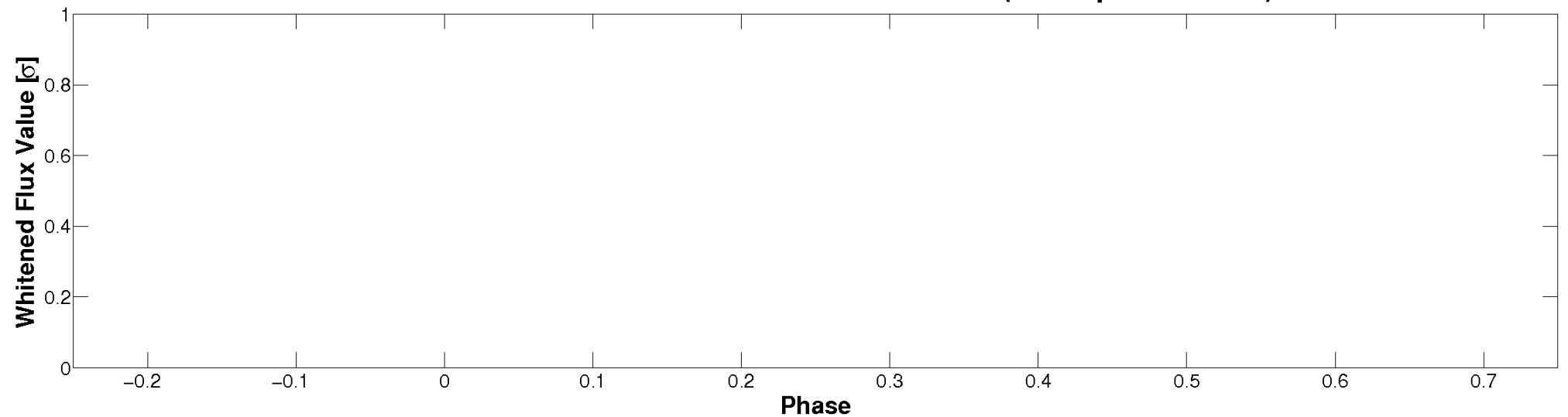


Non-Whitened Vs. Whitened Light Curve

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

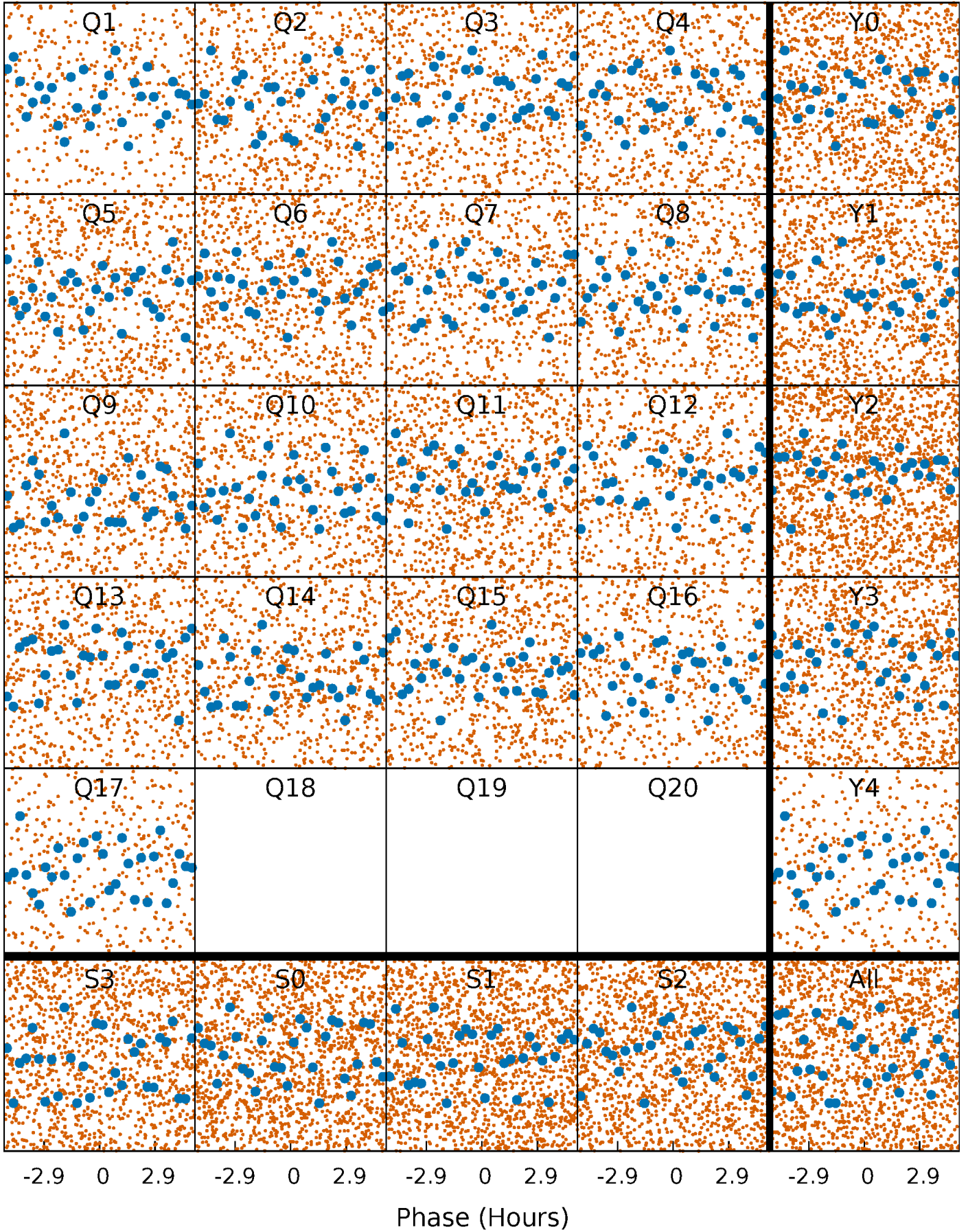


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



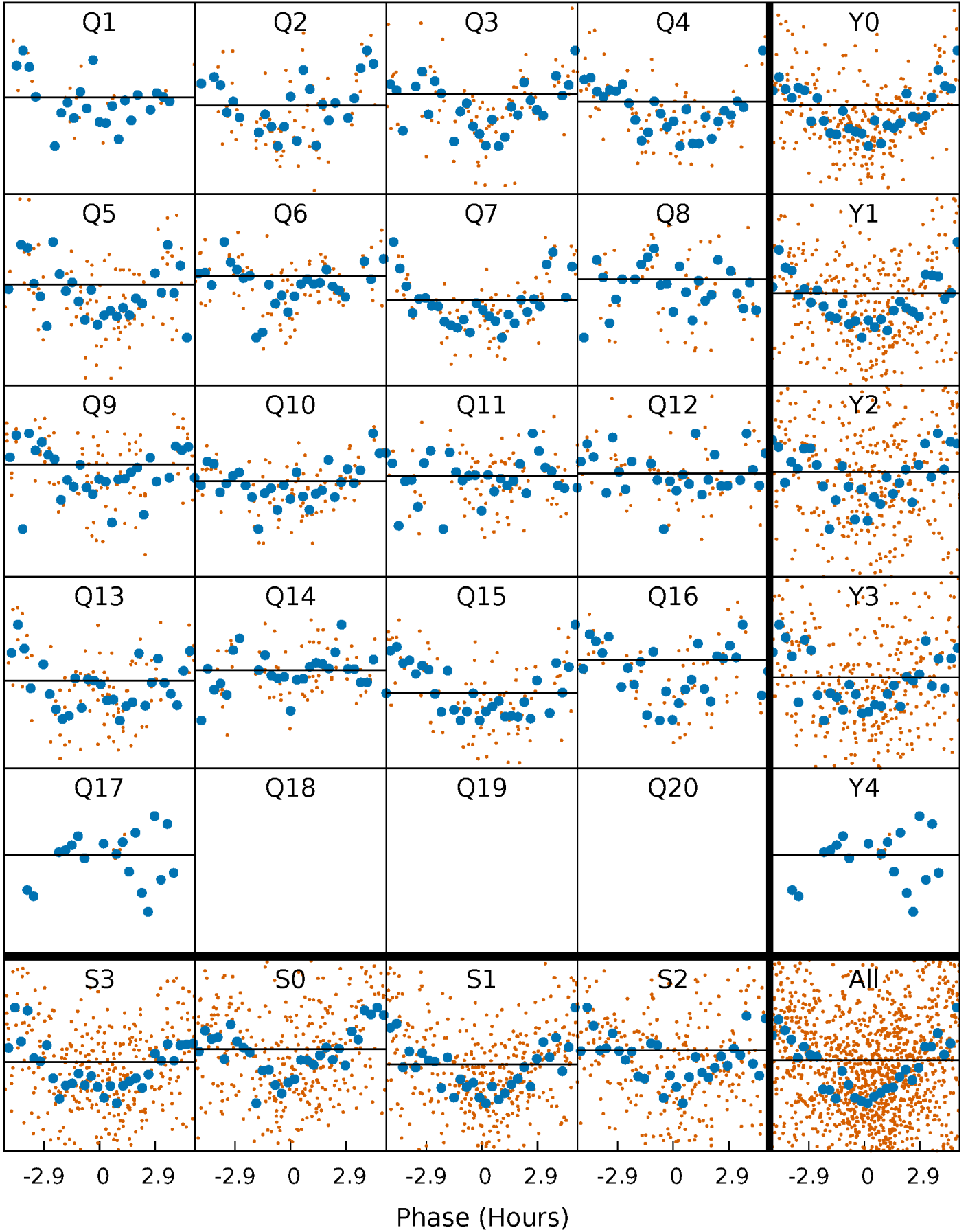
