

KIC 003238073

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})
003238073-01	OBS	No	2.202244	132.950262	142.2	10.784	10.5	12.5	1.78	7452	2.57	5905.74
003238073-02	OBS	No	134.707210	254.728914	0.1	4.608	11.7	0.0	1.78	7452	0.05	24.50
003238073-03	OBS	No	0.734075	131.519421	121.3	2.481	10.7	11.6	1.78	7452	2.27	25552.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238073-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003238073-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003238073-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

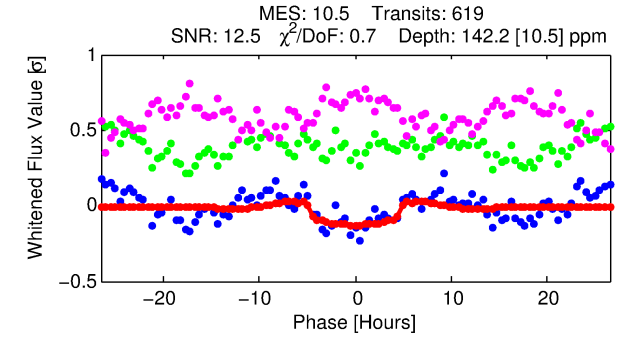
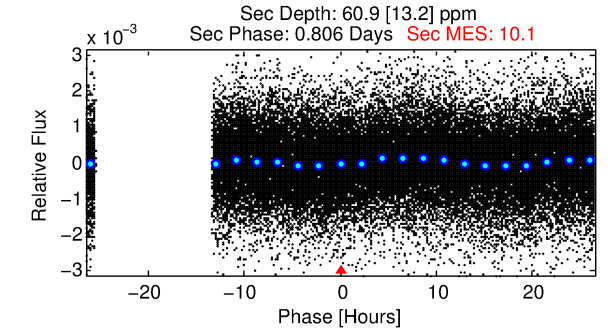
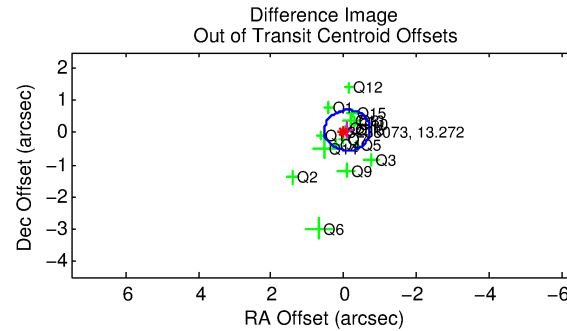
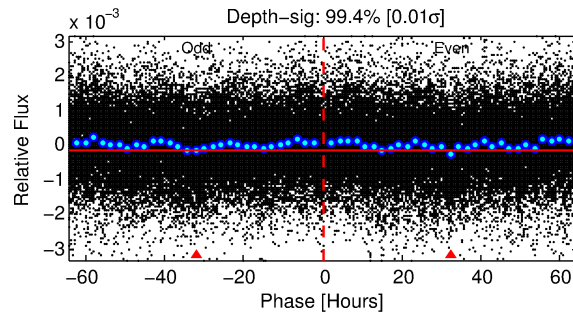
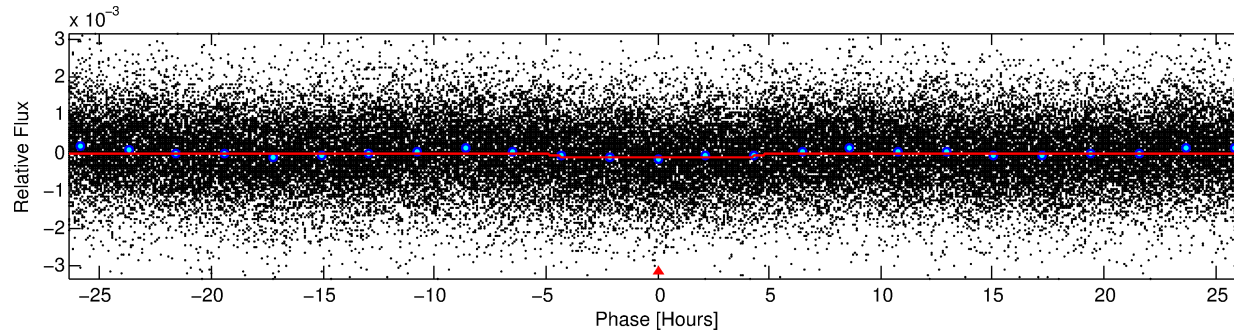
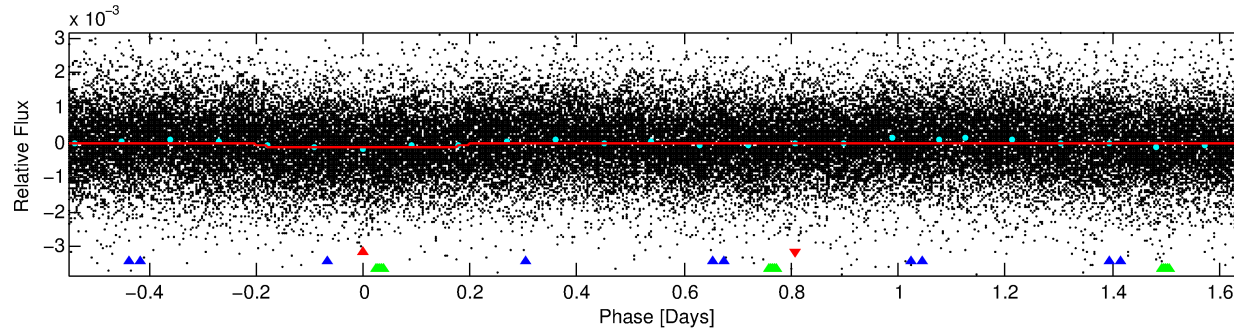
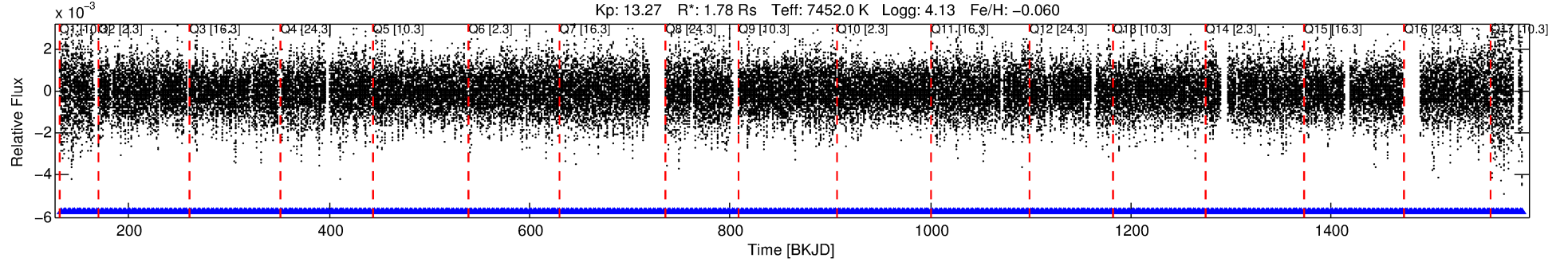
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238073-01

No Significant Match Found

DV One-Page Summary

KIC: 3238073 Candidate: 1 of 3 Period: 2.202 d



DV Fit Results:

Period = 2.20224 [0.00003] d
Epoch = 132.9503 [0.0066] BKJD
Rp/R* = 0.0132 [0.0005]
a/R* = 1.12 [0.03]
b = 0.95 [0.01]
Seff = 5905.74 [2298.44]
Teq = 2235 [217] K
Rp = 2.57 [0.80] Re
a = 0.0385 [0.0096] AU
Ag = 7.53 [3.17] [2.06 σ]
Teff = 5725 [408] K [7.55 σ]

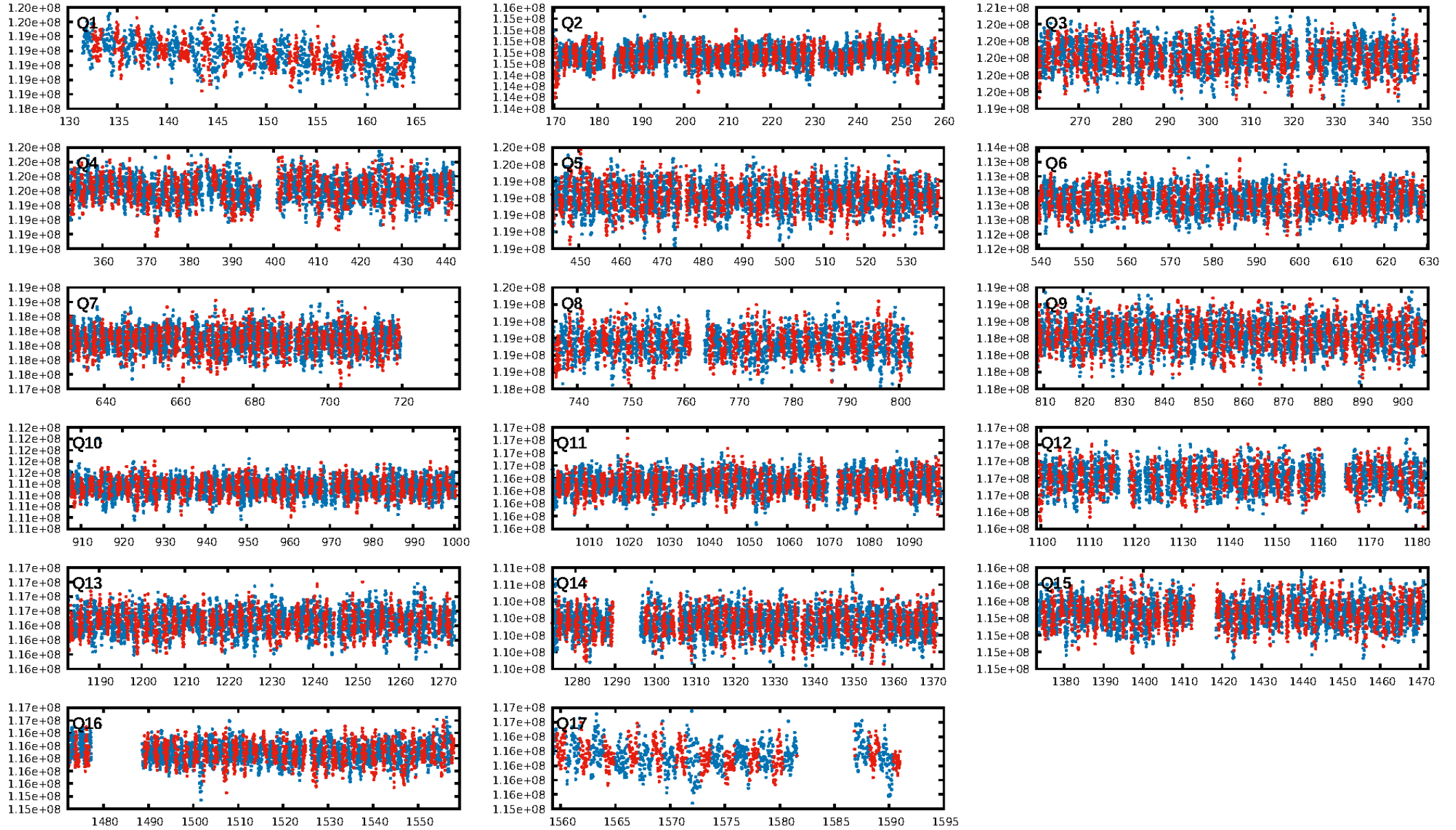
DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.18 σ]
LongPeriod-sig: 100.0% [271.18 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.61e-30
RollingBand-fgt: 1.00 [592/592]
GhostDiagnostic-chr: 1.465
Centroid-sig: 2.5%
Centroid-so: 0.143 arcsec [0.72 σ]
OotOffset-rm: 0.122 arcsec [0.58 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.238 arcsec [1.16 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

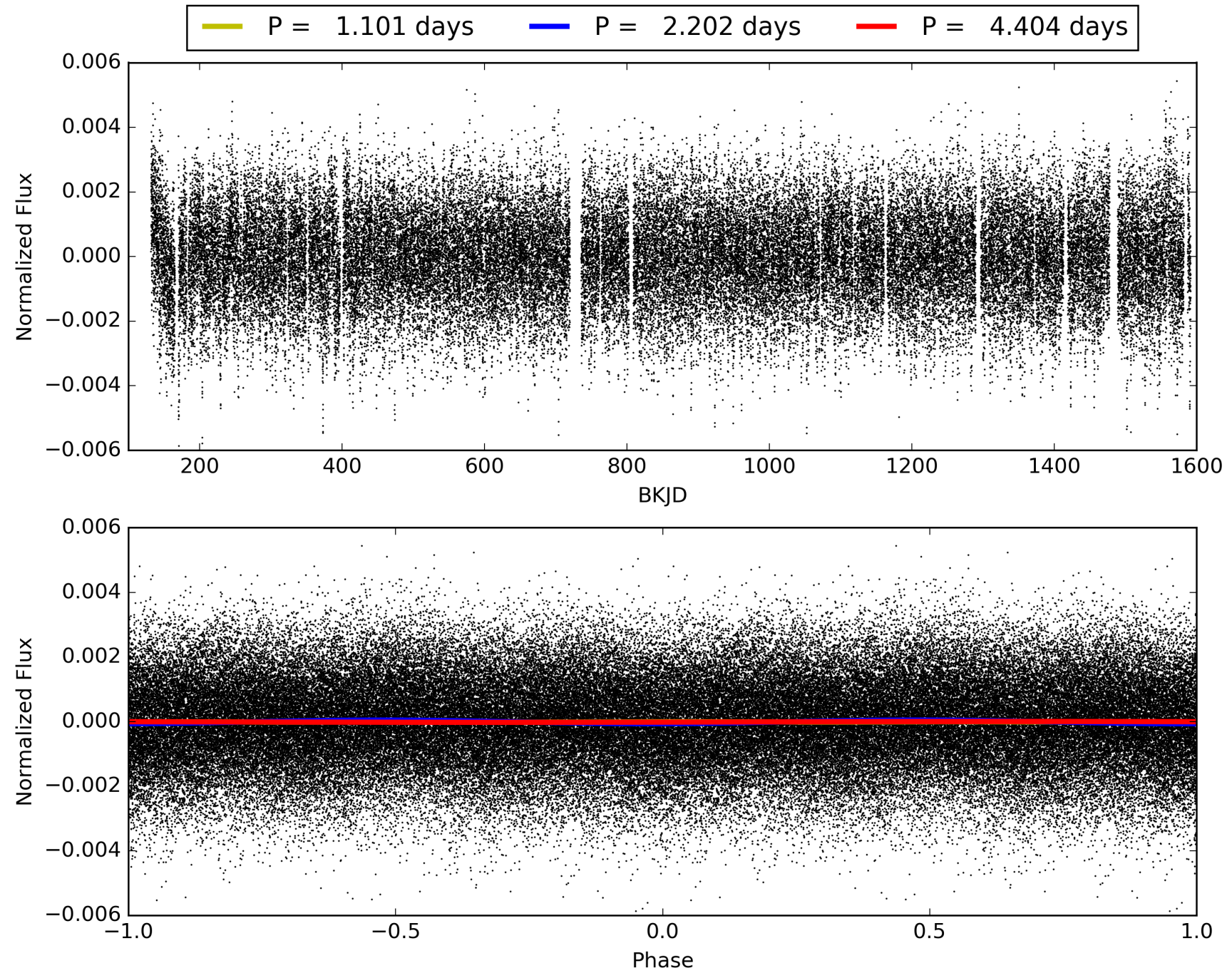
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:28:30 Z