PDC Quarter-Phased Transit Curves

TCE 008458690-03 P= 0.942993 Days $T_0=131.698494$ (BKJD)



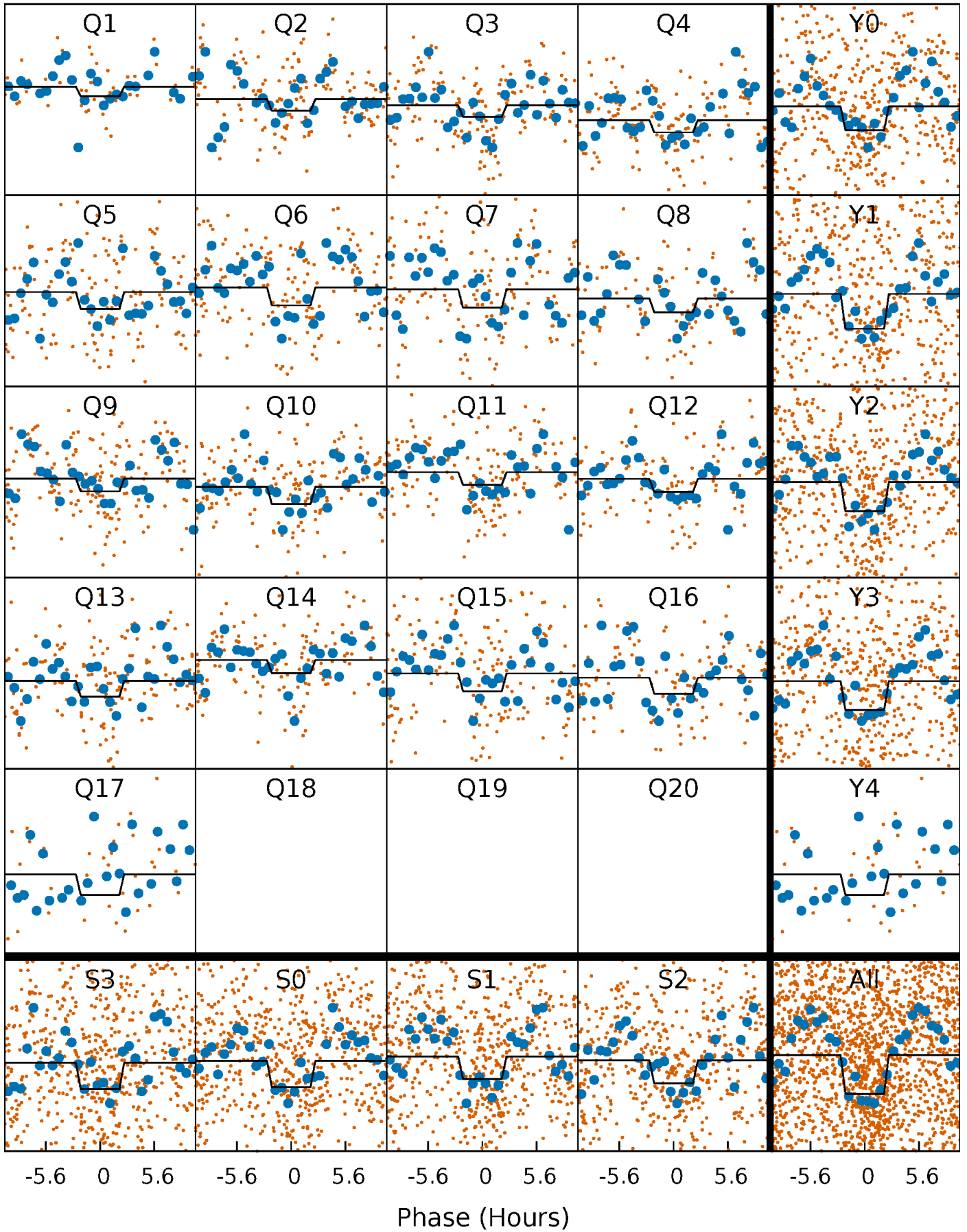
DV Quarter-Phased Transit Curves

TCE 008458690-03 $P = 0.942993$ Days $T_0 = 131.698494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