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

TCE 003238073-01, PDC Light Curves

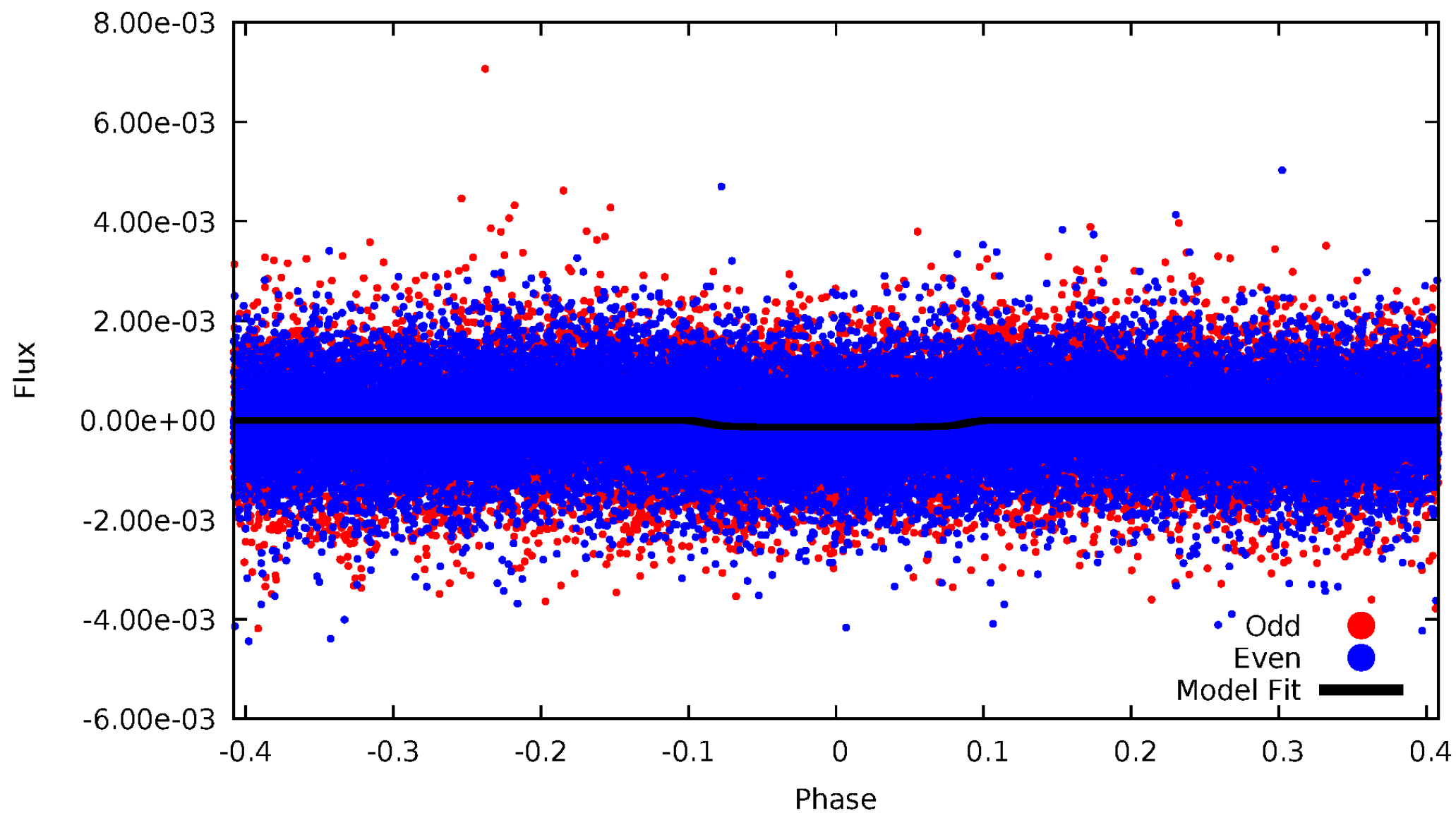


TCE 003238073-01



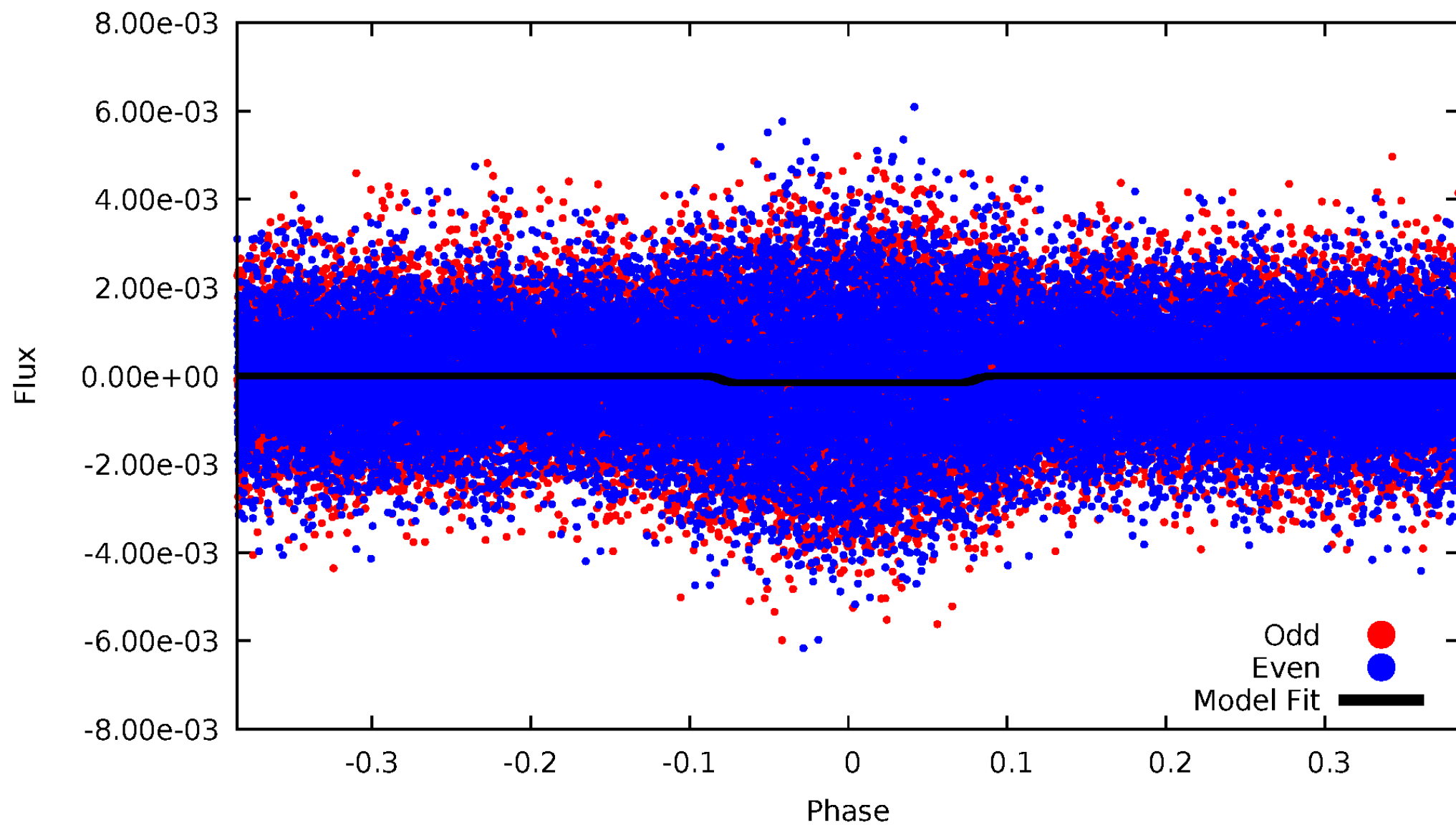
DV Odd/Even

TCE 003238073-01

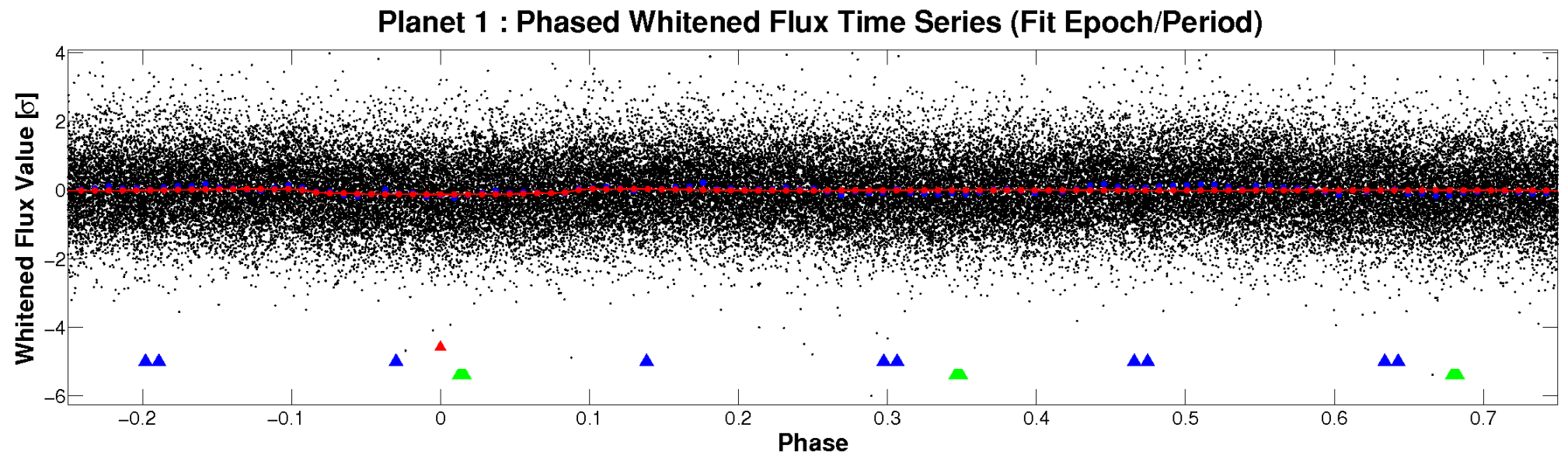
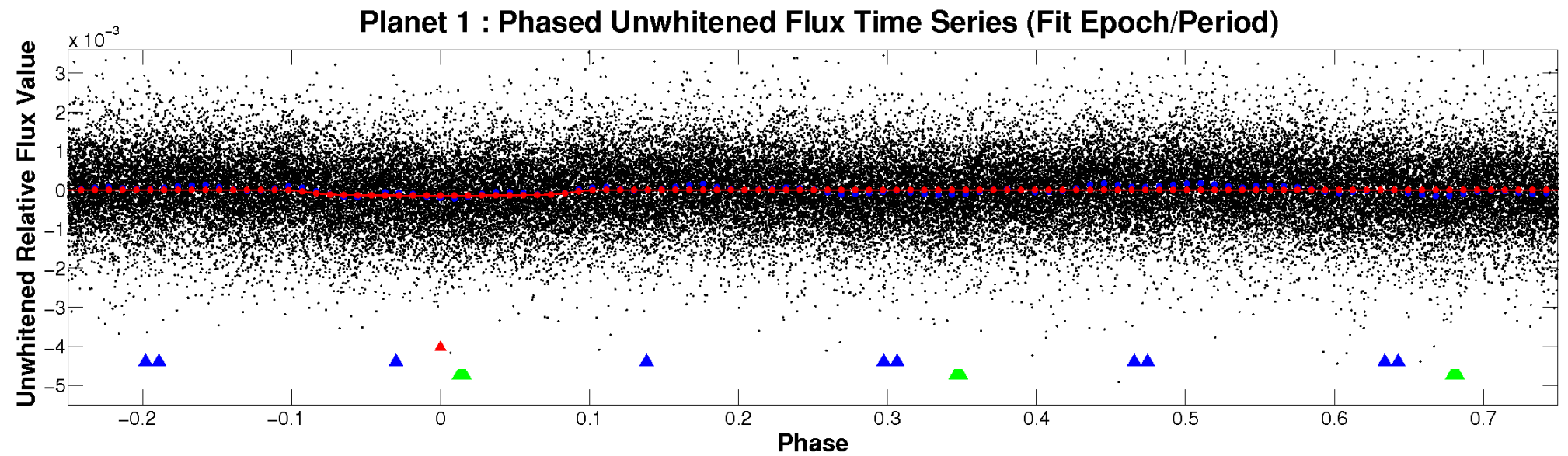


ALT Odd/Even

TCE 003238073-01

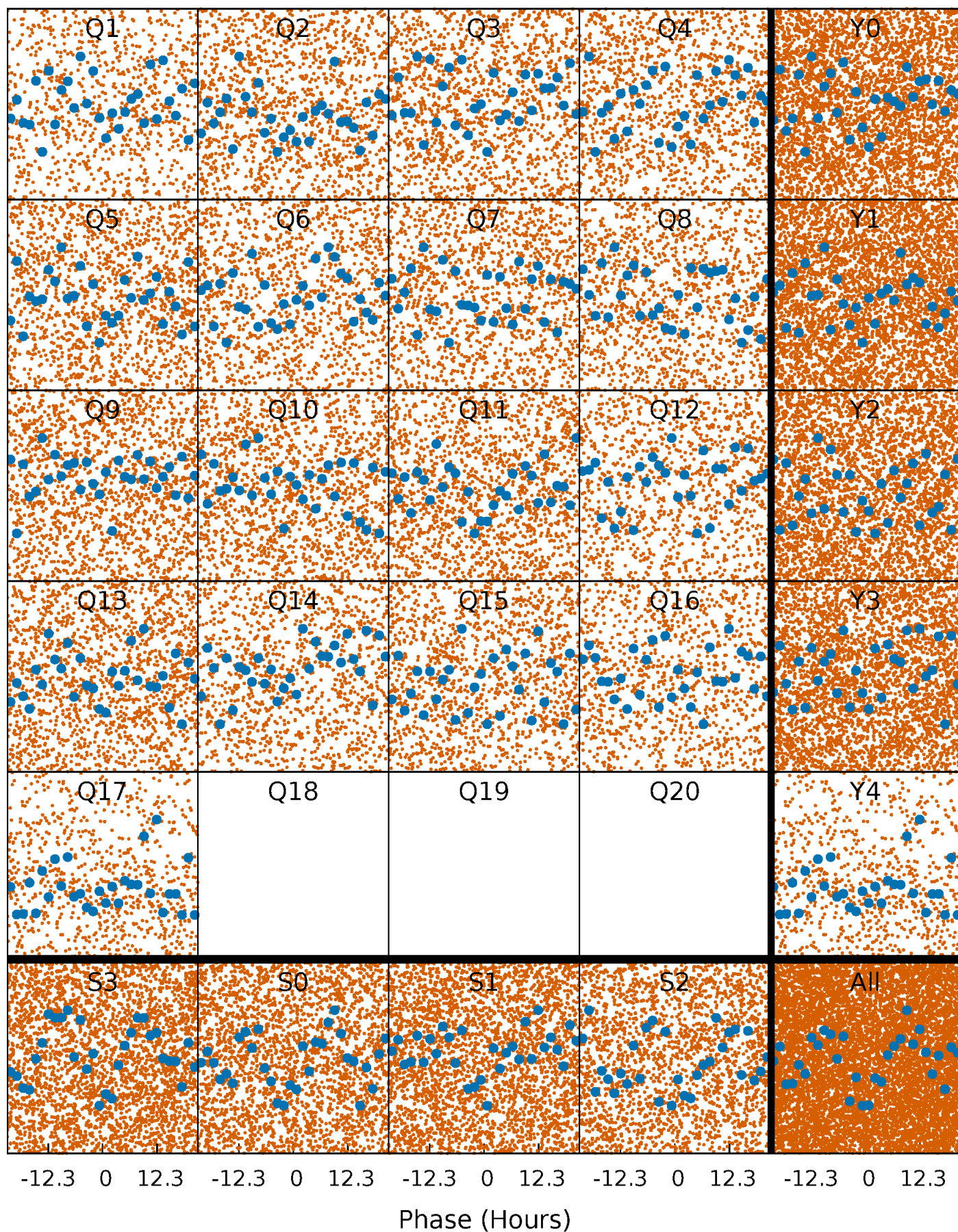


Non-Whitened Vs. Whitened Light Curve



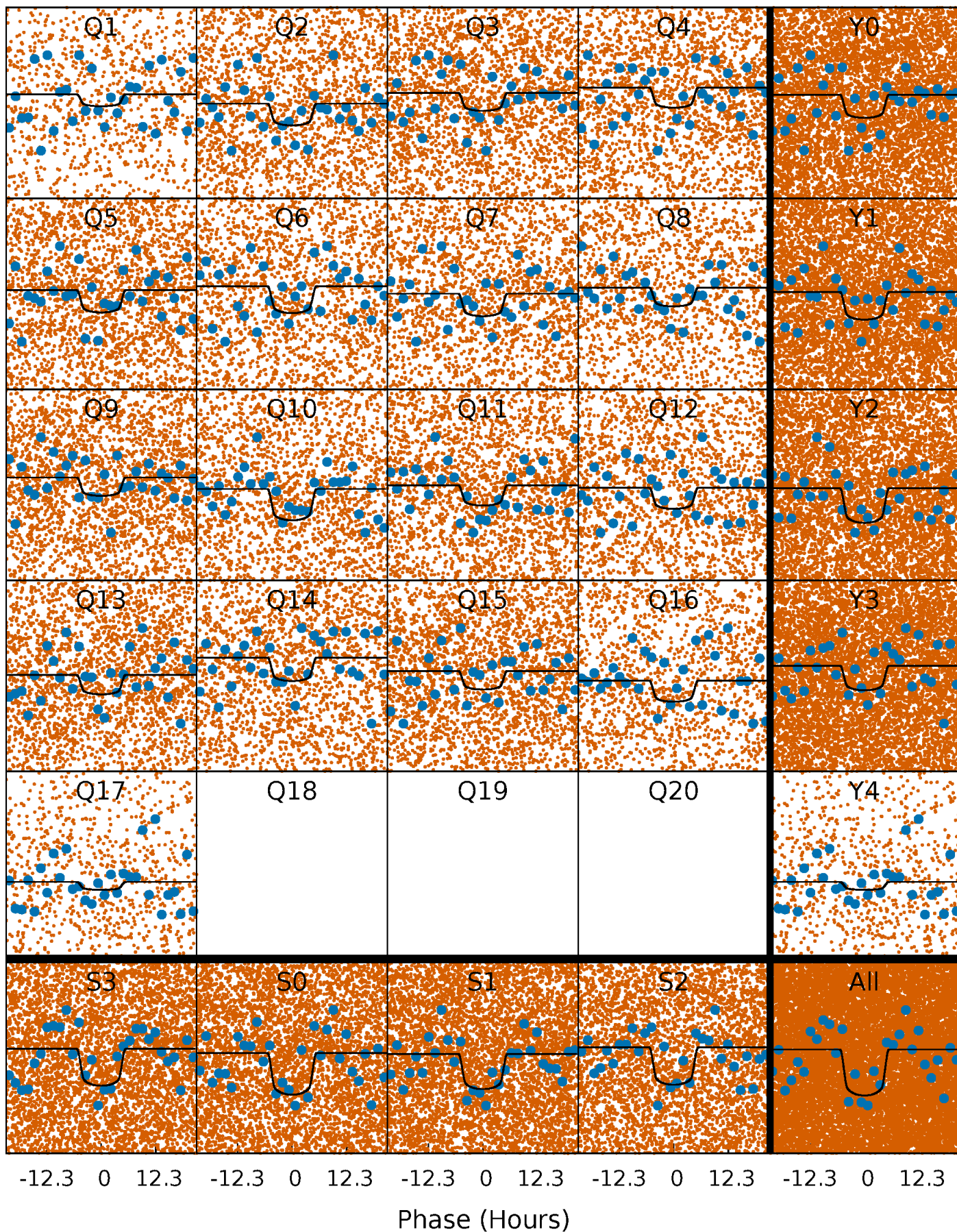
PDC Quarter-Phased Transit Curves

TCE 003238073-01 P= 2.202244 Days $T_0=132.950262$ (BKJD)



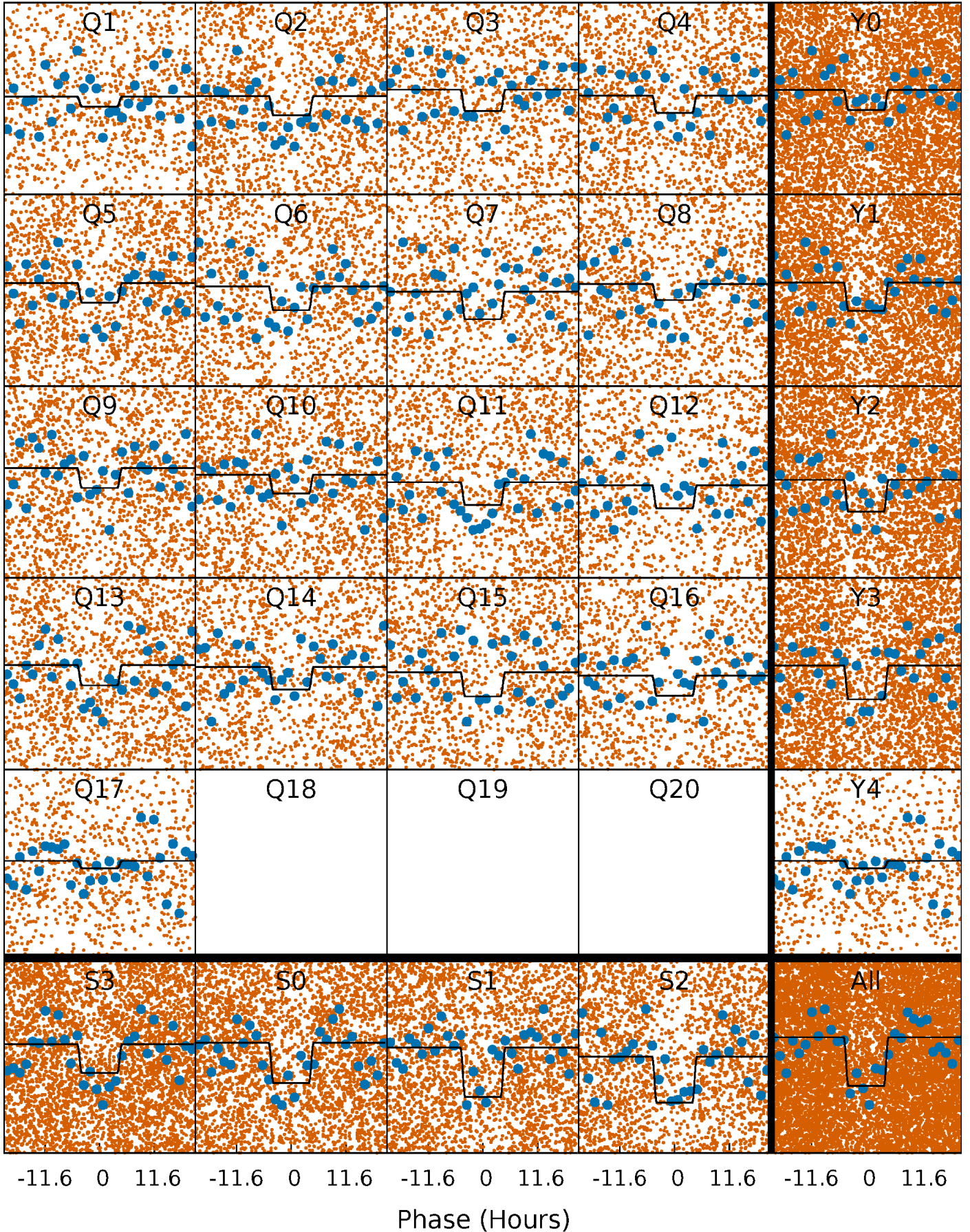
DV Quarter-Phased Transit Curves

TCE 003238073-01 P= 2.202244 Days $T_0=132.950262$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

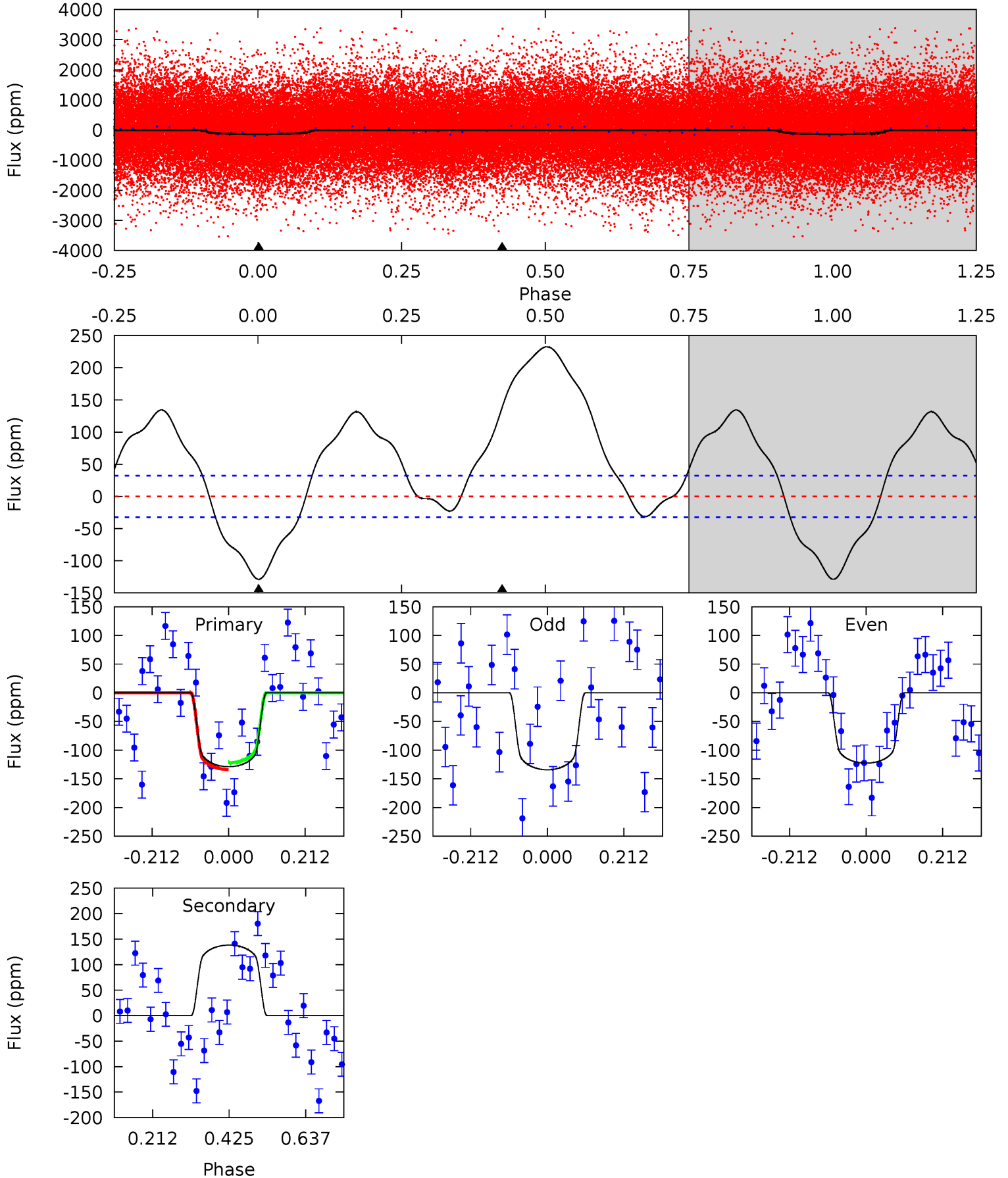
TCE 003238073-01 P= 2.202302 Days $T_0=132.927244$ (BKJD)



DV Model-Shift Uniqueness Test

003238073-01, P = 2.202244 Days, E = 130.748018 Days

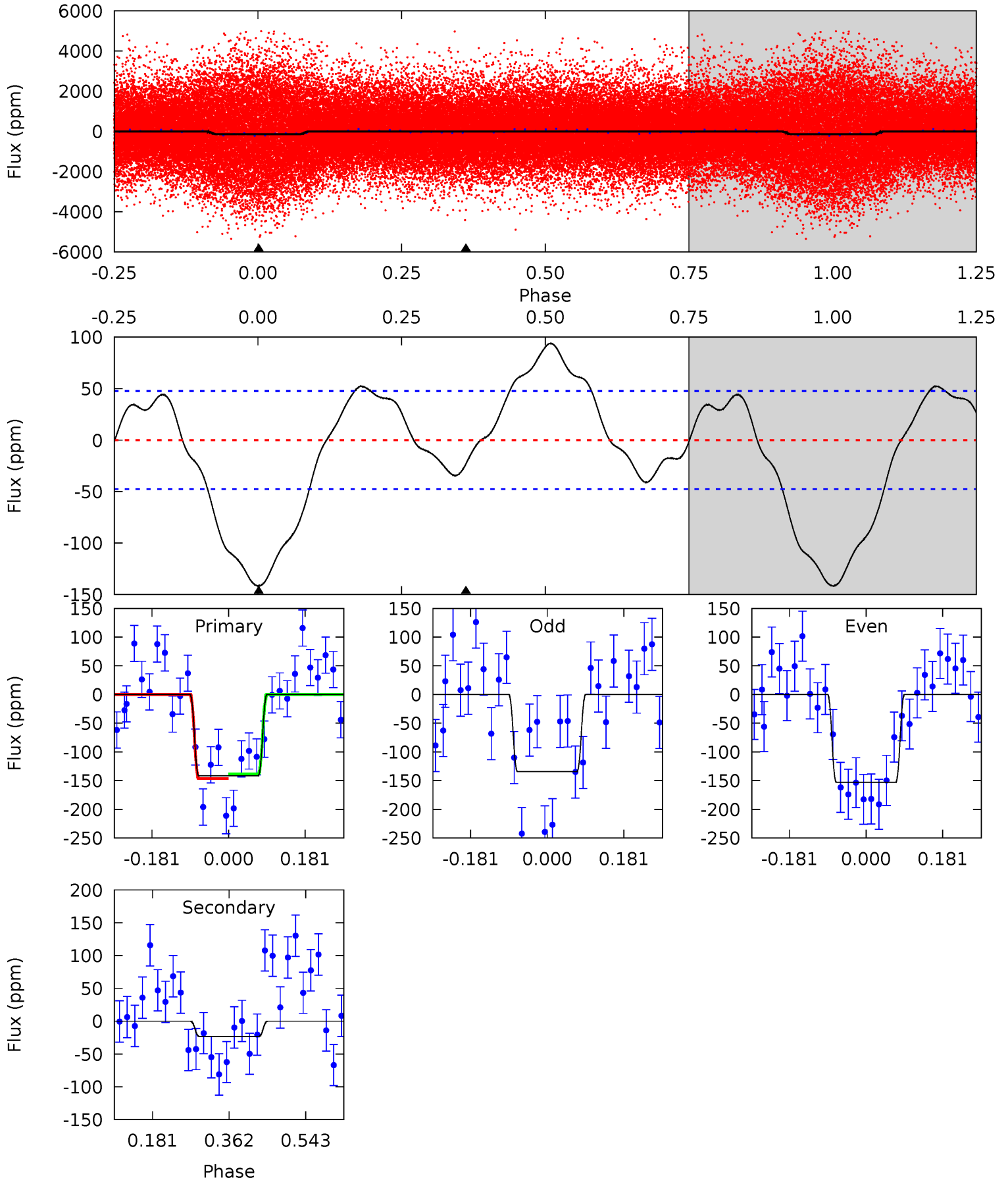
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	-18.9	0	0	4.40	1.25	5.62	17.6	17.6	-18.9	-18.9	0.80	1.12	0.64	0.83



Alt Model-Shift Uniqueness Test

003238073-01, P = 2.202302 Days, E = 130.724942 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	2.17	0	0	4.44	1.34	2.95	13.2	13.2	2.17	2.17	0.87	1.68	0.40	0.38



Stellar Parameters For KIC 003238073

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7452^{+233}_{-311}	$4.133^{+0.124}_{-0.186}$	$-0.060^{+0.200}_{-0.350}$	$1.781^{+0.548}_{-0.365}$	$1.570^{+0.213}_{-0.237}$	$0.392^{+0.275}_{-0.185}$
	+3%/-4%	+3%/-5%	+333%/-583%	+31%/-20%	+14%/-15%	+70%/-47%
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 003238073-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	138 ± 7	$2.59^{+0.44}_{-0.29}$	3141^{+236}_{-209}	-6981^{+312}_{-318}	$-16.474^{+4.413}_{-4.431}$
Alt.	-23 ± 11	$2.41^{+0.40}_{-0.30}$	3150^{+243}_{-205}	4636^{+459}_{-584}	$3.170^{+1.823}_{-1.526}$

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 $A_{obs} \gg 1.0$

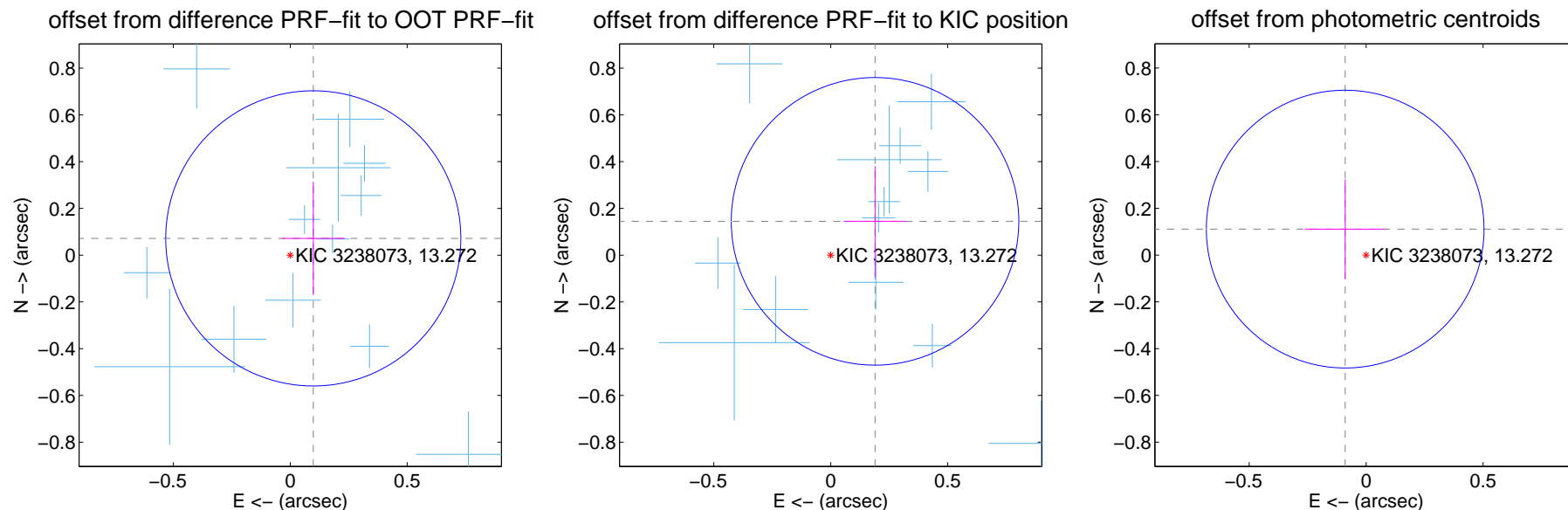
DV Centroid Data

Supplemental centroid analysis for 003238073-01. Kepler magnitude: 13.27. Transit SNR 12.46

There are 16 quarters with good PRF difference image offsets

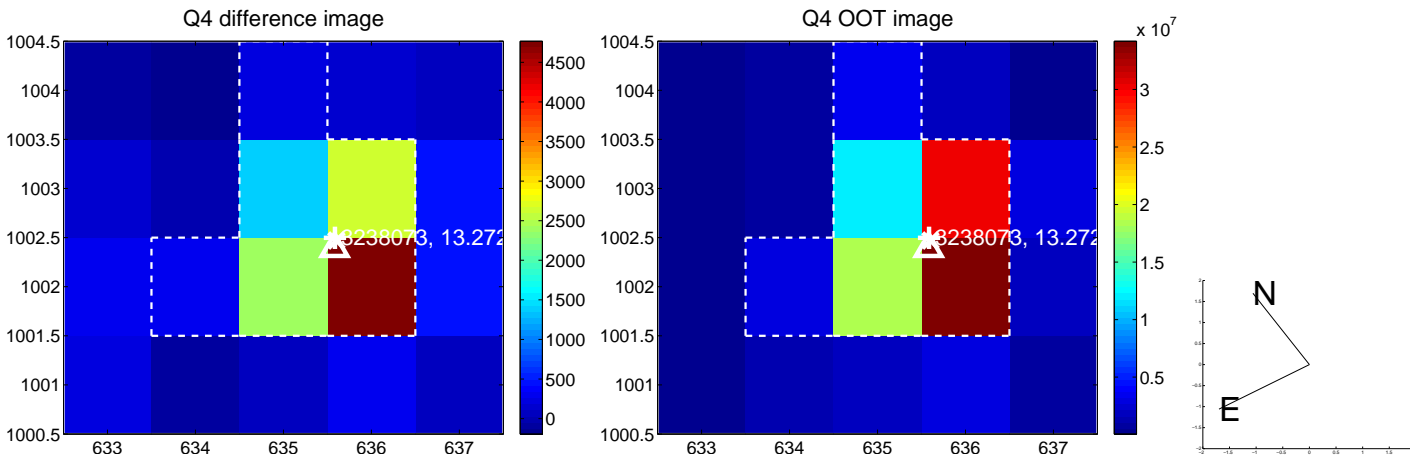
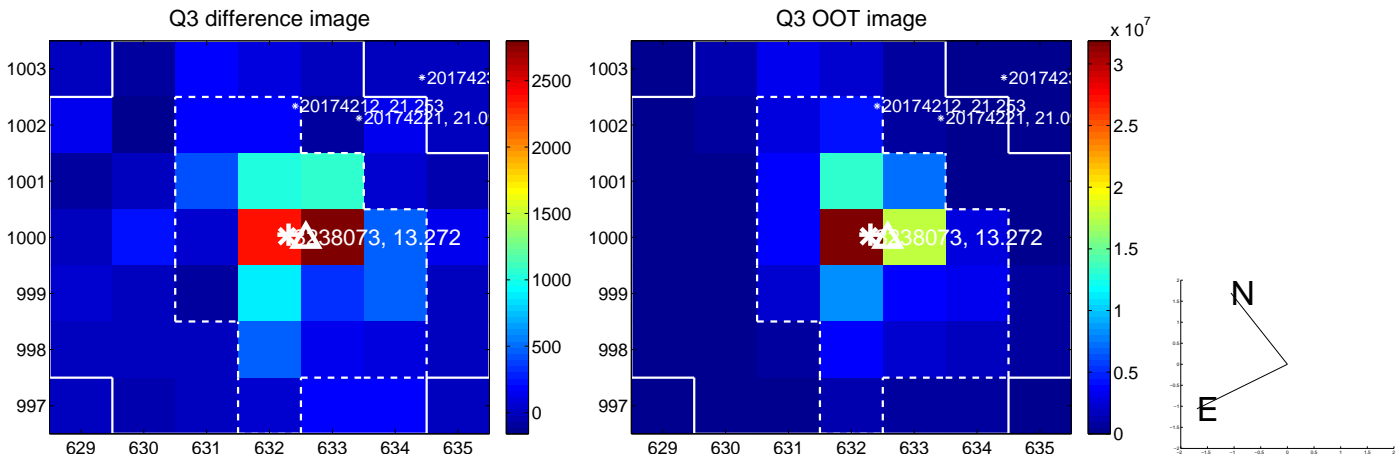
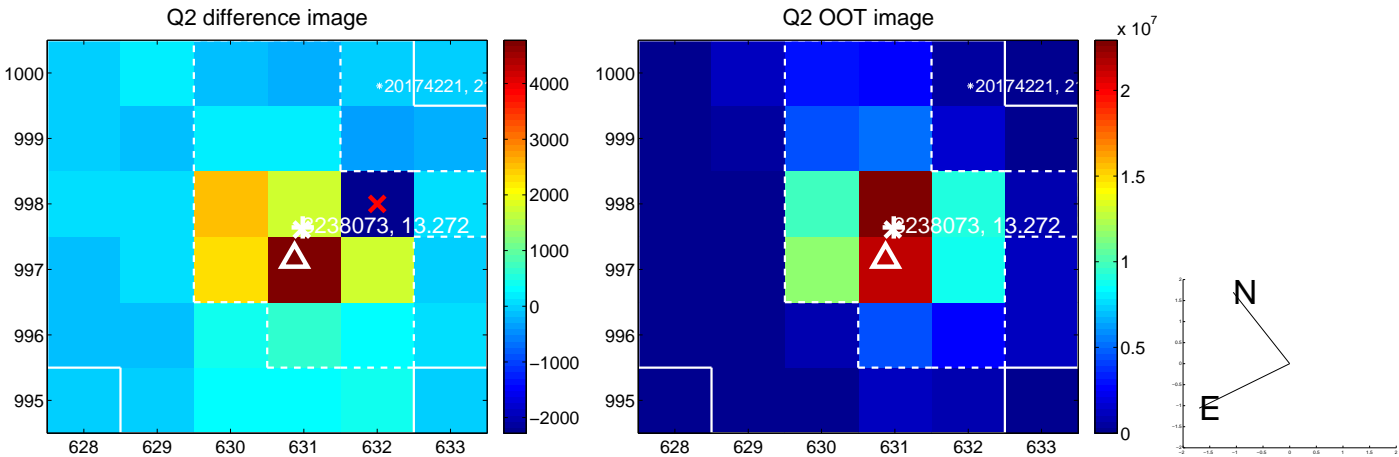
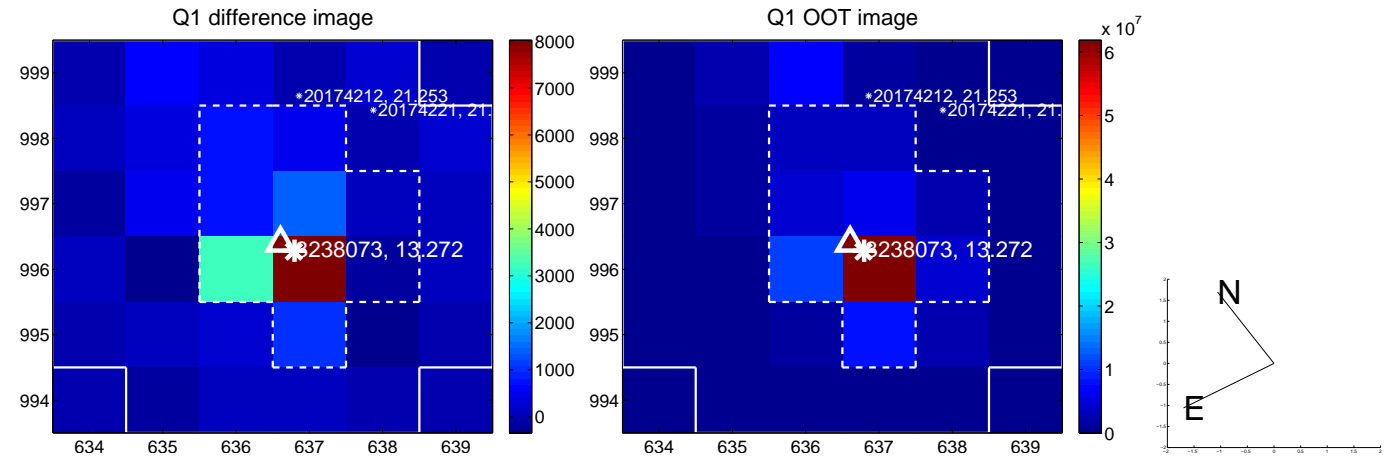
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.122 ± 0.210	0.58	-0.098 ± 0.135	0.072 ± 0.242
PRF-fit source offset from KIC position	0.238 ± 0.205	1.16	-0.190 ± 0.134	0.145 ± 0.236
photometric centroid source offset	0.14 ± 0.20	0.72	0.09 ± 0.17	0.11 ± 0.21