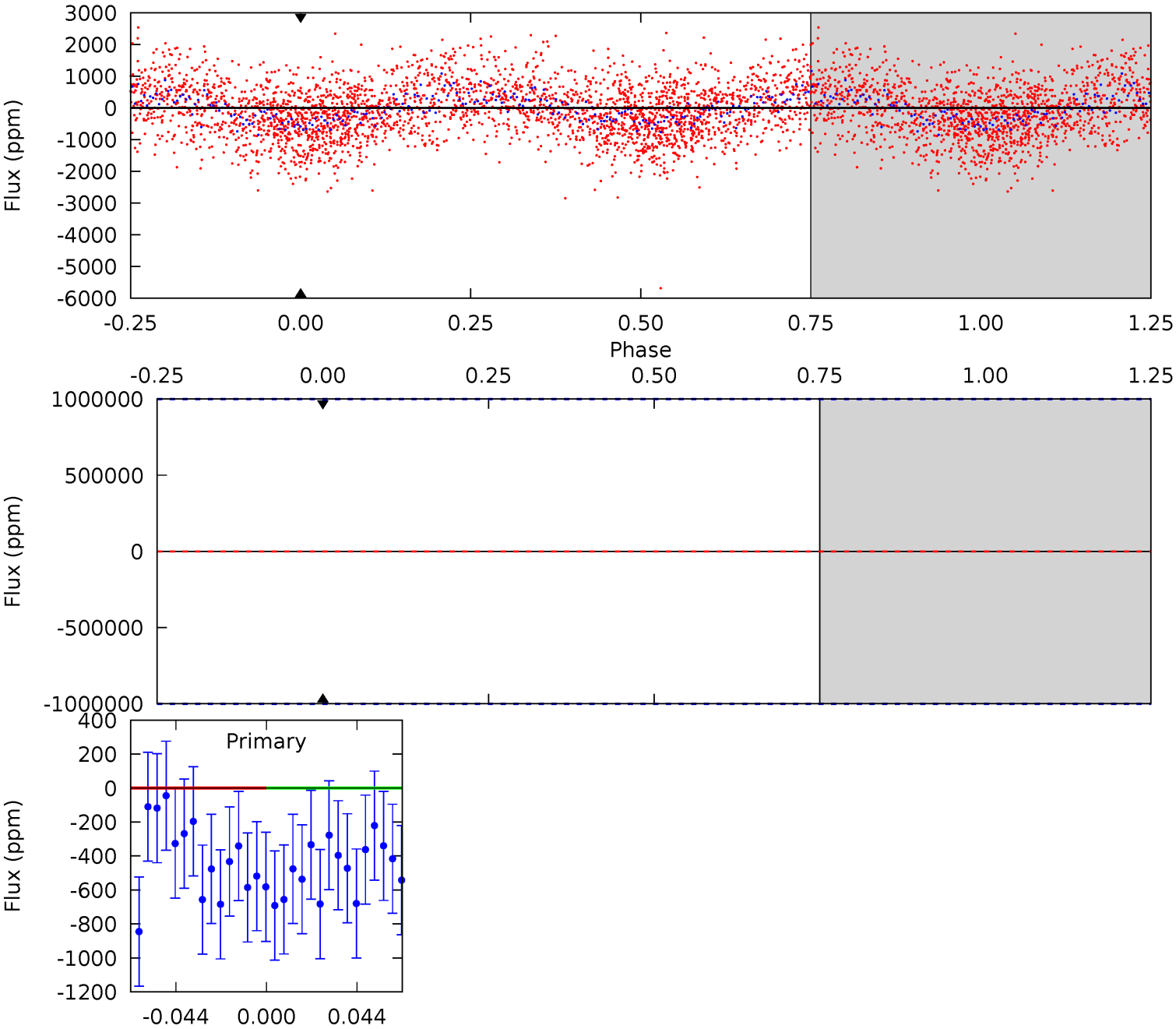
TCE 008458690-03 P= 0.942993 Days $T_0=131.693558$ (BKJD)



DV Model-Shift Uniqueness Test

008458690-03, P = 0.942993 Days, E = 130.755501 Days

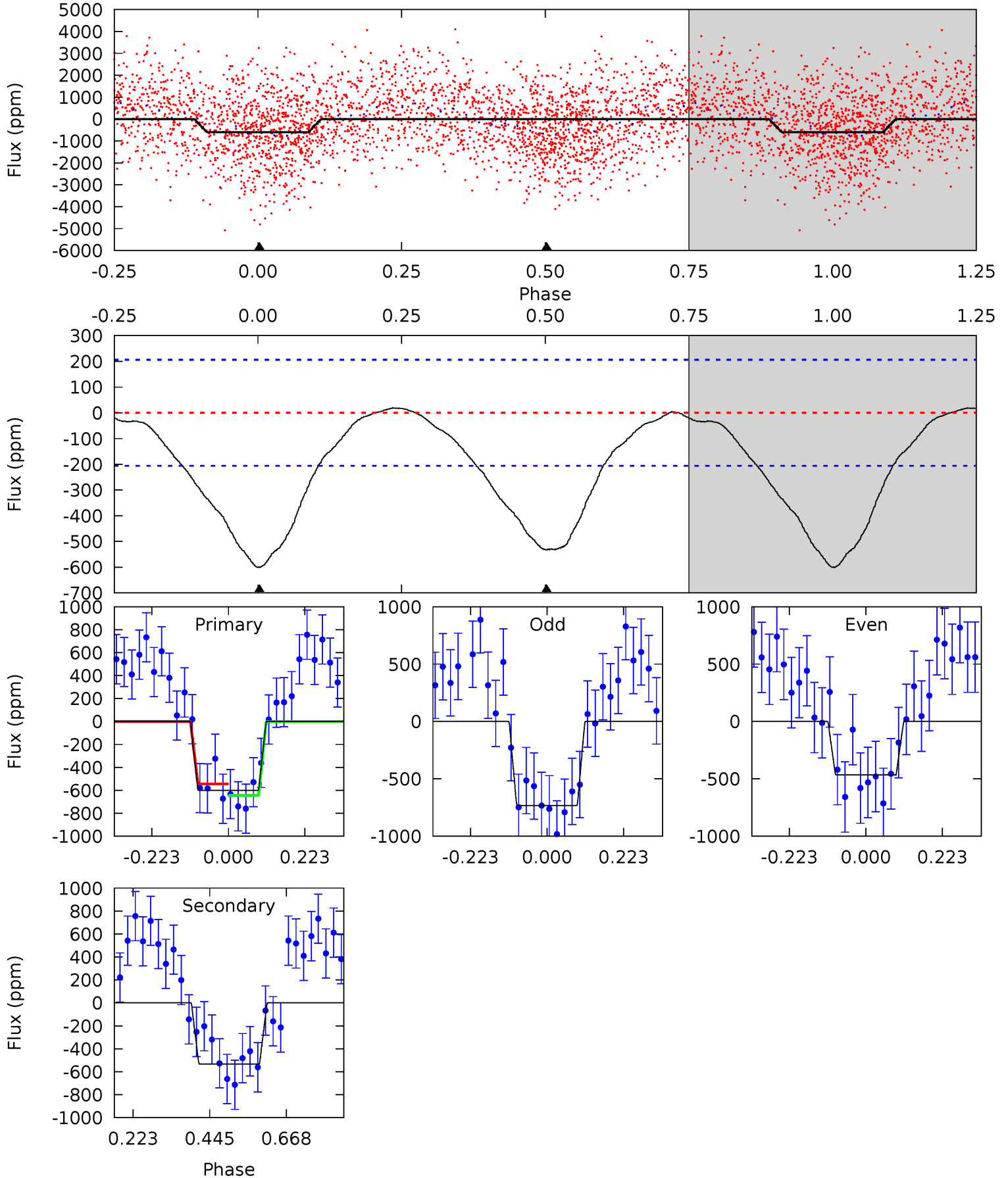
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008458690-03, P = 0.942993 Days, E = 130.750565 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	11.4	0	0	4.39	1.22	0.40	12.8	12.8	11.4	11.4	2.80	1.11	0.03	1.02



Stellar Parameters For KIC 008458690

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7848^{+244}_{-325}	$3.965^{+0.273}_{-0.117}$	$-0.280^{+0.200}_{-0.350}$	$2.256^{+0.486}_{-0.728}$	$1.710^{+0.172}_{-0.319}$	$0.210^{+0.340}_{-0.085}$
	+3%/-4%	+7%/-3%	+71%/-125%	+22%/-32%	+10%/-19%	+162%/-41%
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 008458690-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$16.76^{+17.64}_{-11.80}$	4744^{+347}_{-407}	-2751^{+52429}_{-36216}	$0.245^{+201.249}_{-141.682}$
Alt.	-533 ± 47	$18.27^{+17.39}_{-13.29}$	4745^{+327}_{-417}	3590^{+4171}_{-7345}	$0.446^{+5.306}_{-0.329}$