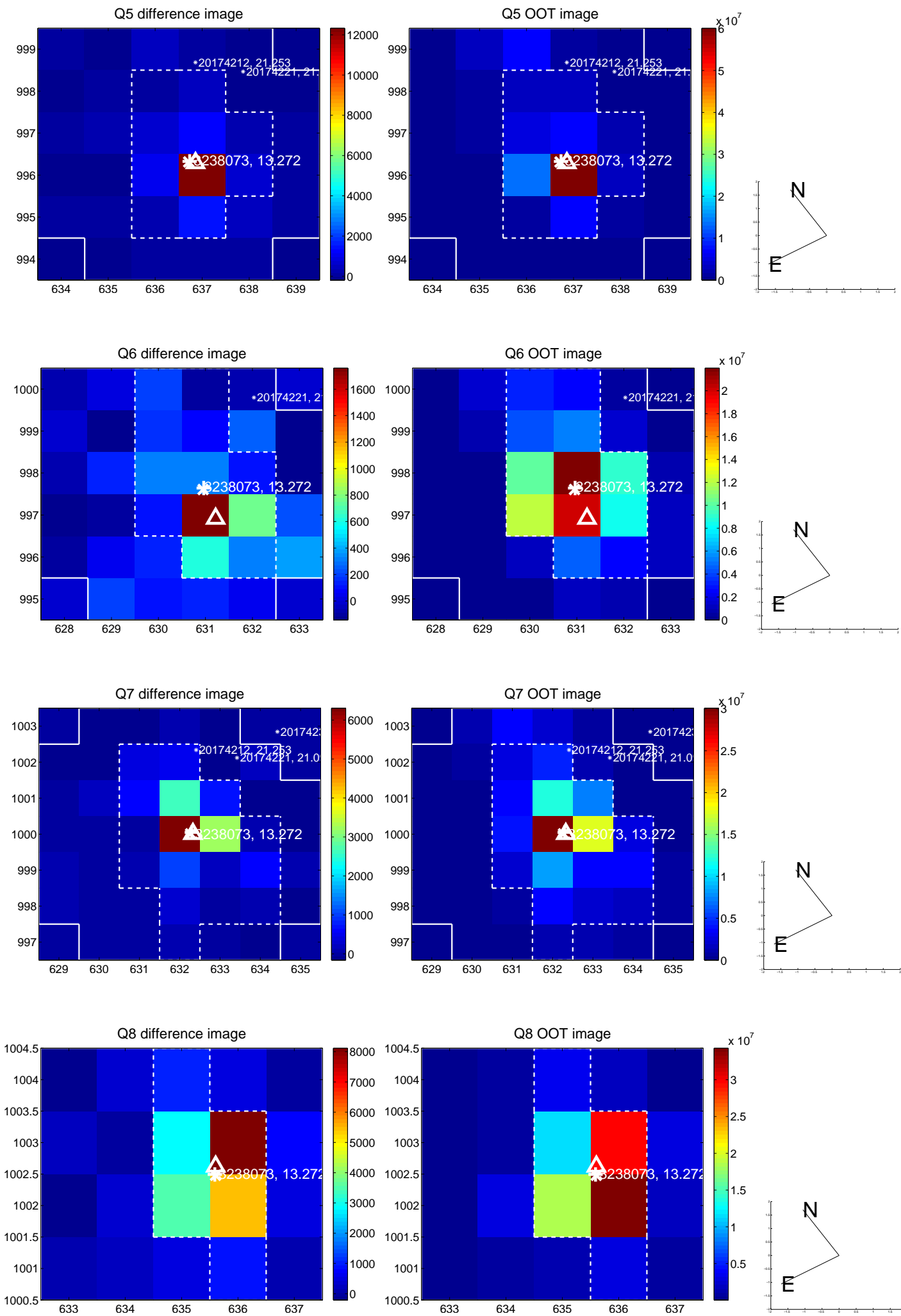


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

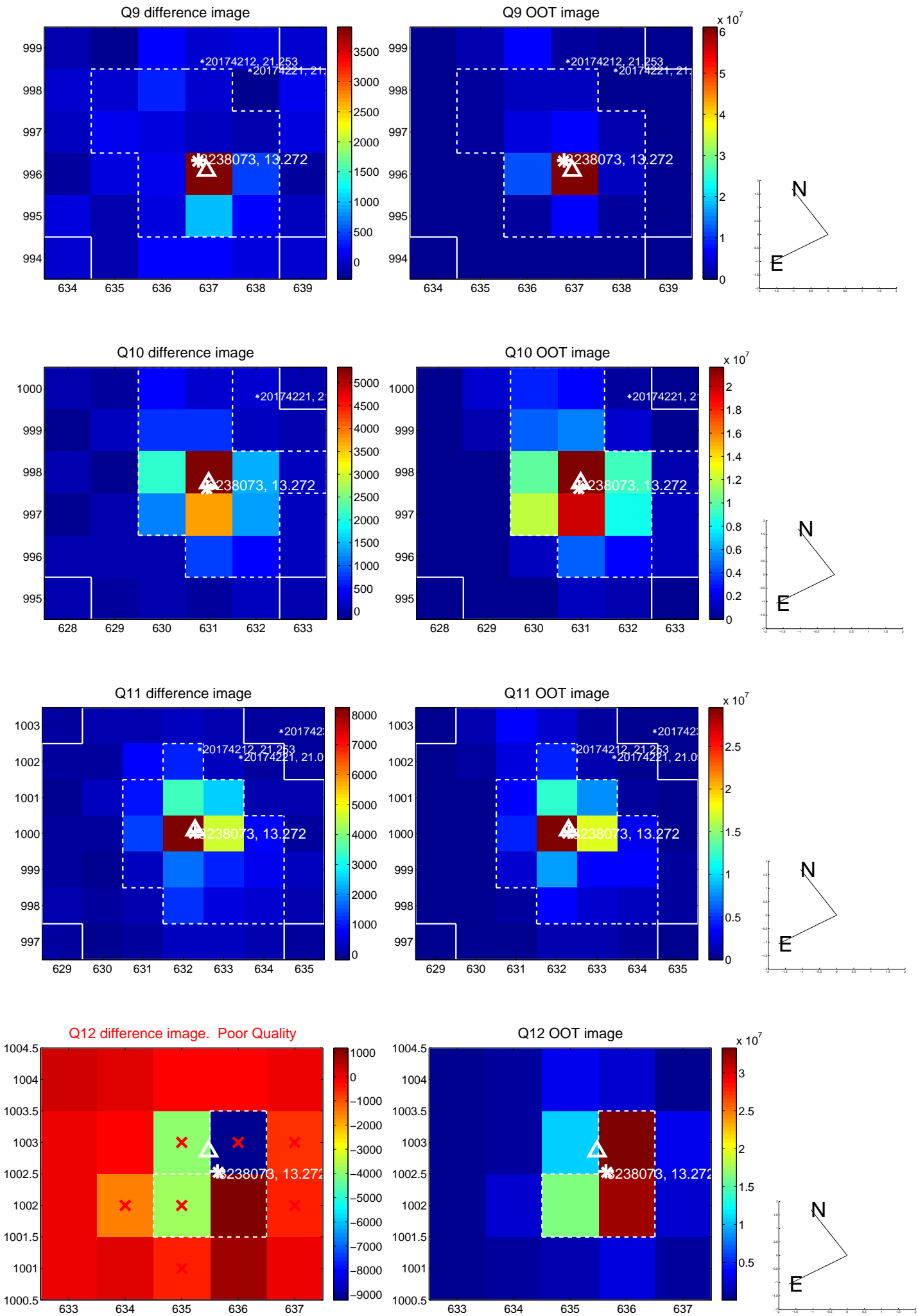
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



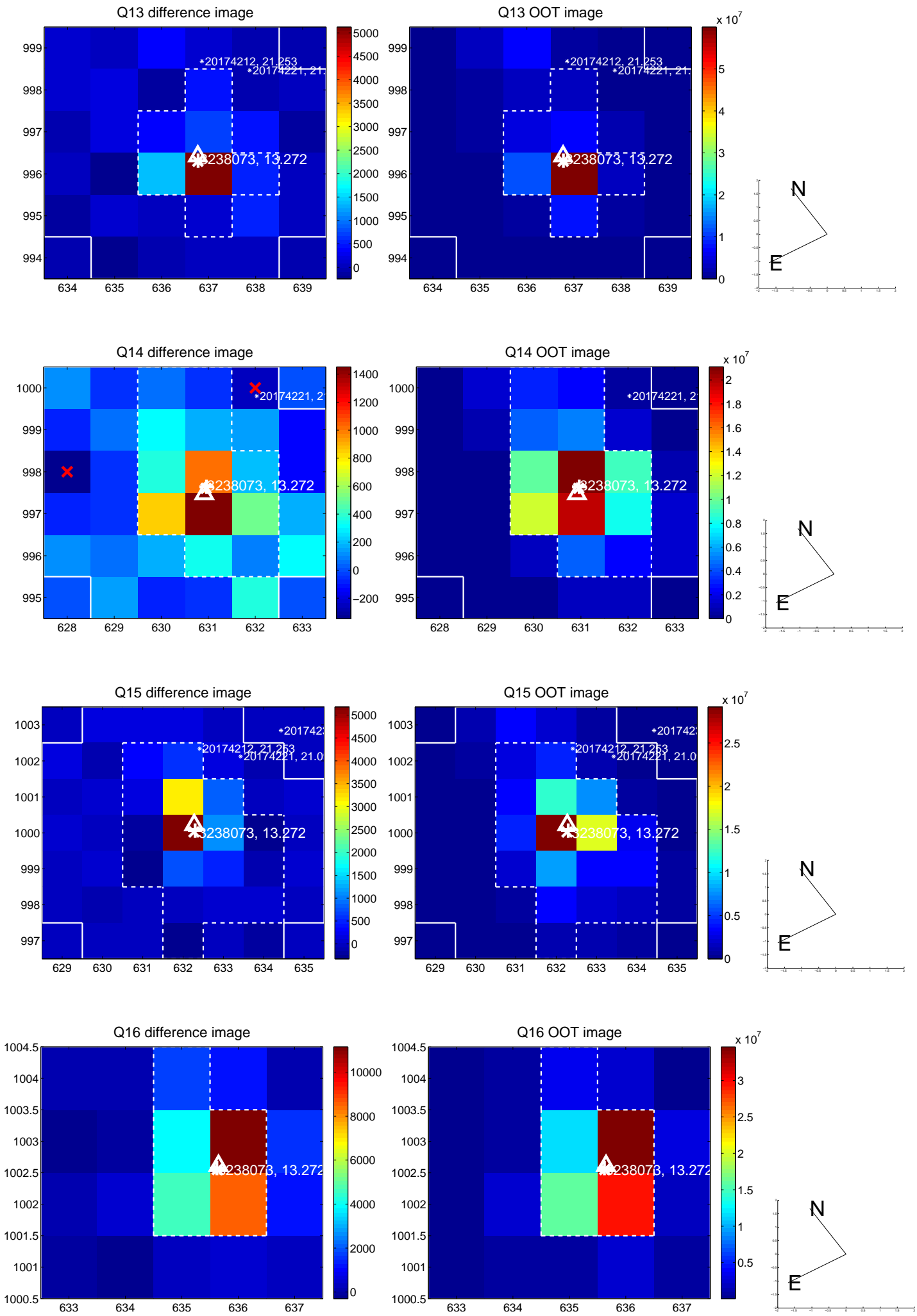
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



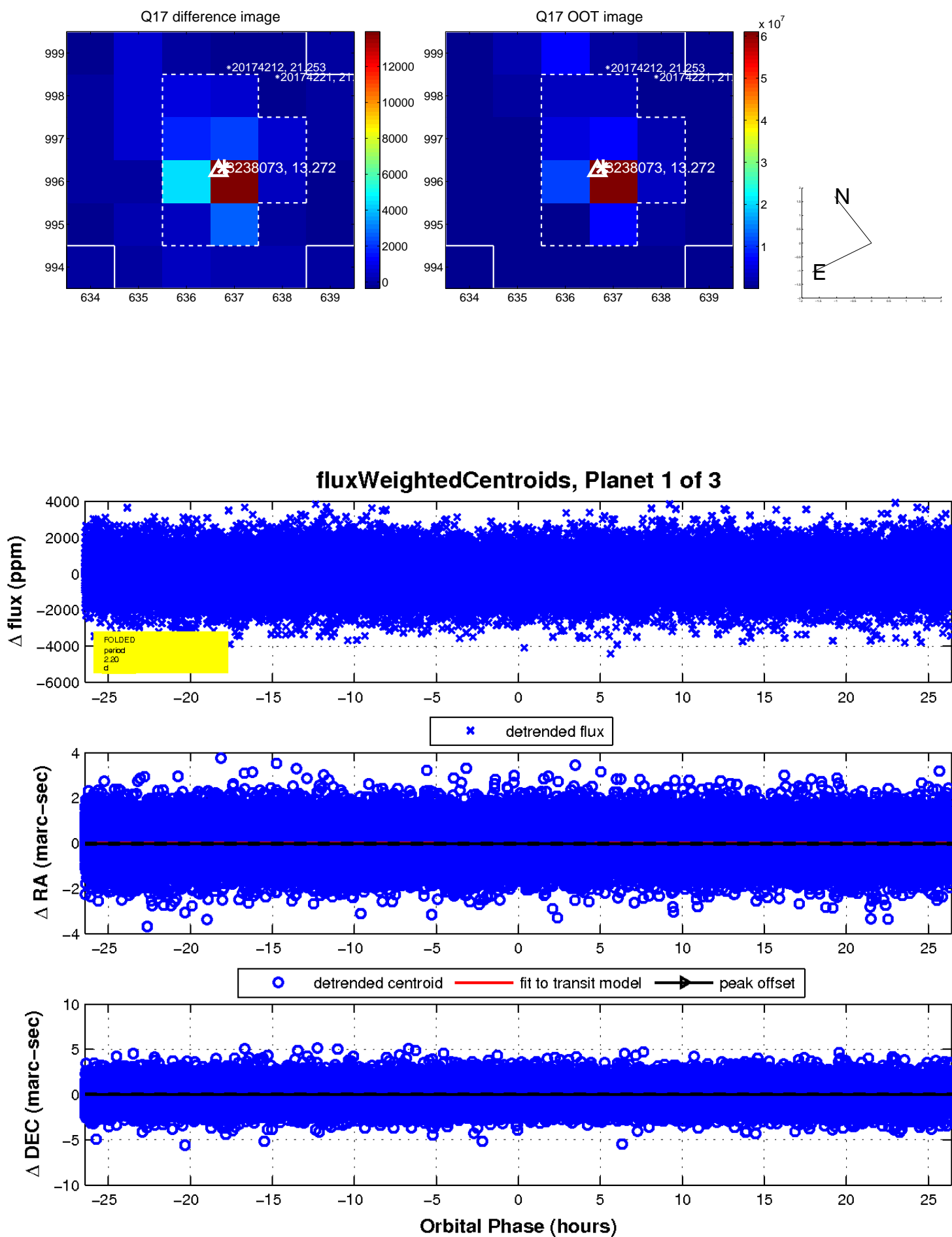
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