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 $A_{obs} \gg 1.0$

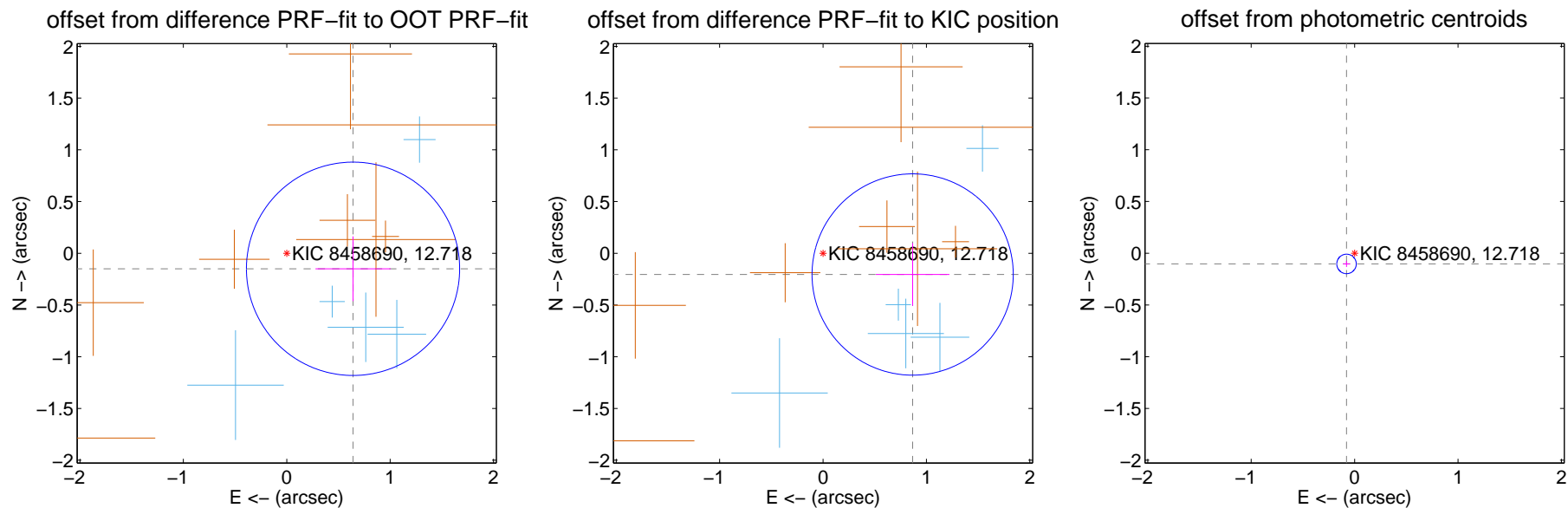
DV Centroid Data

Supplemental centroid analysis for 008458690-03. Kepler magnitude: 12.72. Transit SNR -1.00

There are 6 quarters with good PRF difference image offsets

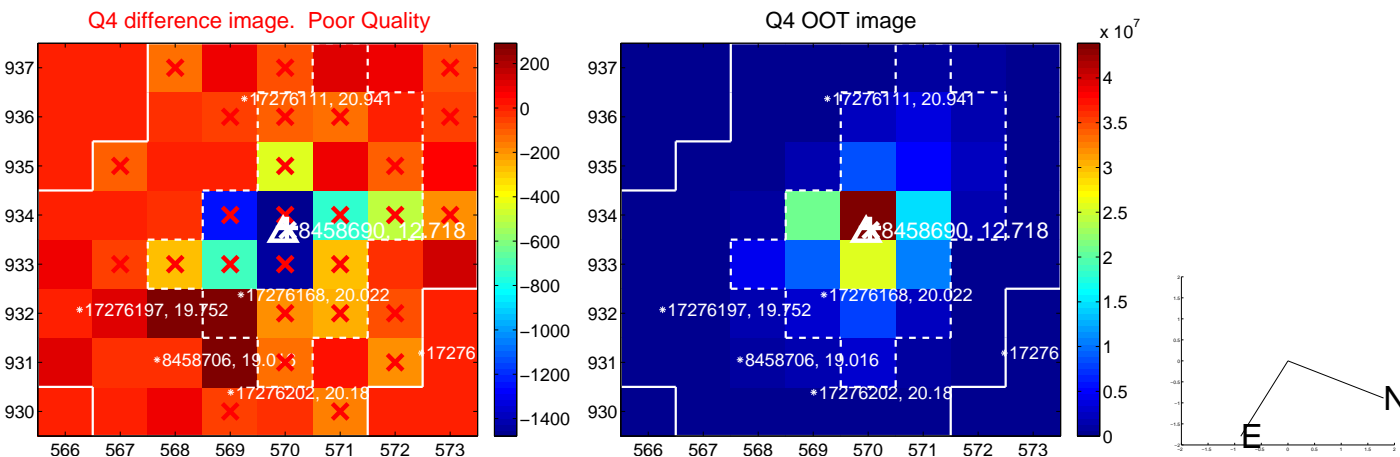
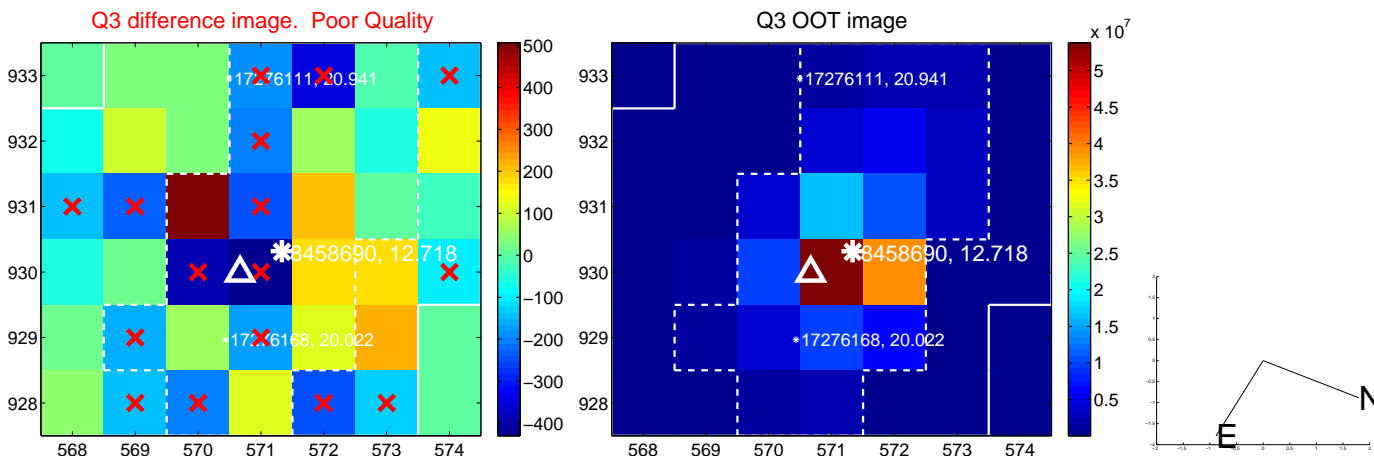
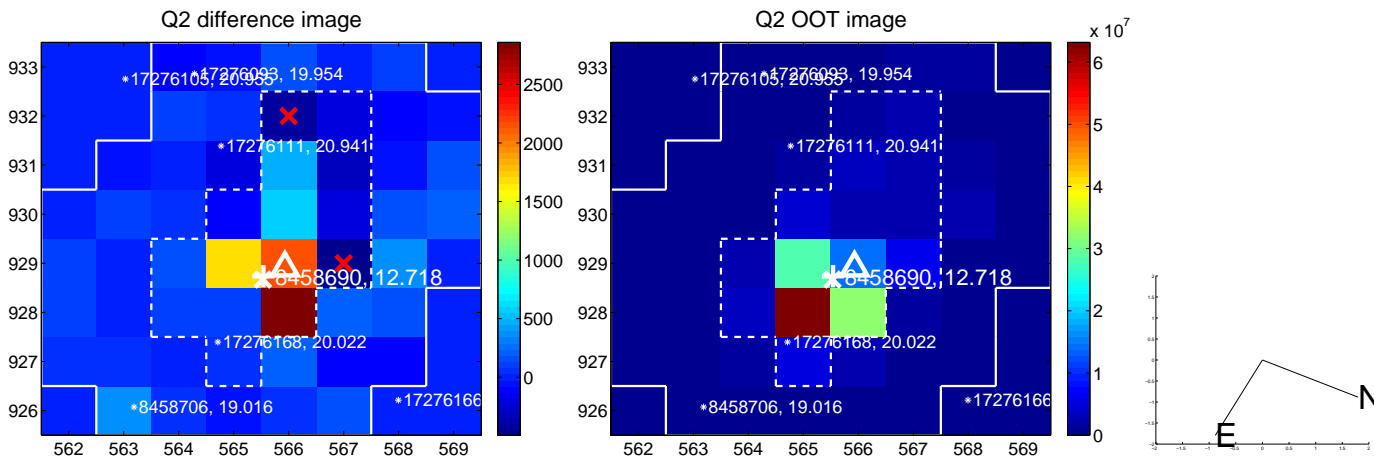
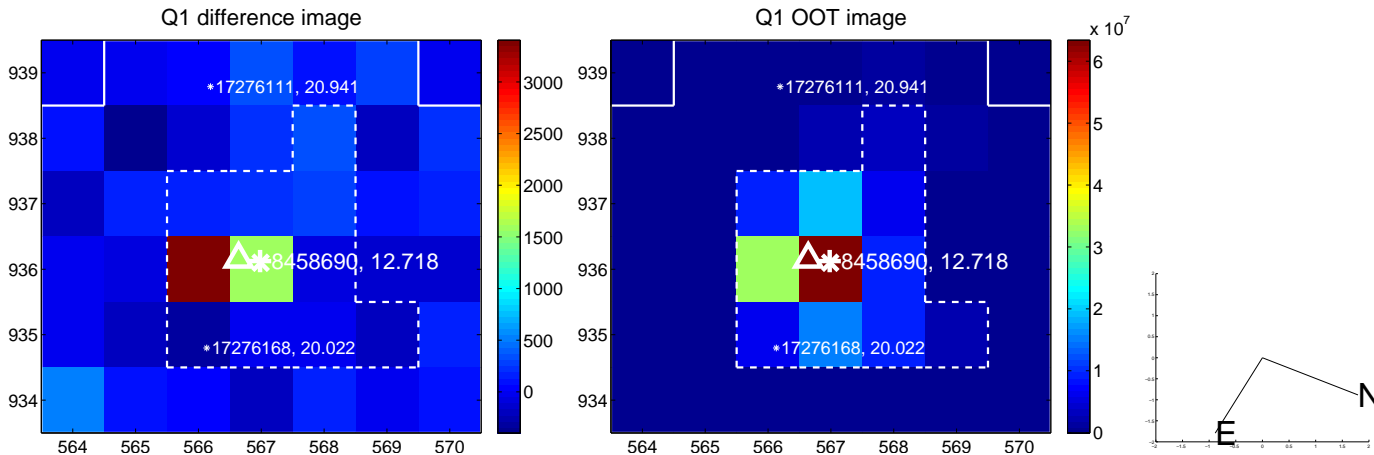
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.658 ± 0.344	1.92	-0.641 ± 0.364	-0.150 ± 0.313
PRF-fit source offset from KIC position	0.891 ± 0.324	2.75	-0.867 ± 0.356	-0.205 ± 0.303
photometric centroid source offset	0.13 ± 0.03	4.13	0.08 ± 0.03	-0.10 ± 0.03

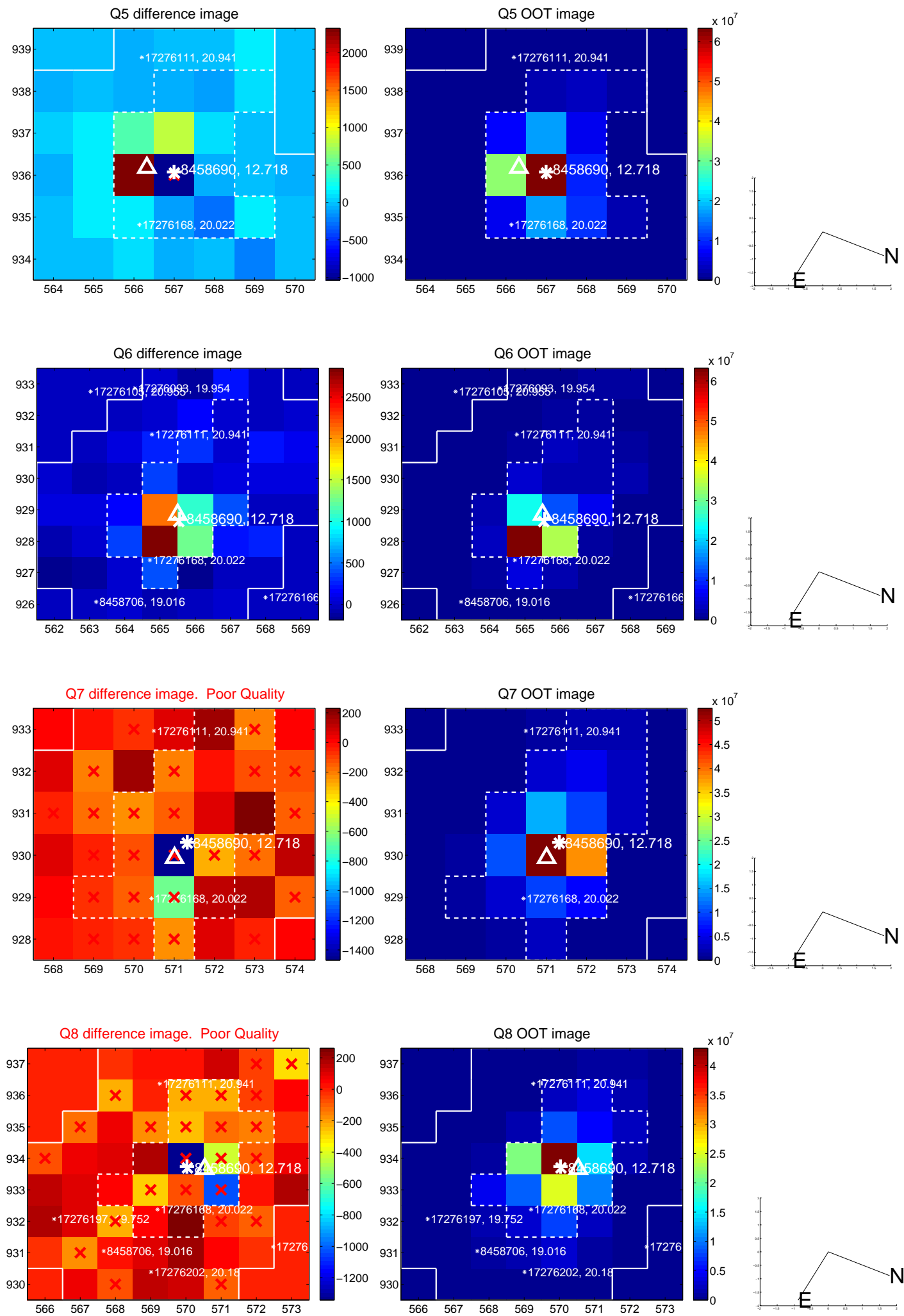


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

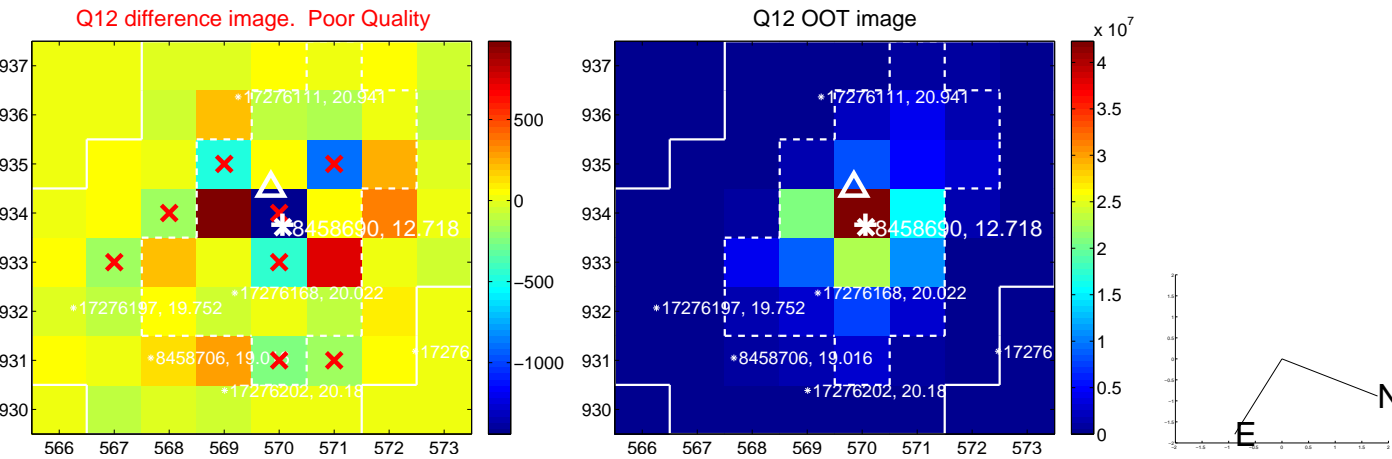