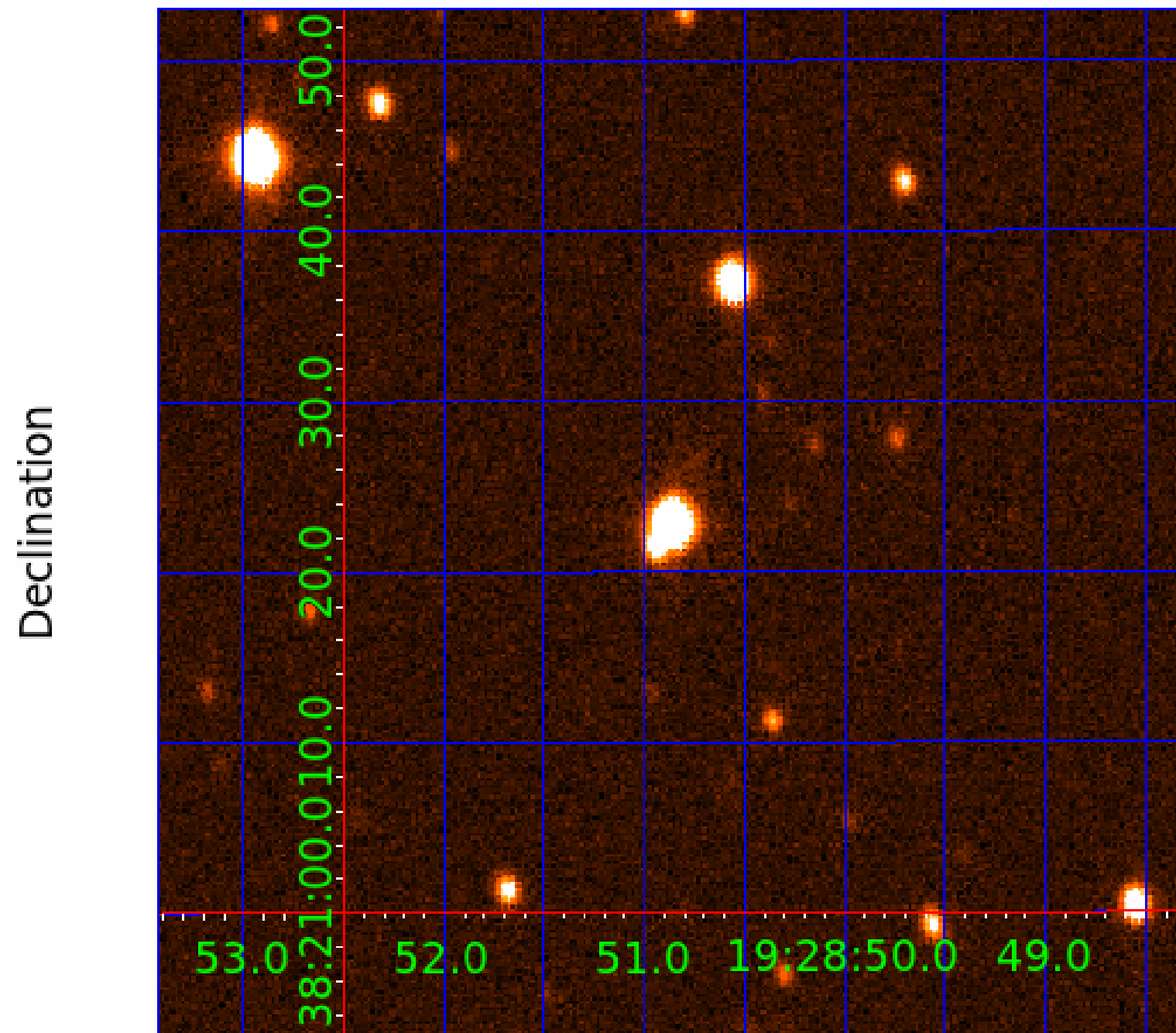
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003238073

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})
003238073-01	OBS	No	2.202244	132.950262	142.2	10.784	10.5	12.5	1.78	7452	2.57	5905.74
003238073-02	OBS	No	134.707210	254.728914	0.1	4.608	11.7	0.0	1.78	7452	0.05	24.50
003238073-03	OBS	No	0.734075	131.519421	121.3	2.481	10.7	11.6	1.78	7452	2.27	25552.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238073-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003238073-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003238073-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

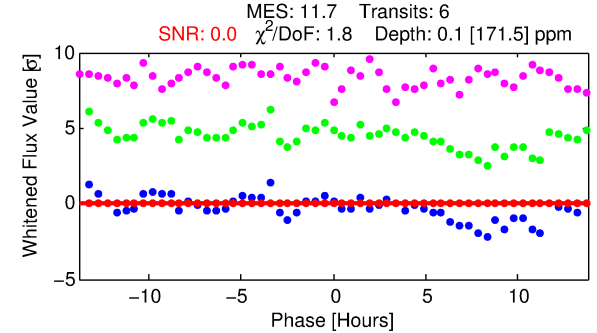
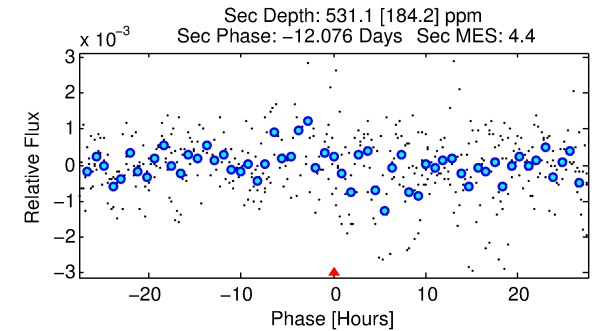
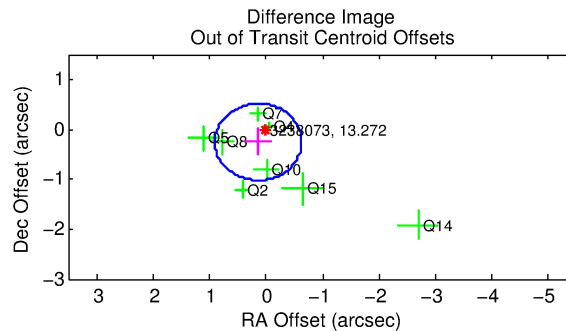
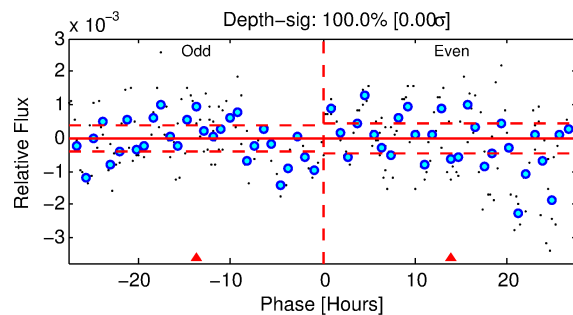
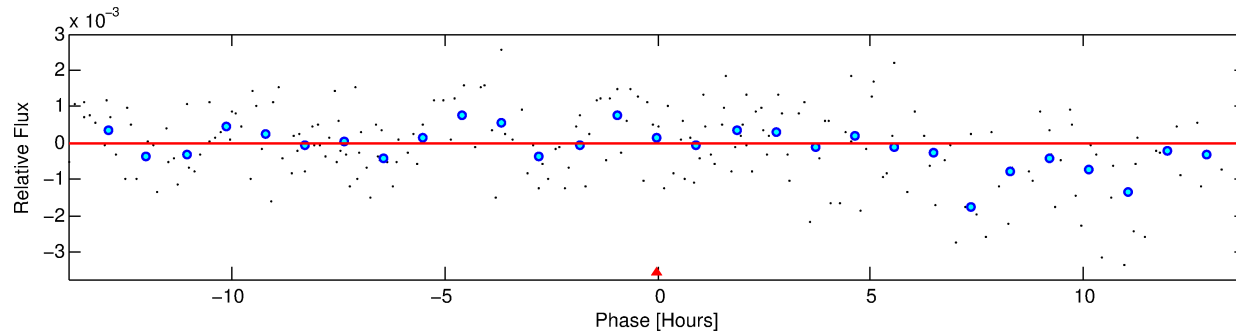
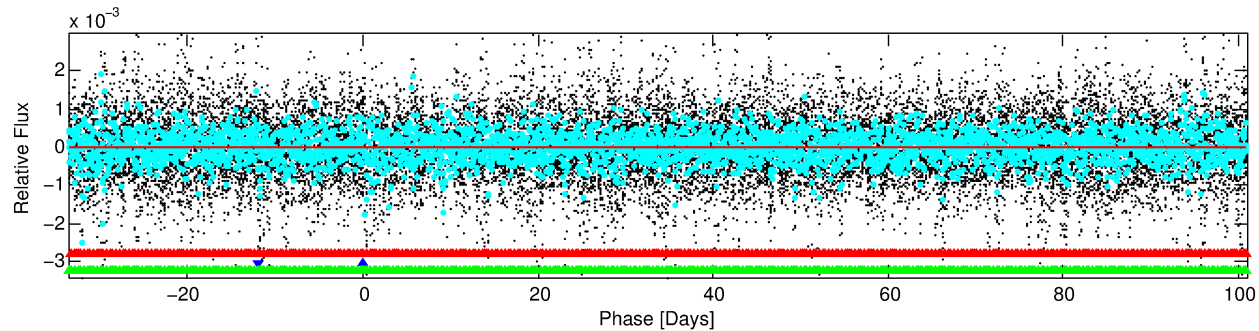
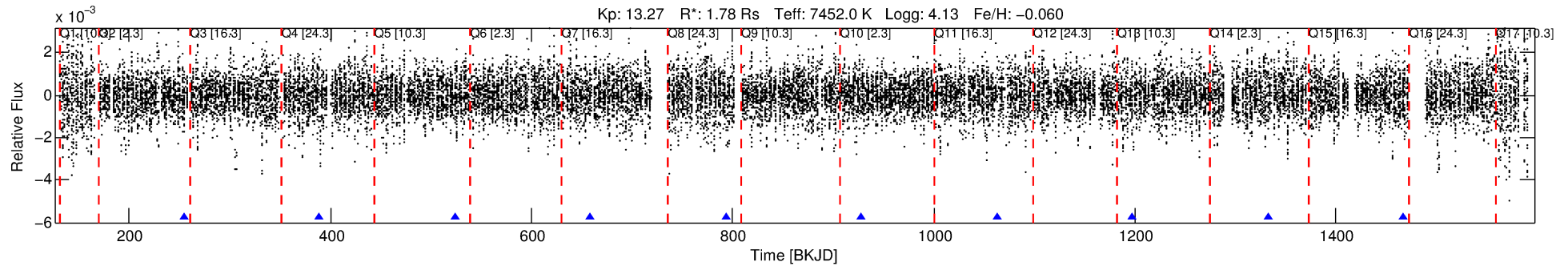
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238073-02

No Significant Match Found

DV One-Page Summary

KIC: 3238073 Candidate: 2 of 3 Period: 134.707 d



DV Fit Results:

Period = 134.70721 [21.68944] d
Epoch = 254.7289 [137.4670] BKJD
Rp/R* = 0.0002 [0.4906]
a/R* = 126.75 [1364573.07]
b = 0.82 [3958.36]
Seff = 24.50 [10.89]
Teq = 567 [63] K
Rp = 0.05 [95.34] Re
a = 0.5980 [0.1627] AU
Ag = 48917564.64 [201803487953.74] K [0.00σ]
Teffp = 73357 [75656731] K [0.00σ]

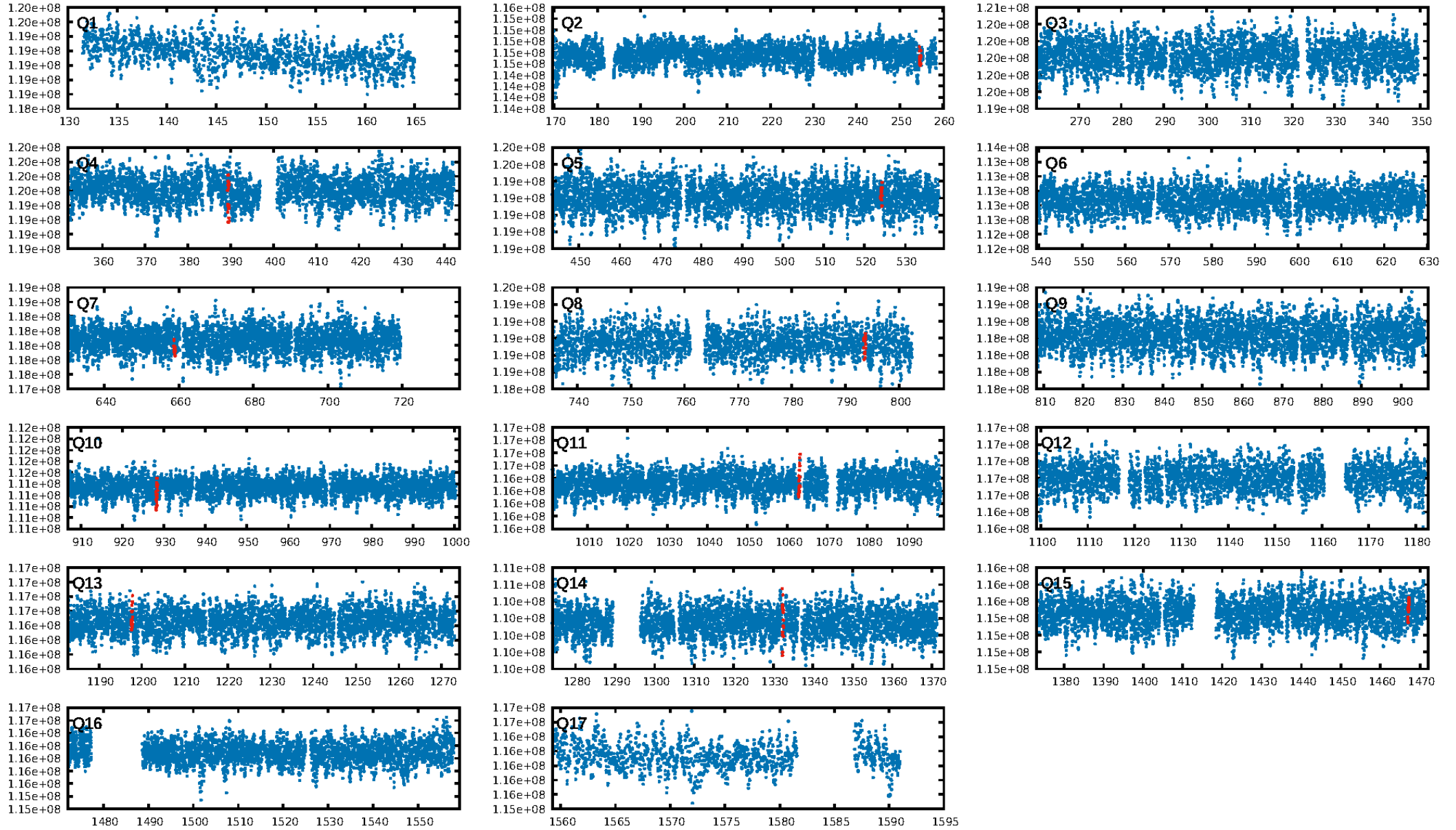
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [271.18σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 50.7%
Bootstrap-pfa: 1.33e-15
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.290 arcsec [1.13σ]
KicOffset-rm: 0.179 arcsec [0.69σ]
OotOffset-st: 3/2/2/1 [8]
KicOffset-st: 3/2/2/1 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.00 [0/8]

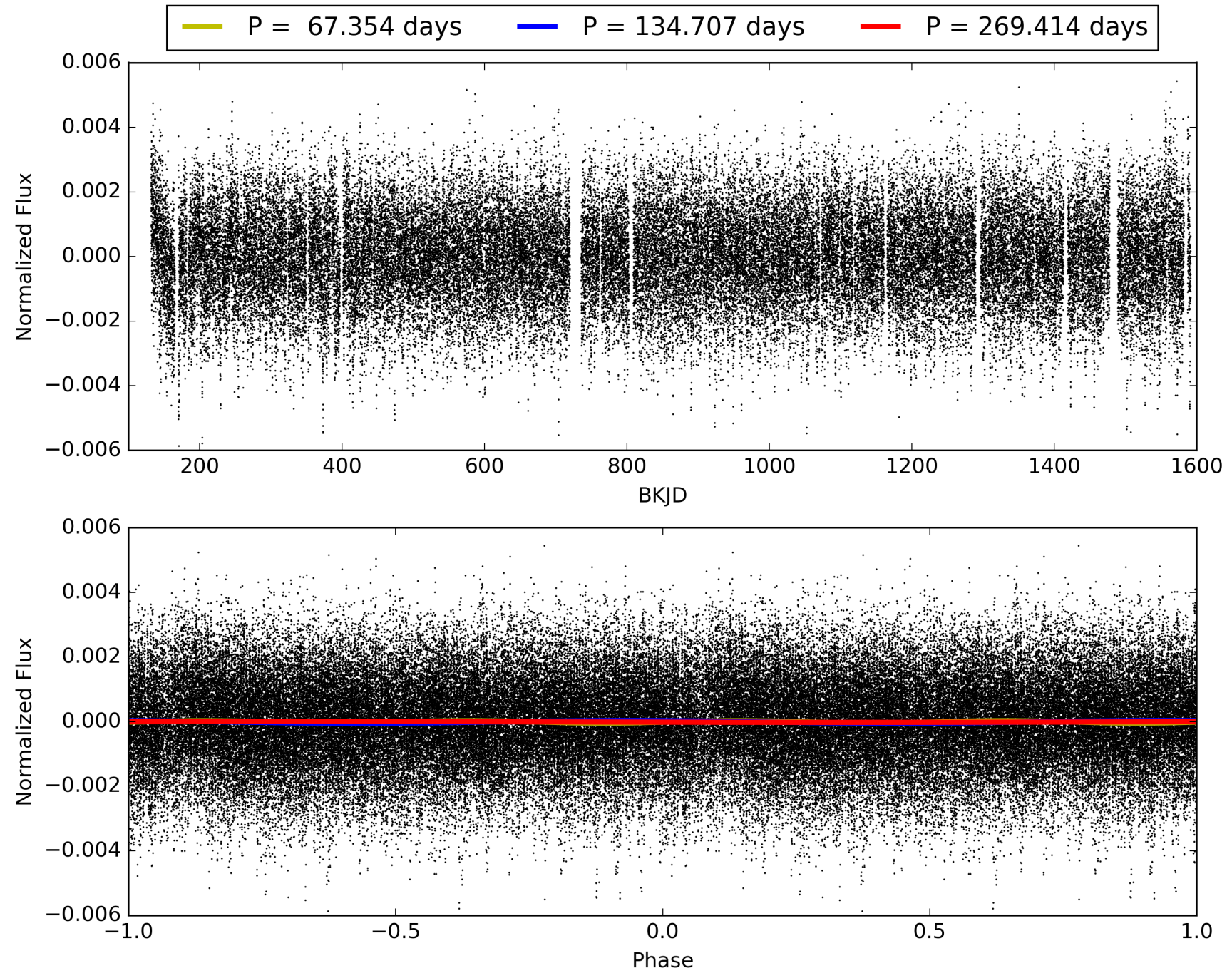
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:28:42 Z