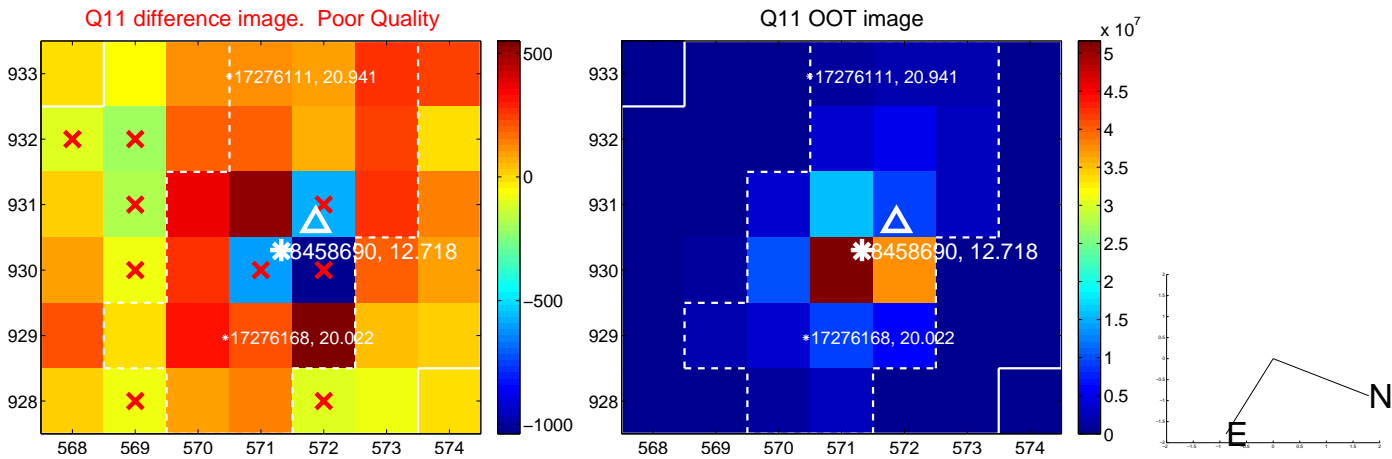
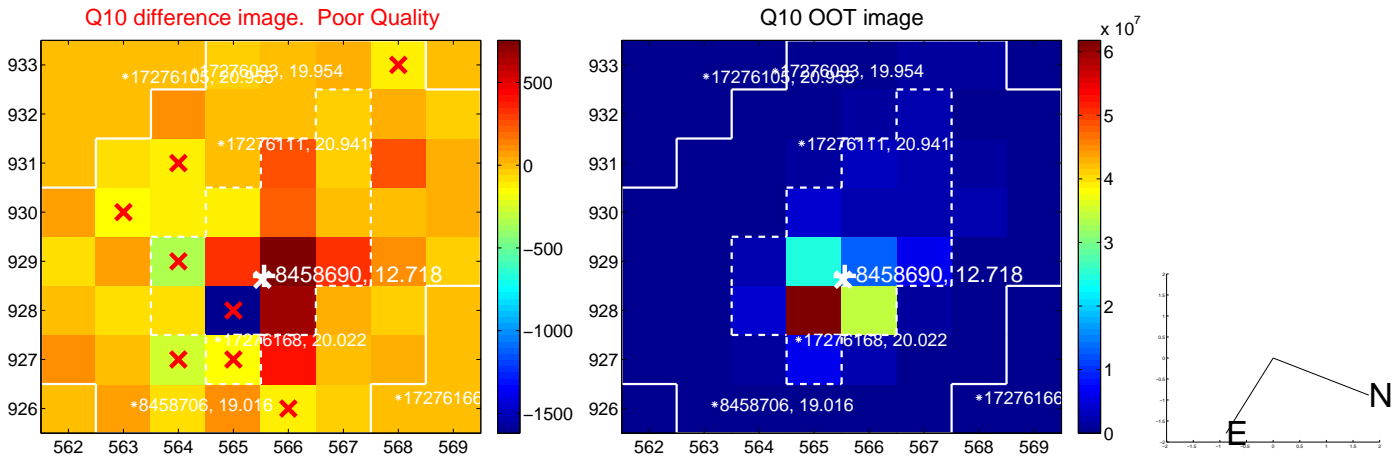
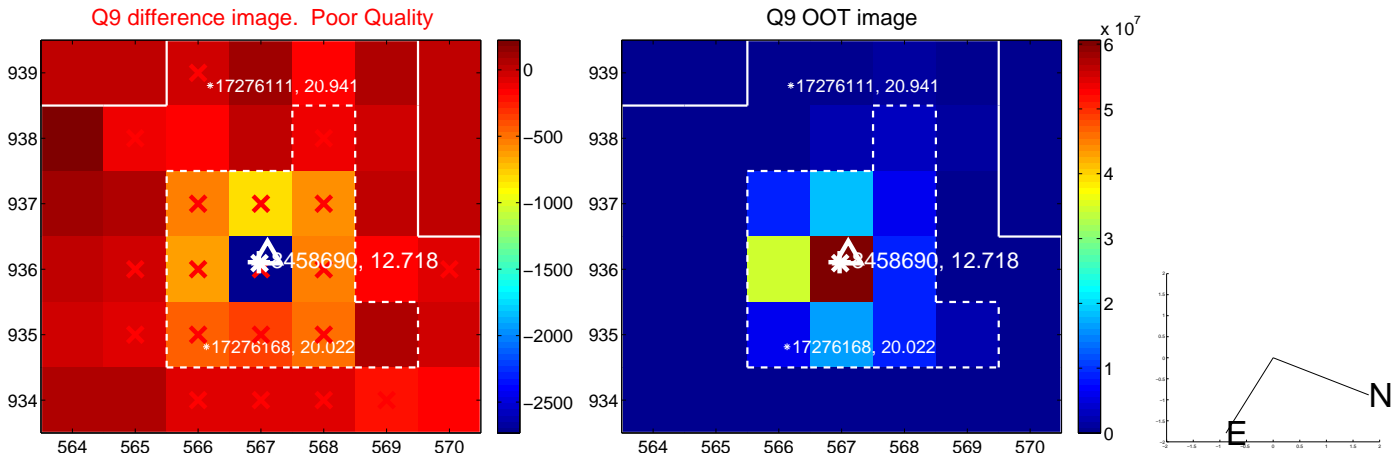
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