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

TCE 003238073-02, PDC Light Curves

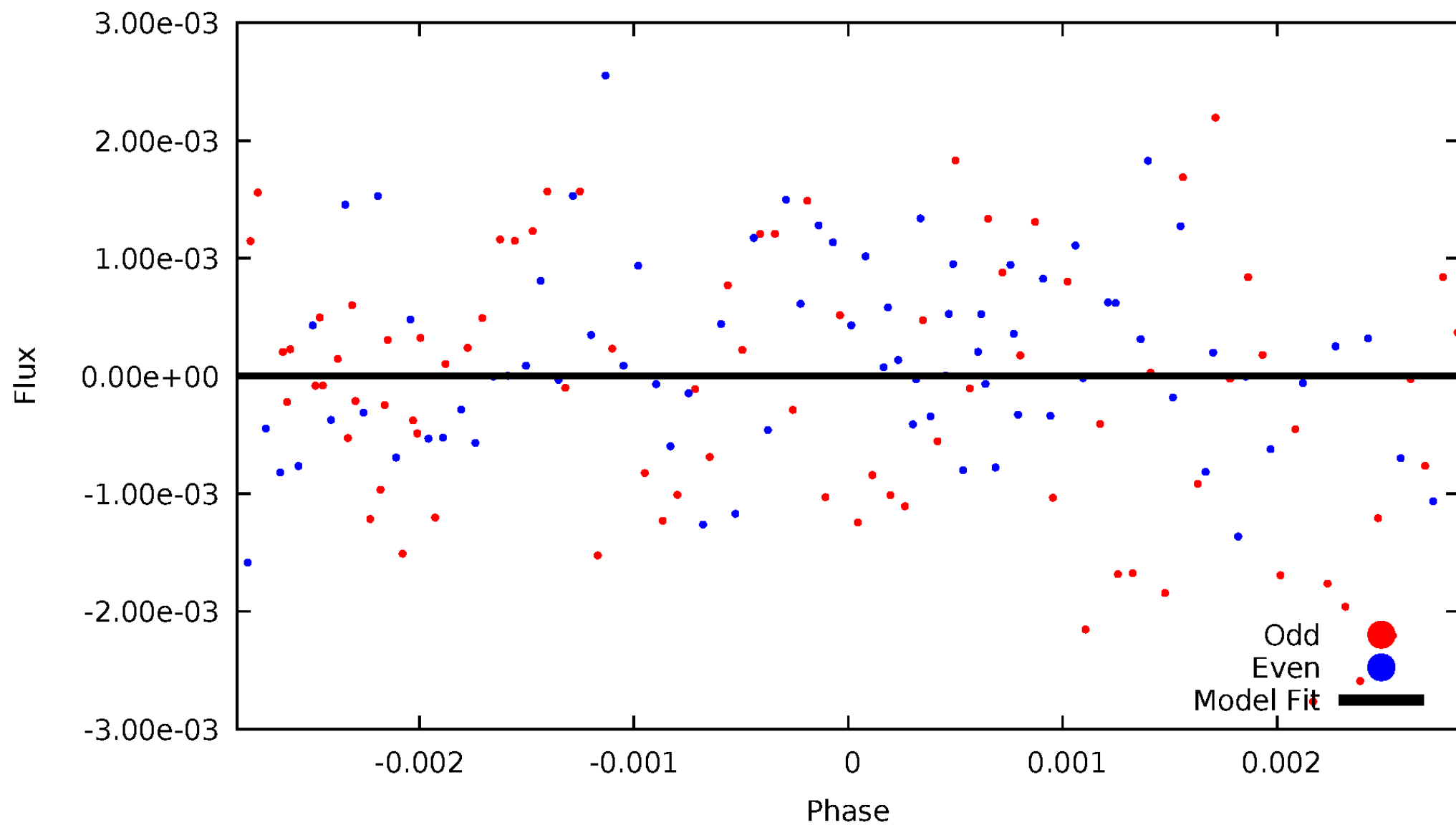


TCE 003238073-02



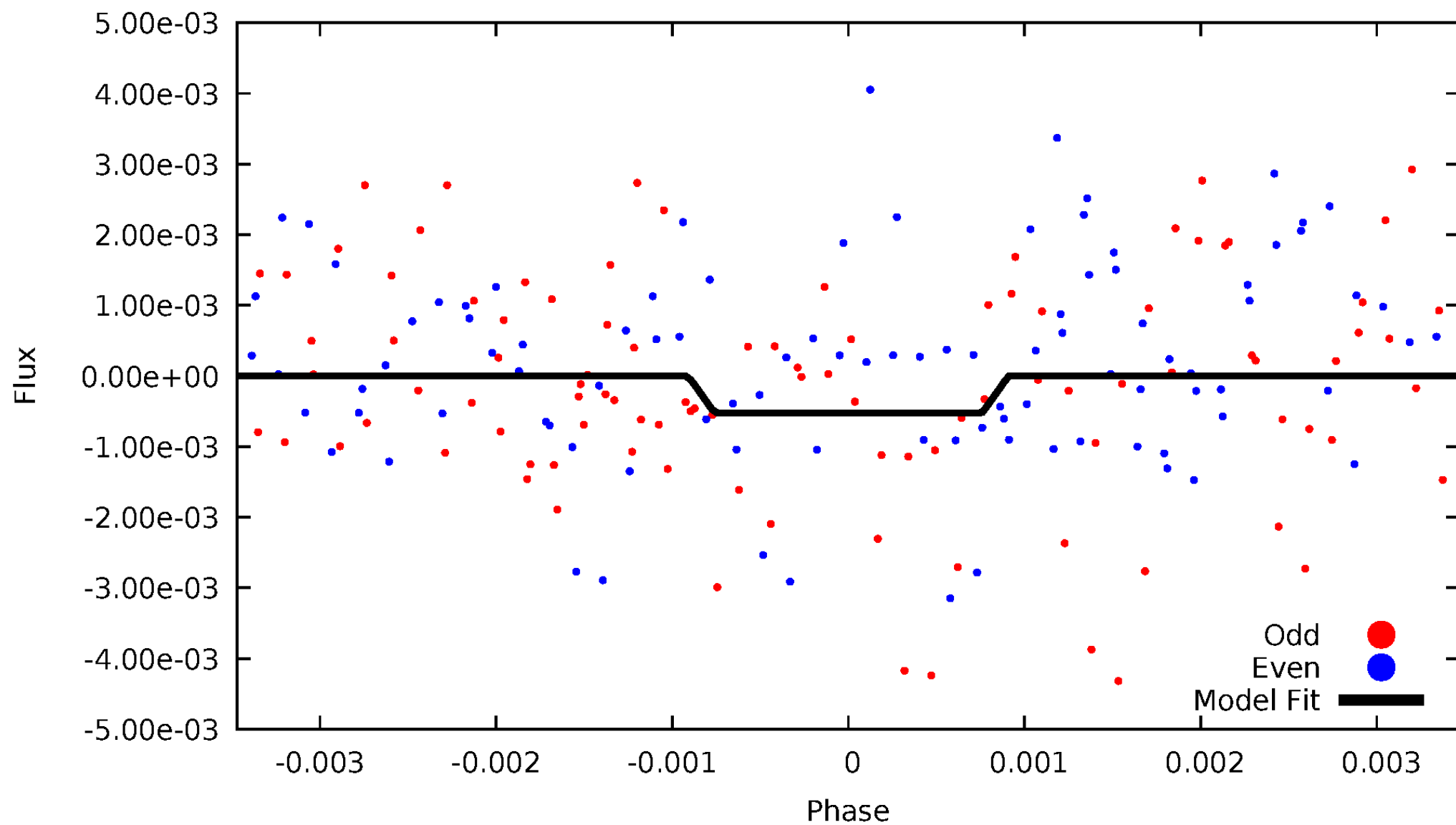
DV Odd/Even

TCE 003238073-02



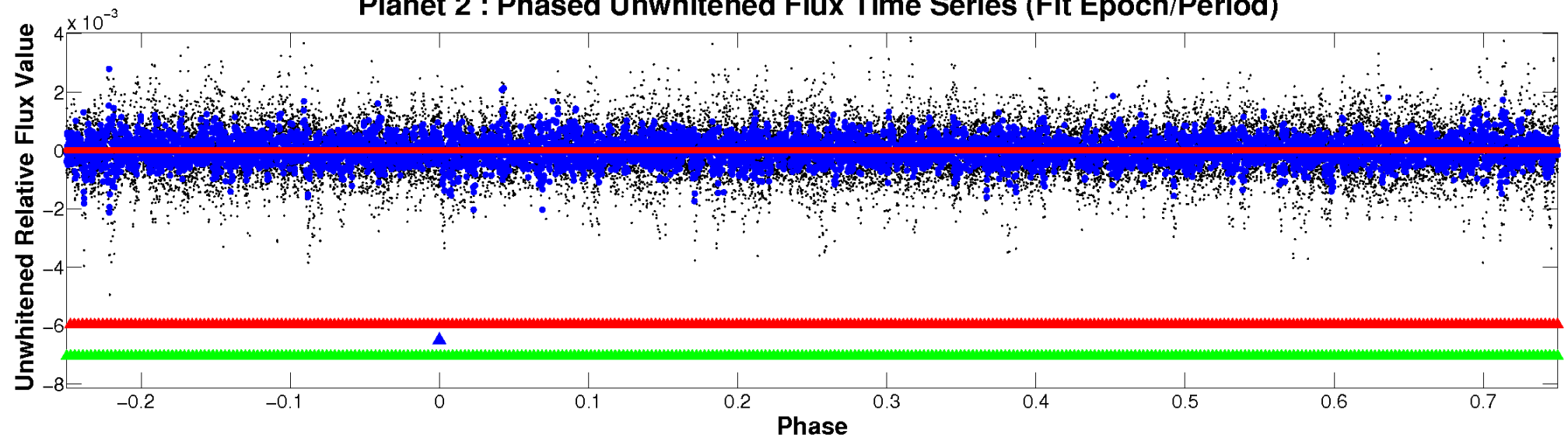
ALT Odd/Even

TCE 003238073-02

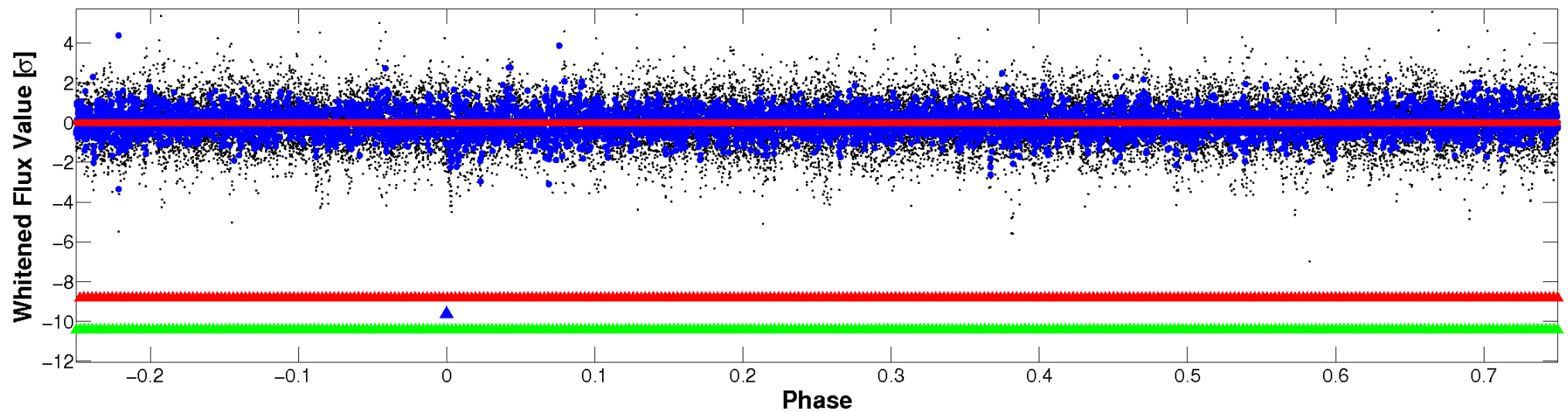


Non-Whitened Vs. Whitened Light Curve

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

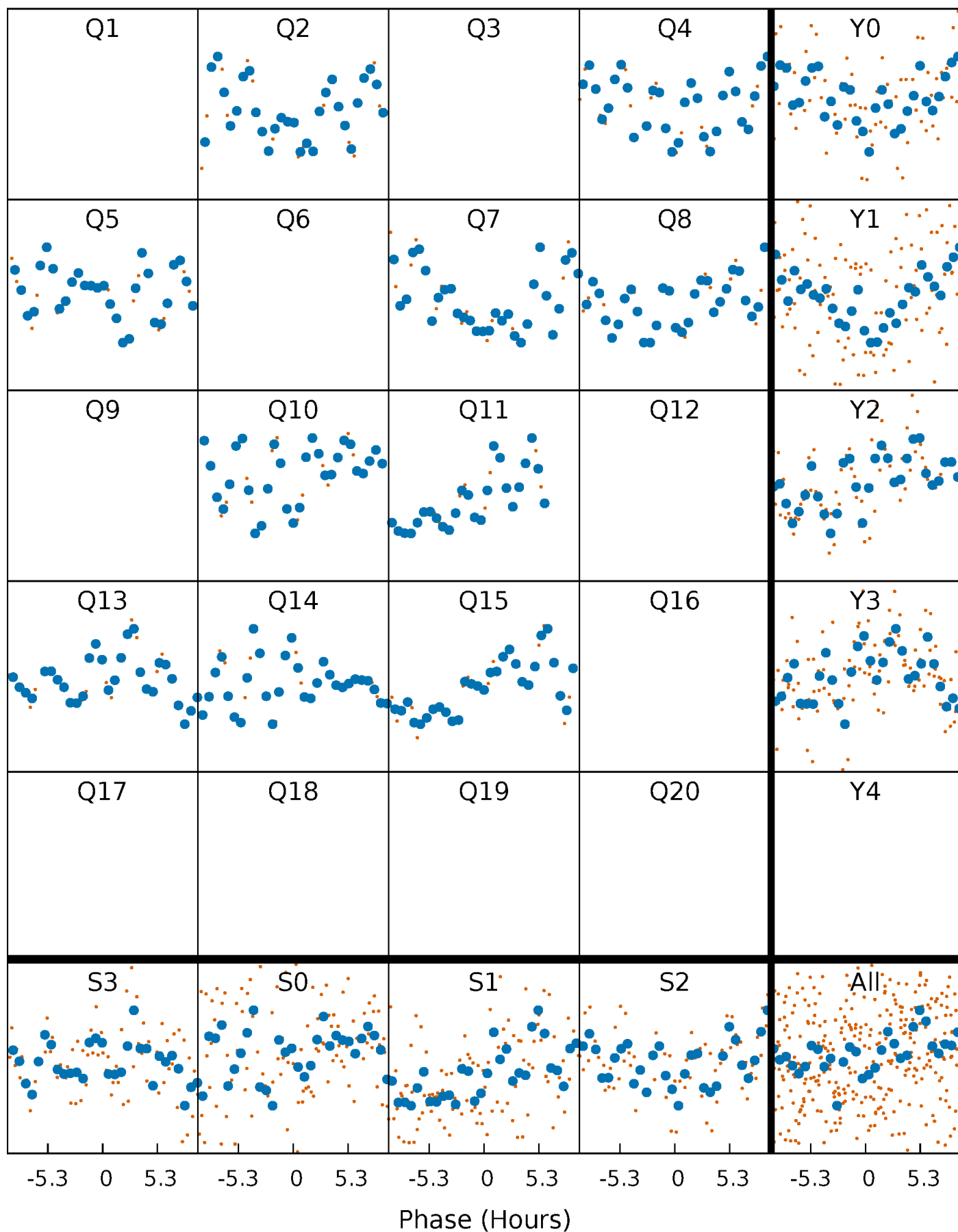


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



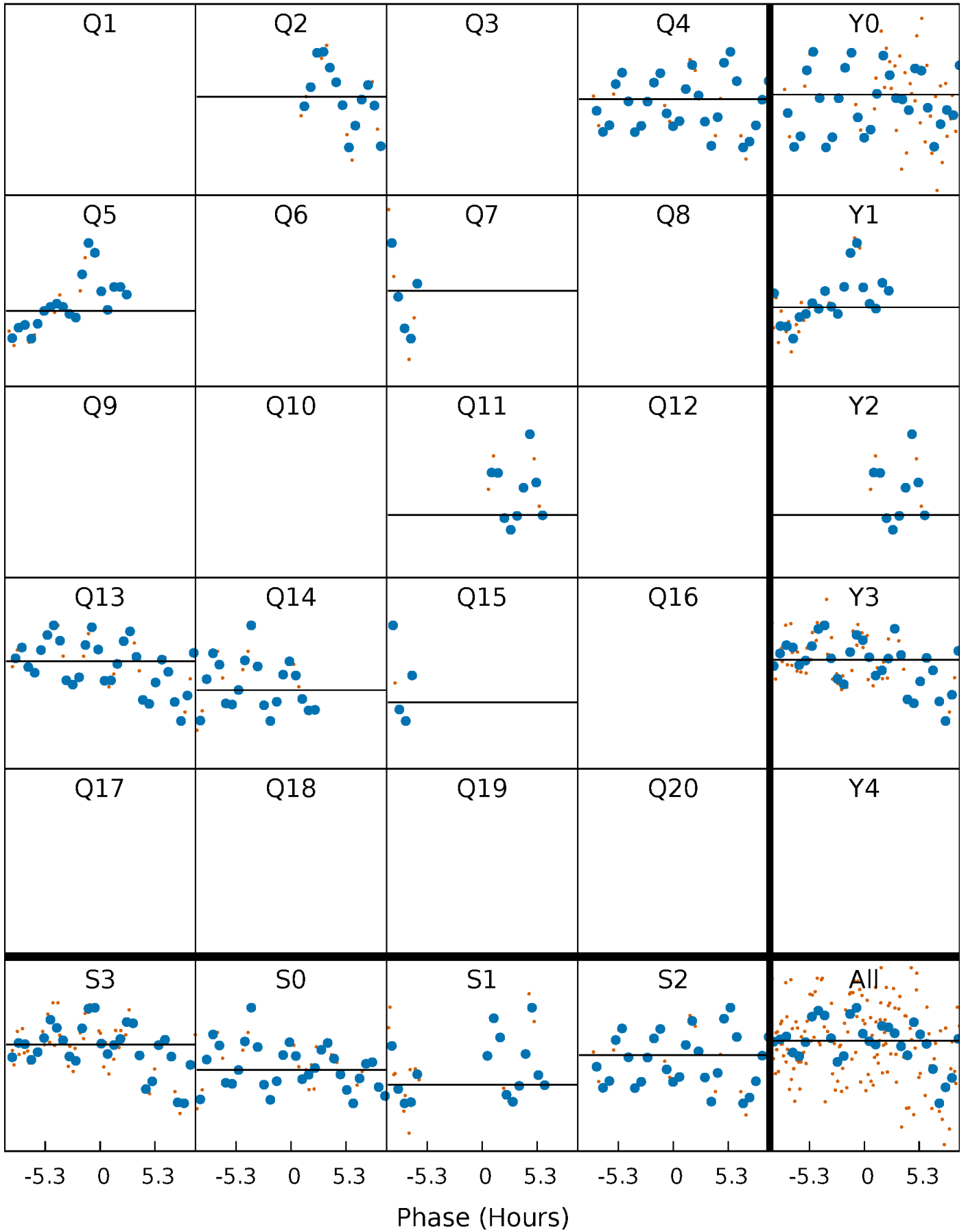
PDC Quarter-Phased Transit Curves

TCE 003238073-02 P=134.707210 Days $T_0=254.728914$ (BKJD)