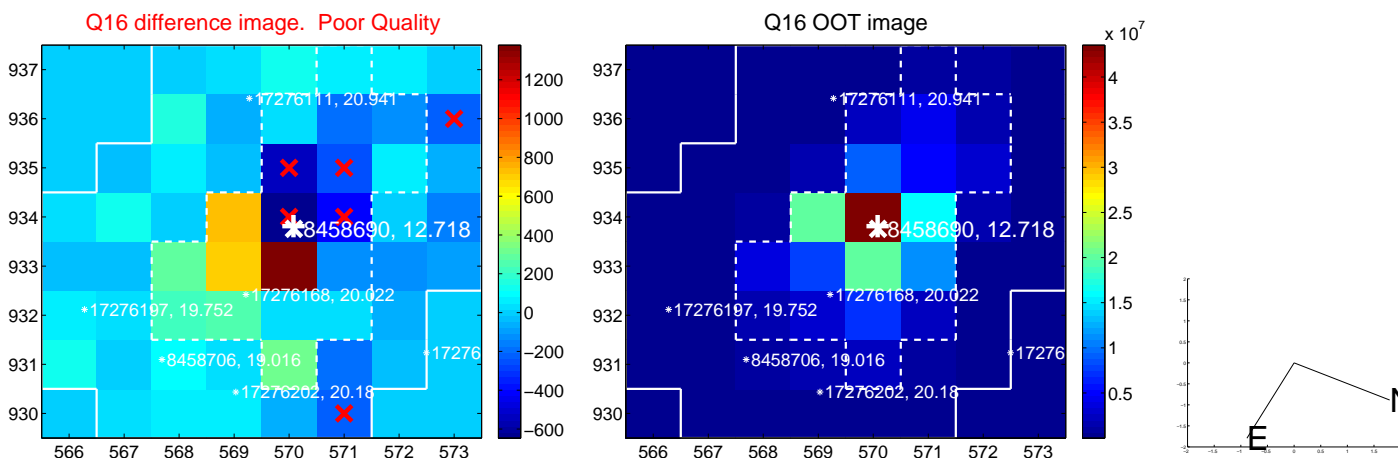
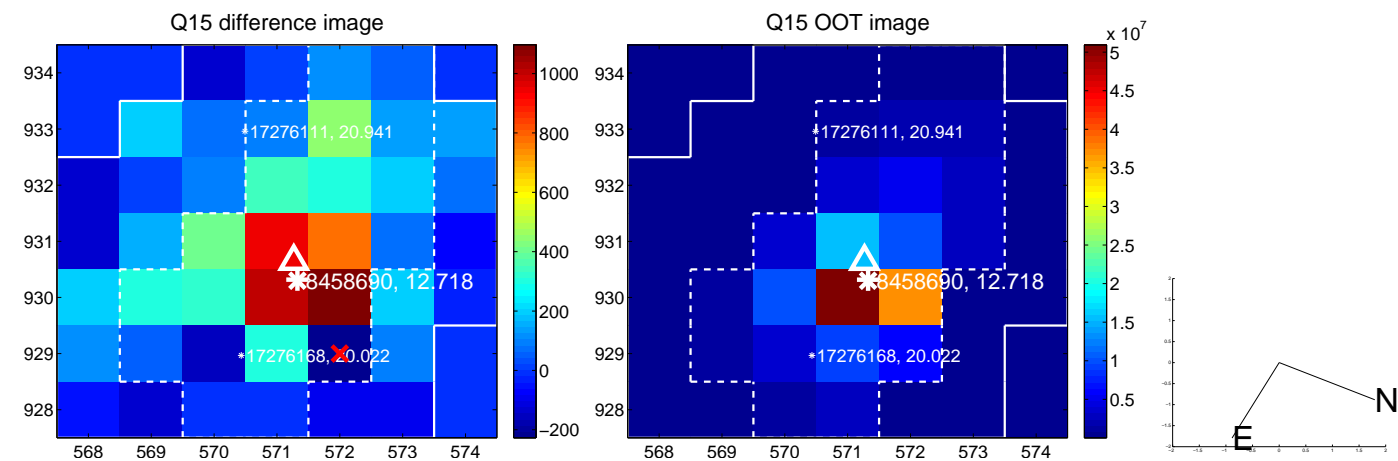
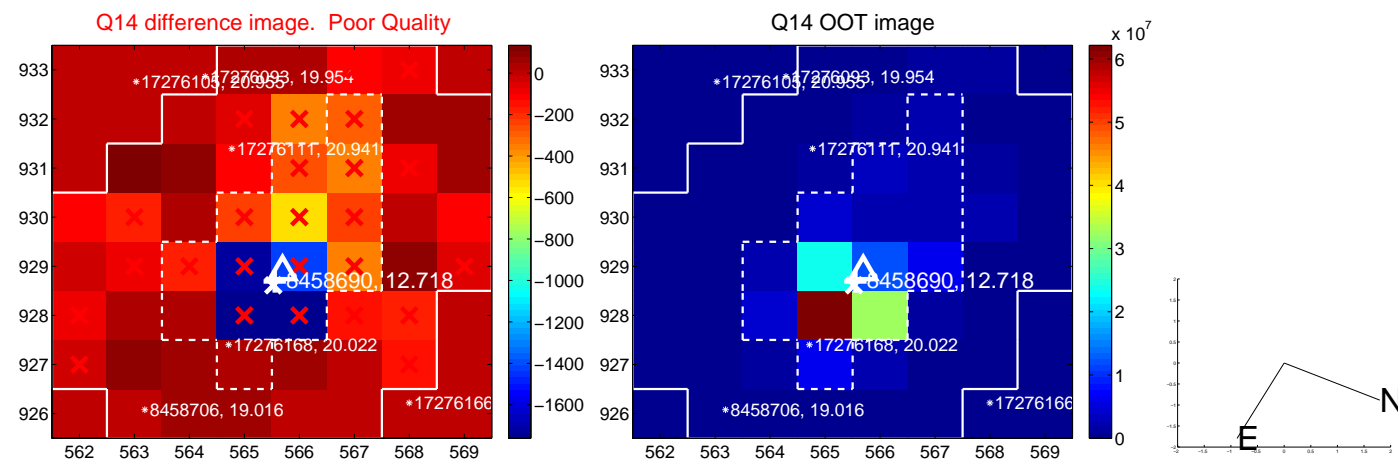
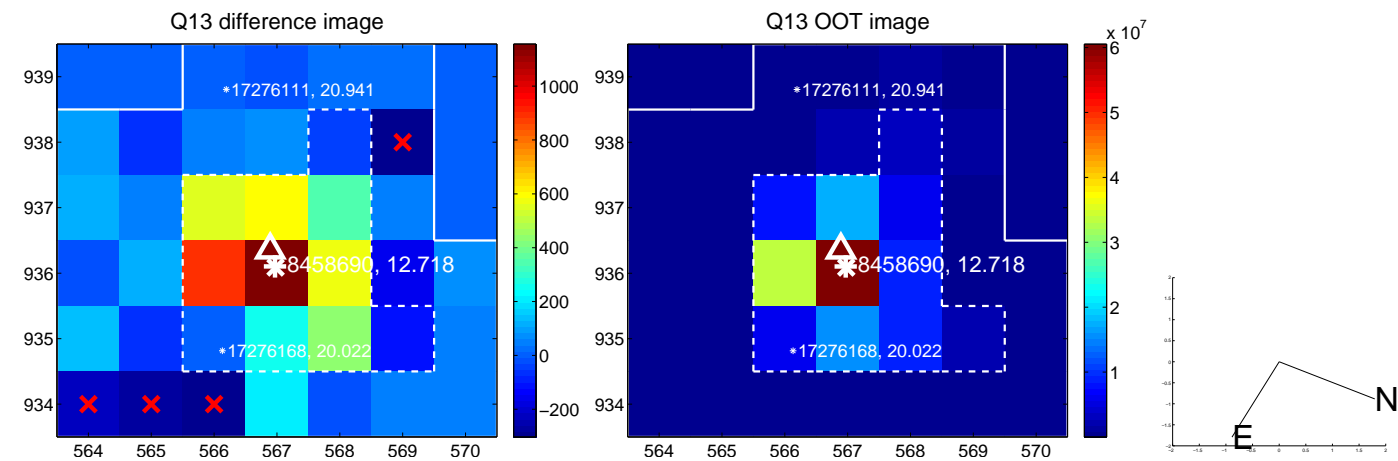
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



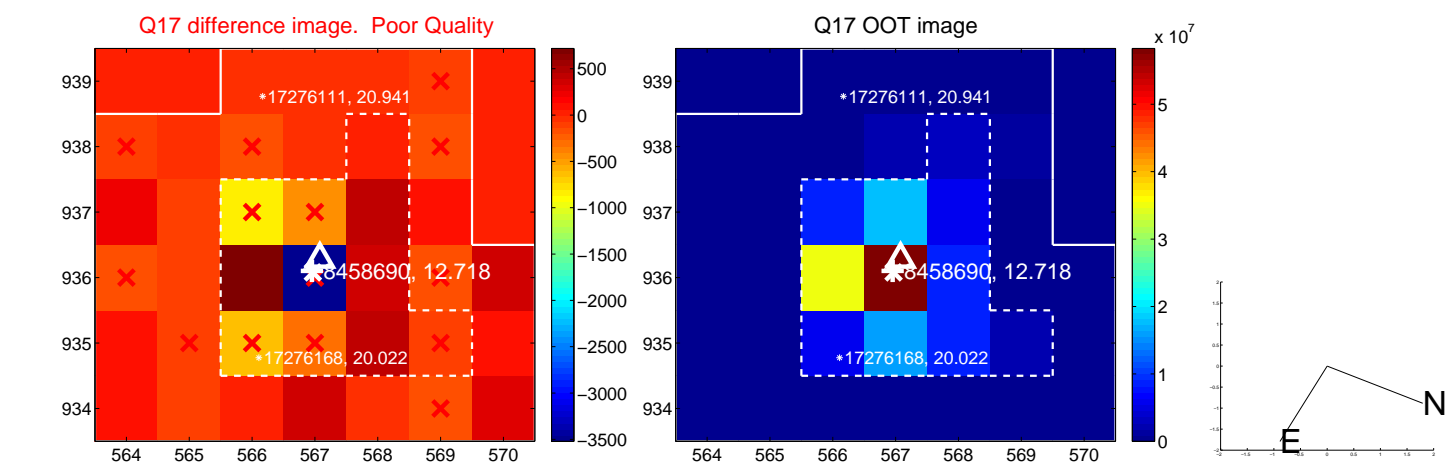
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



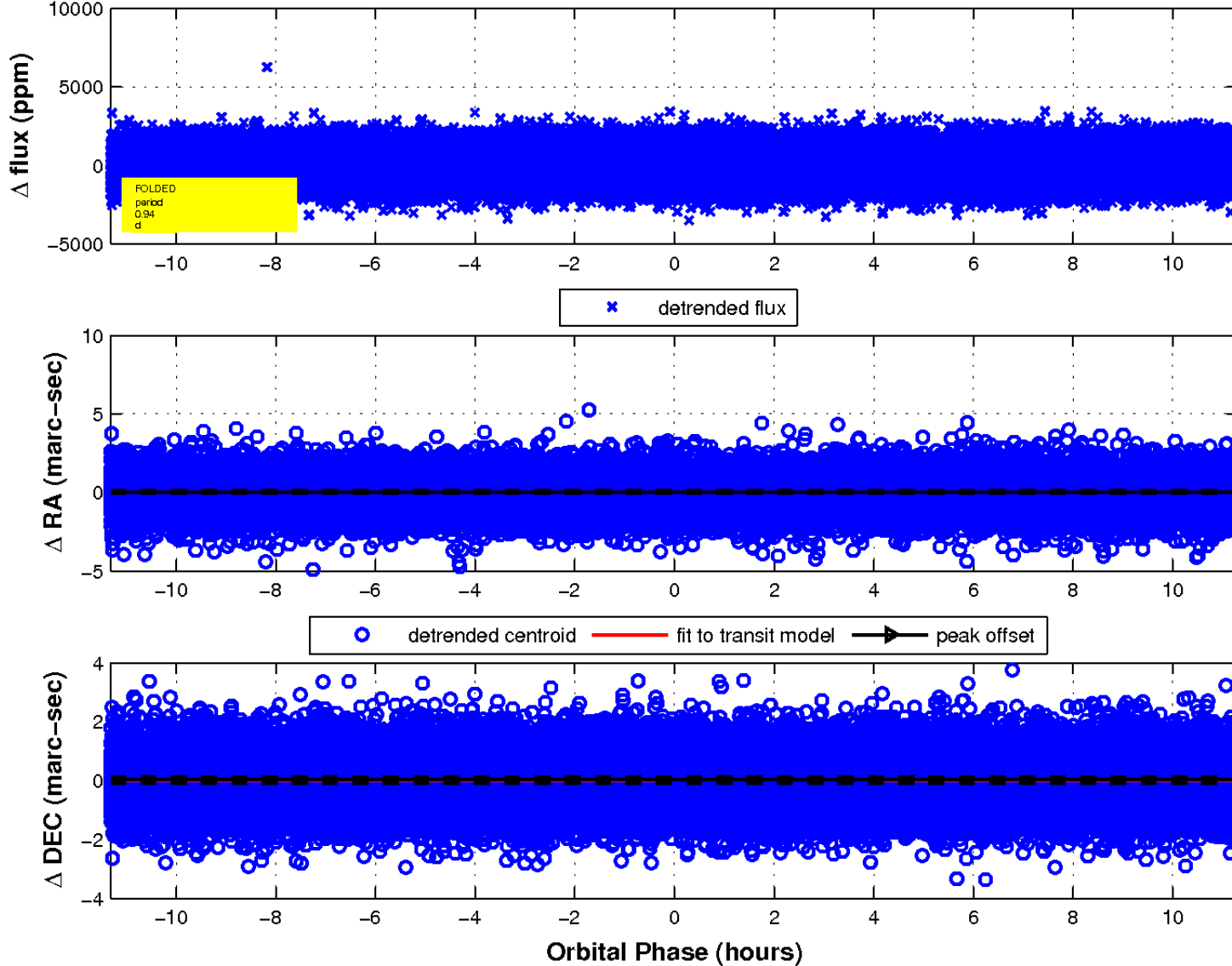
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