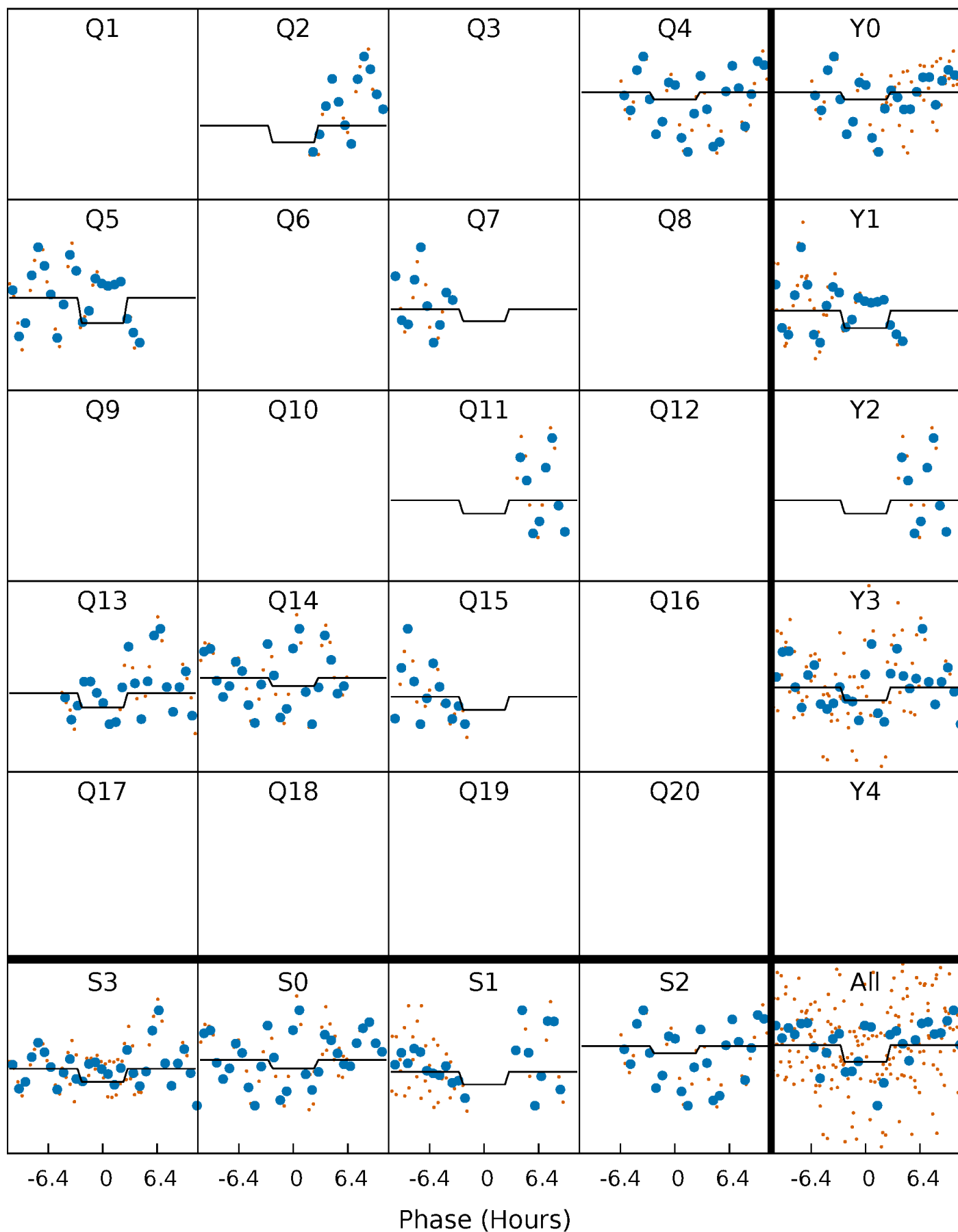
DV Quarter-Phased Transit Curves

TCE 003238073-02 P=134.707210 Days $T_0=254.728914$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

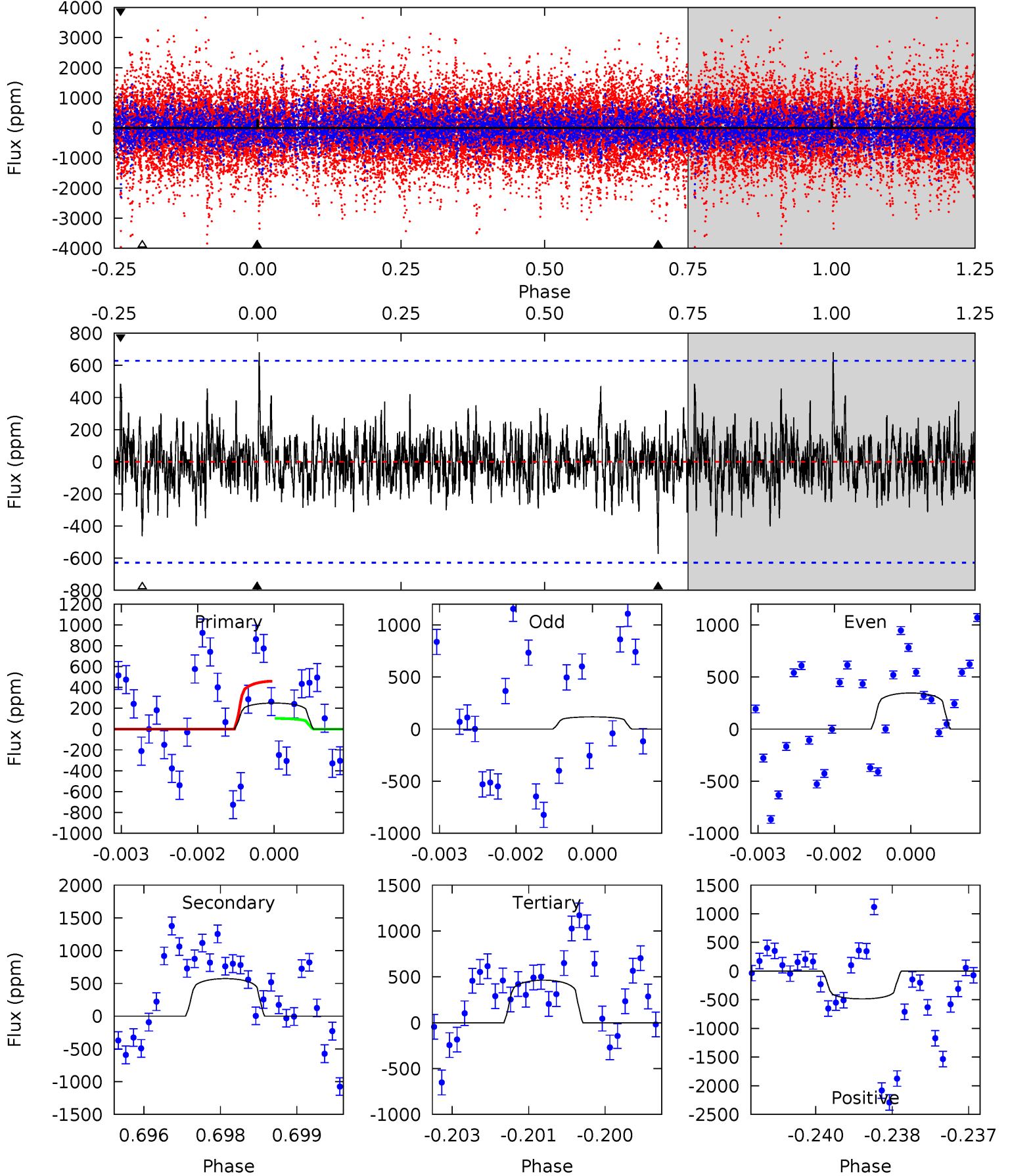
TCE 003238073-02 P=134.691216 Days $T_0=254.687533$ (BKJD)



DV Model-Shift Uniqueness Test

003238073-02, P = 134.707210 Days, E = 120.021704 Days

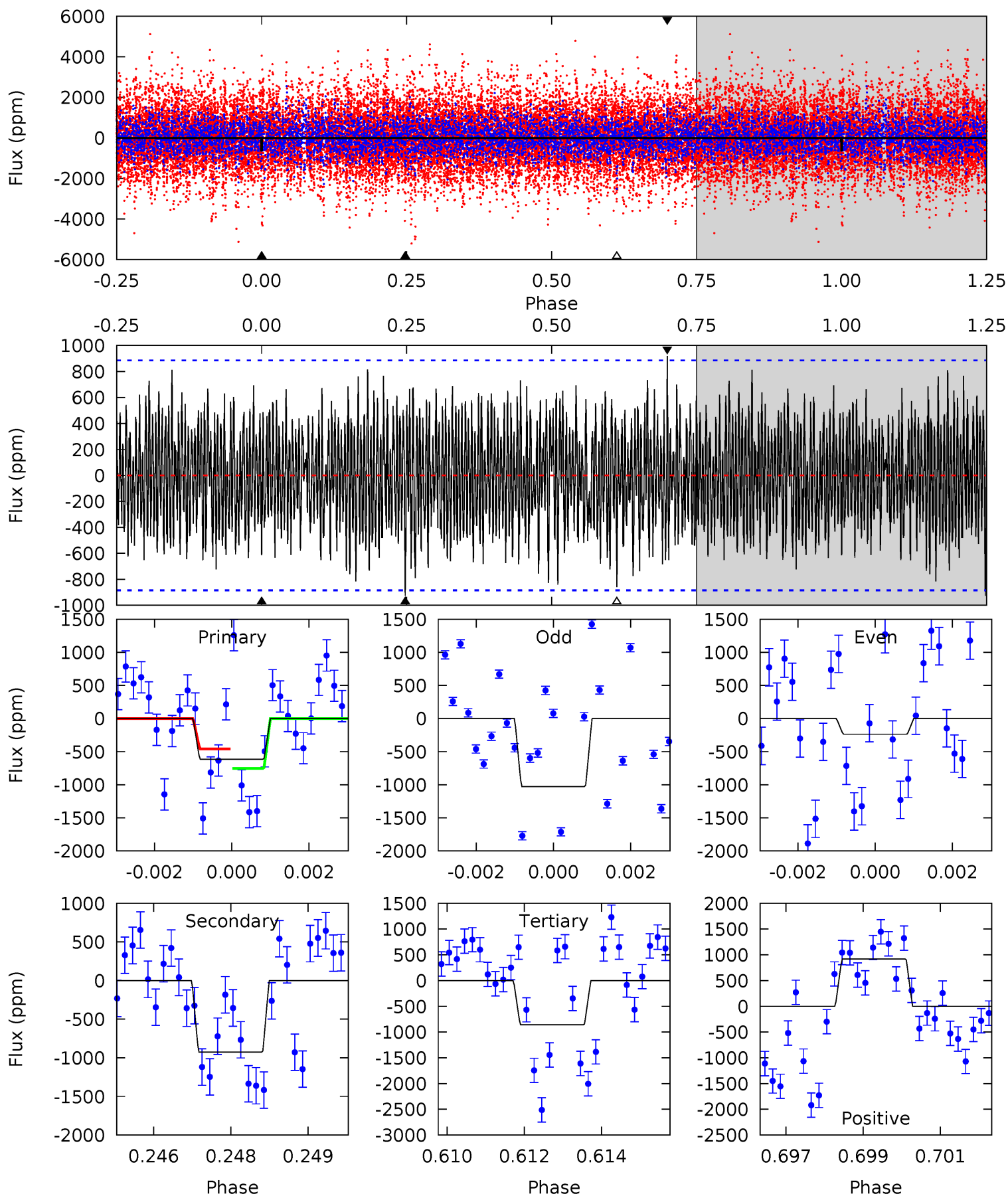
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.14	4.90	3.97	4.15	5.37	3.17	1.06	-1.83	-2.01	0.93	0.75	0.97	2.29	0.54	1.50



Alt Model-Shift Uniqueness Test

003238073-02, P = 134.691216 Days, E = 119.996317 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.71	5.60	5.19	5.55	5.34	3.12	1.99	-1.48	-1.84	0.41	0.05	2.38	1.11	0.50	0.89



Stellar Parameters For KIC 003238073

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7452^{+233}_{-311}	$4.133^{+0.124}_{-0.186}$	$-0.060^{+0.200}_{-0.350}$	$1.781^{+0.548}_{-0.365}$	$1.570^{+0.213}_{-0.237}$	$0.392^{+0.275}_{-0.185}$
	+3%/-4%	+3%/-5%	+333%/-583%	+31%/-20%	+14%/-15%	+70%/-47%
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 003238073-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-572 ± 117	$69.33^{+73.71}_{-48.93}$	802^{+82}_{-67}	2682^{+1156}_{-437}	22^{+254}_{-17}
Alt.	-927 ± 166	$68.49^{+71.68}_{-48.44}$	801^{+78}_{-65}	2878^{+1372}_{-492}	39^{+391}_{-31}

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

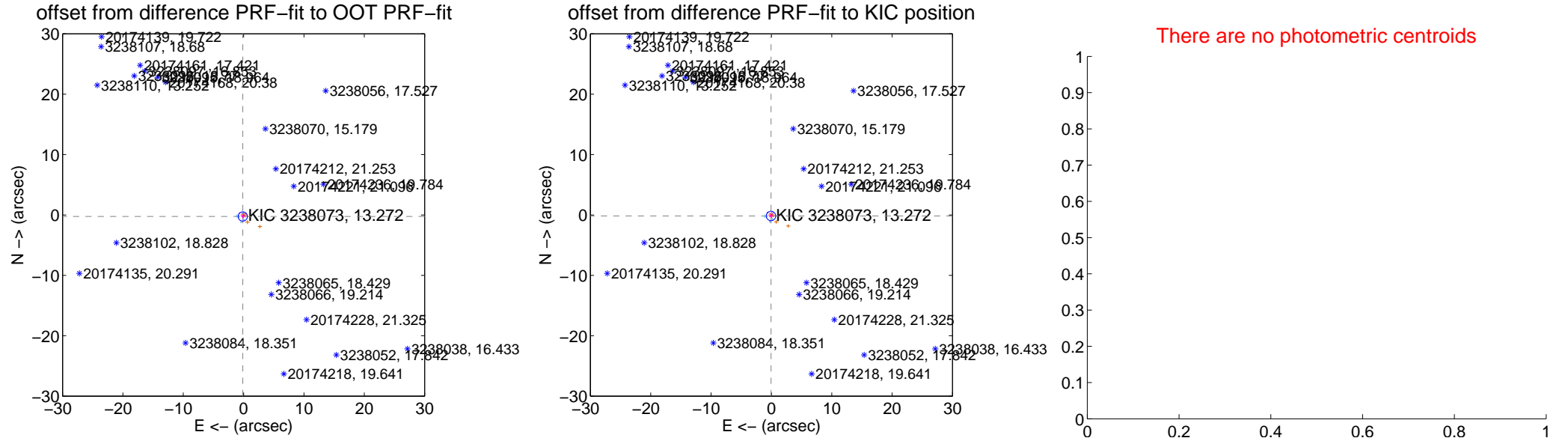
DV Centroid Data

Supplemental centroid analysis for 003238073-02. Kepler magnitude: 13.27. Transit SNR 0.00

There are 6 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.290 ± 0.256	1.13	0.139 ± 0.234	-0.254 ± 0.262
PRF-fit source offset from KIC position	0.179 ± 0.261	0.69	0.069 ± 0.235	-0.166 ± 0.265
photometric centroid source offset	—	—	—	—



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.

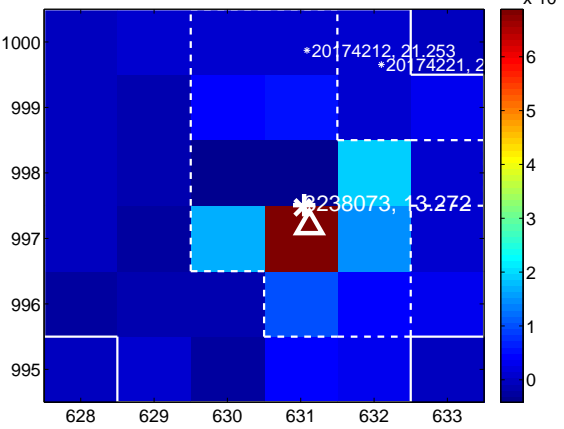
Q1 no difference image



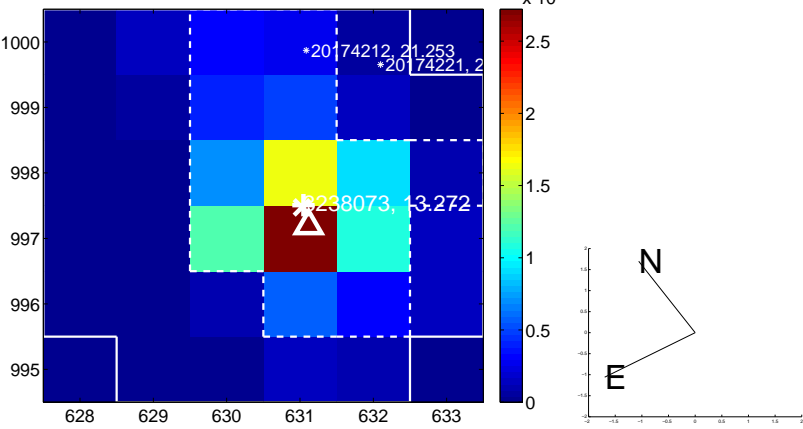
Q1 no OOT image



Q2 difference image



Q2 OOT image



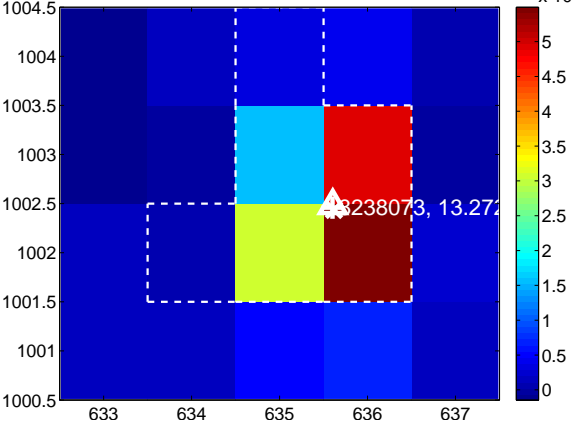
Q3 no difference image



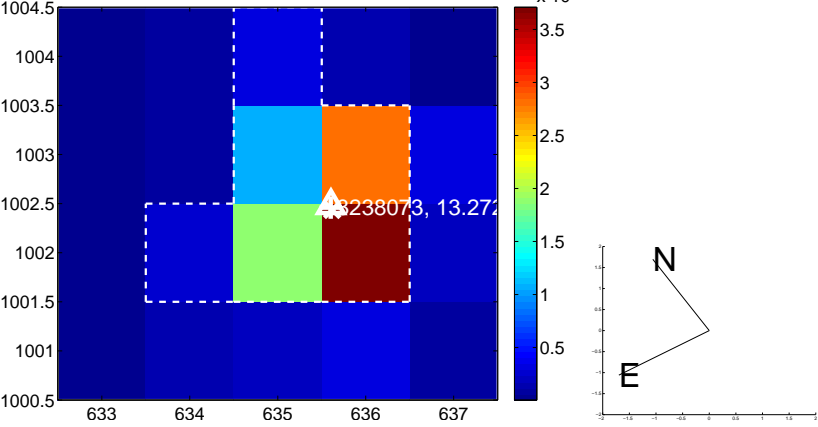
Q3 no OOT image



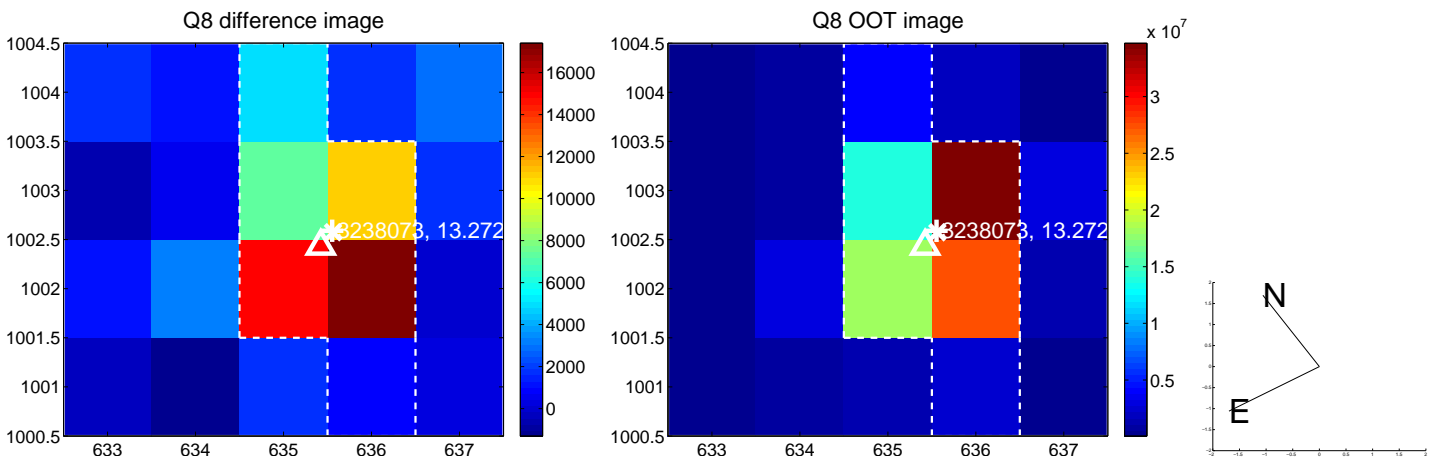
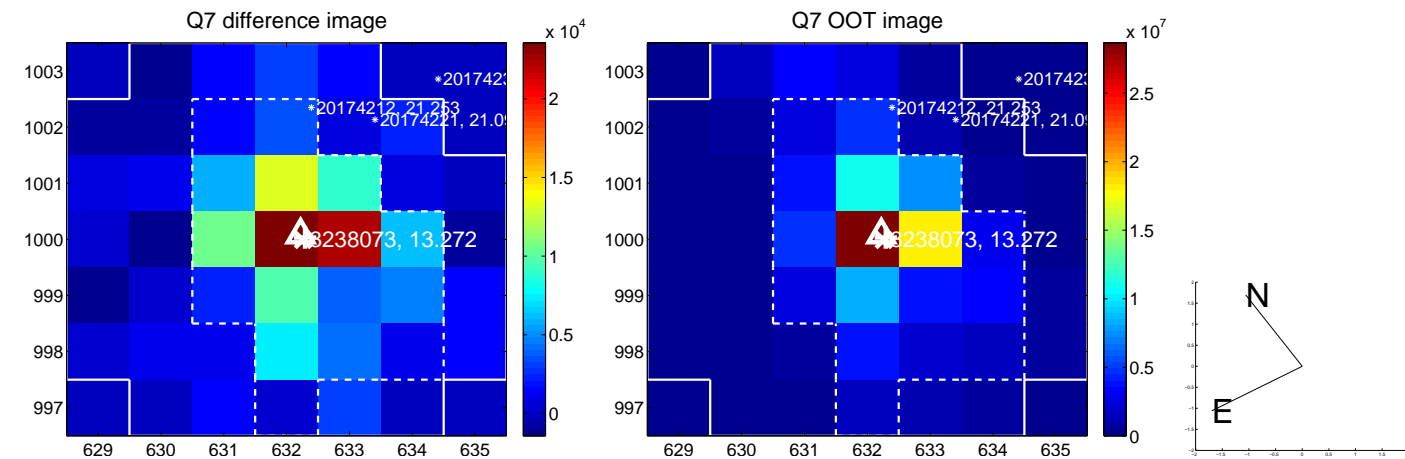
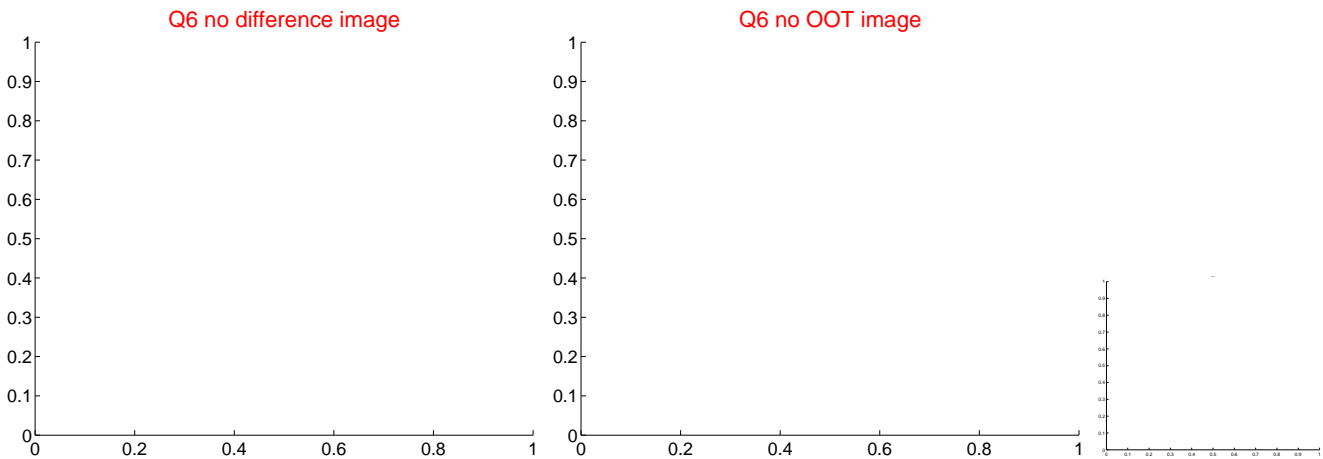
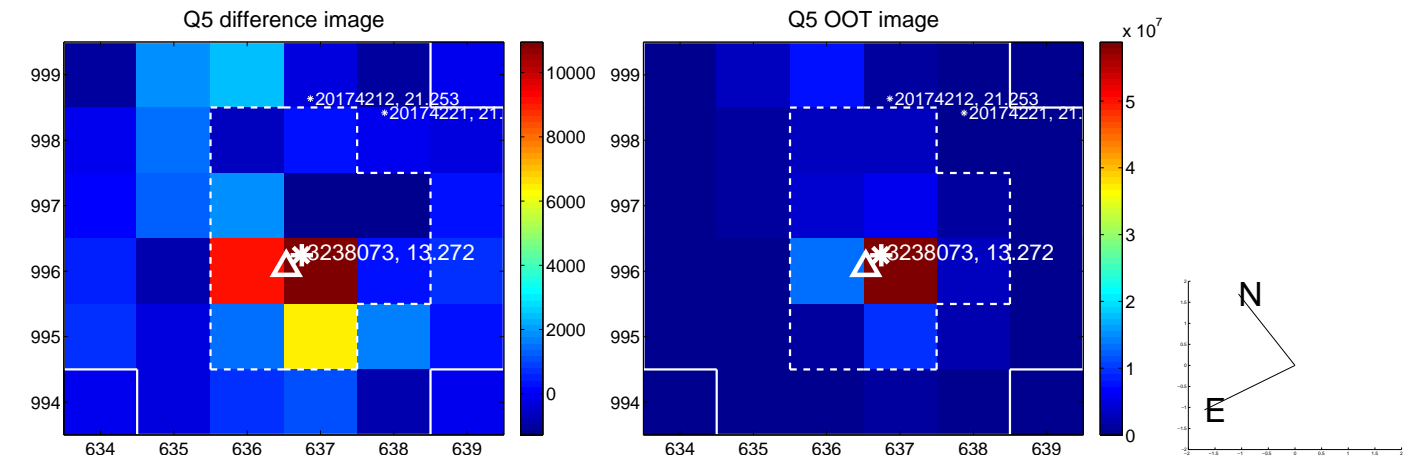
Q4 difference image



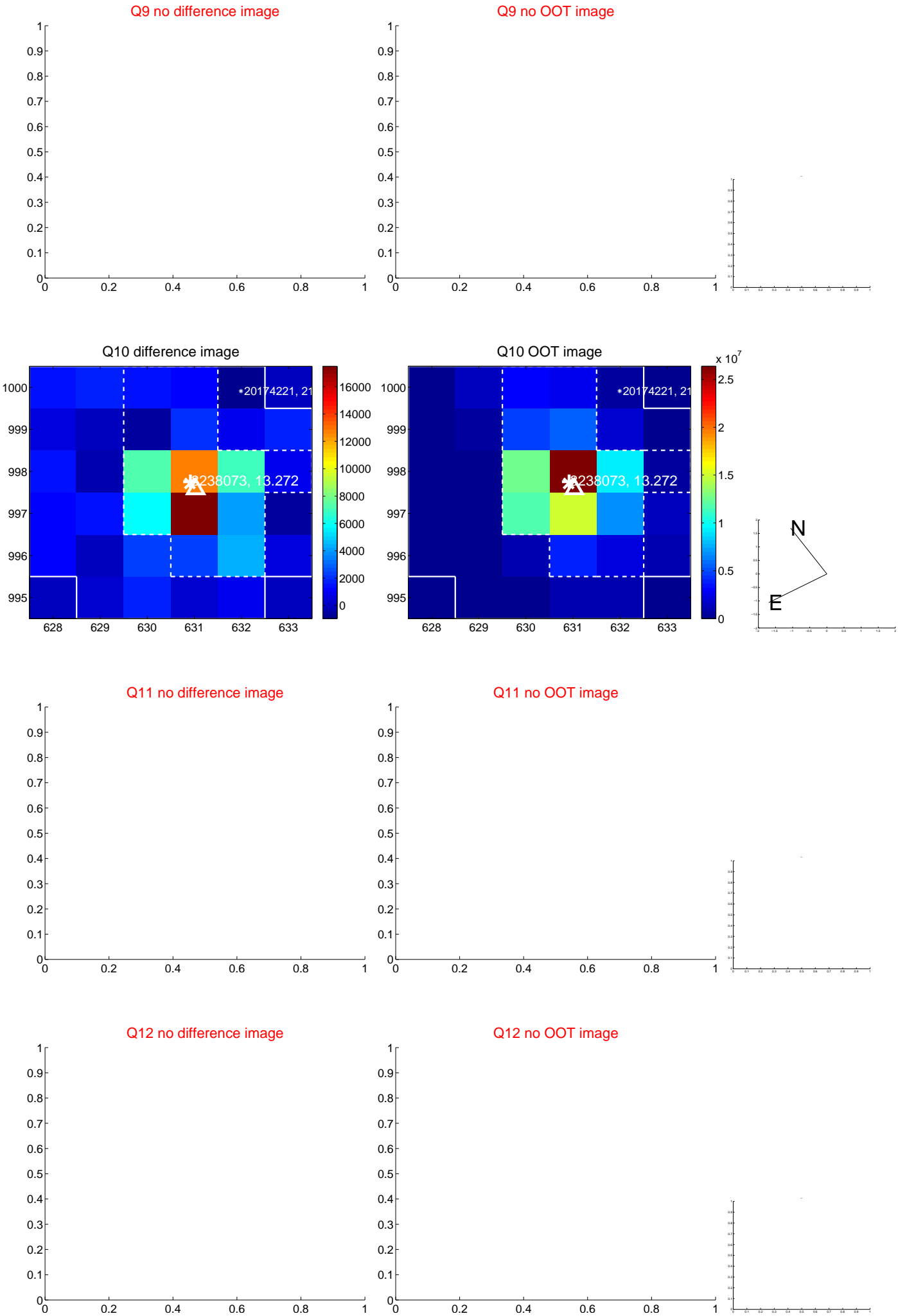
Q4 OOT image



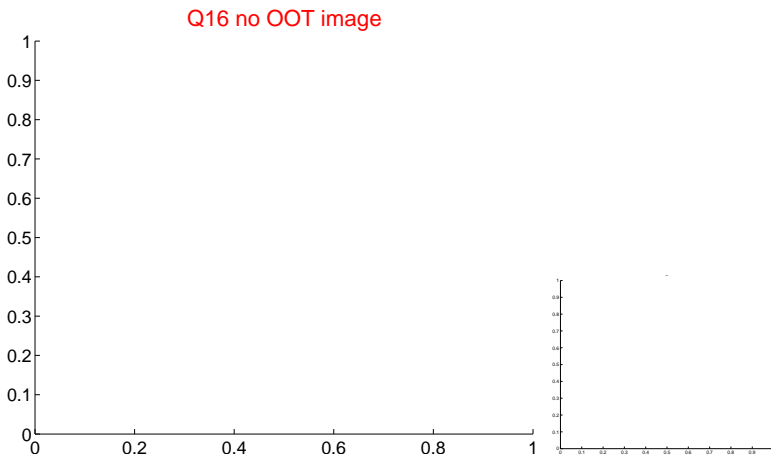
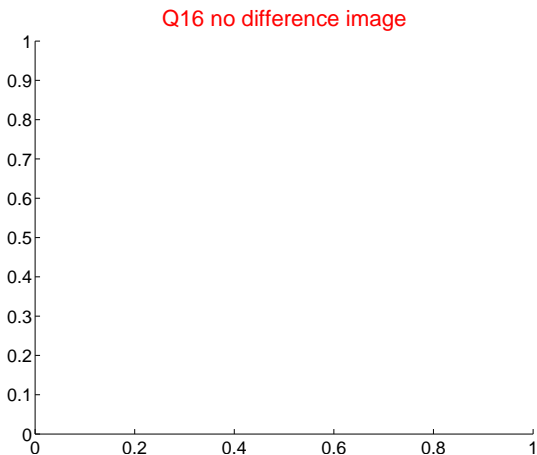
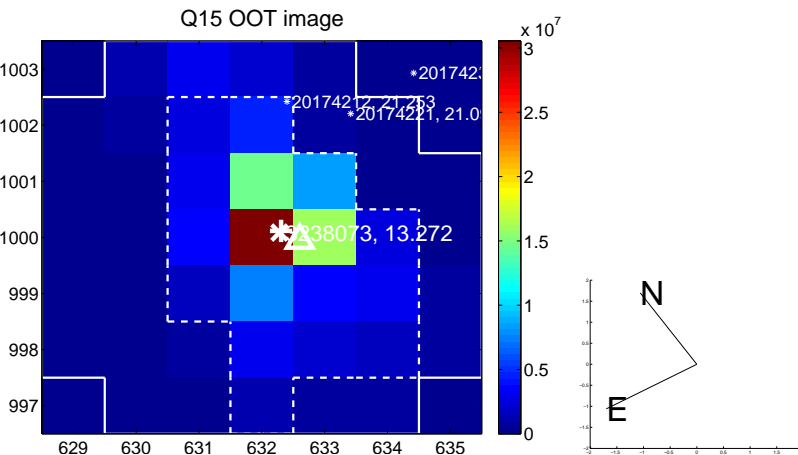
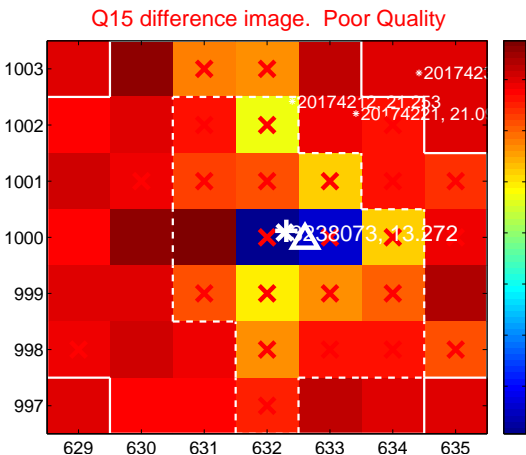
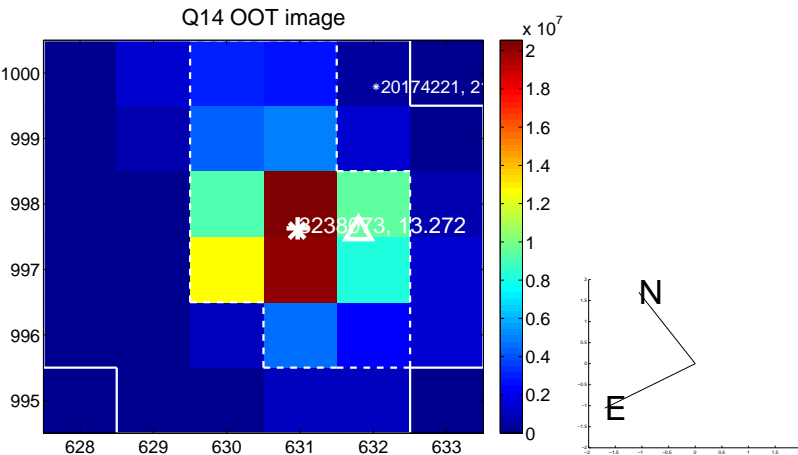
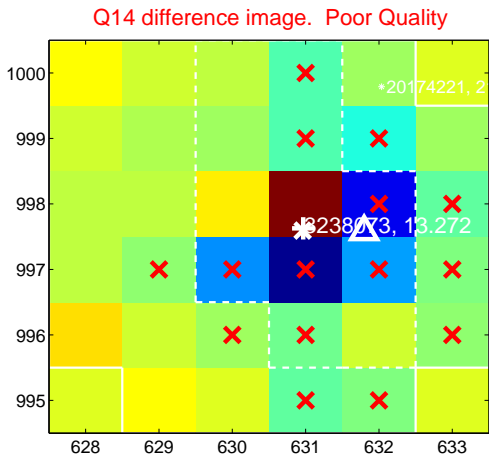
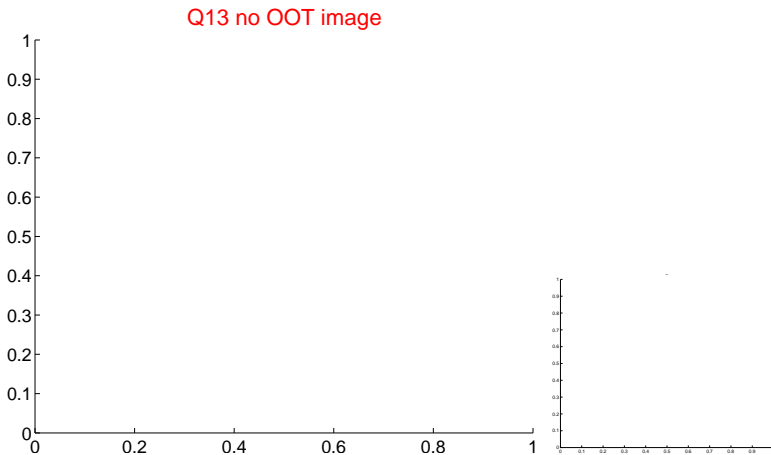
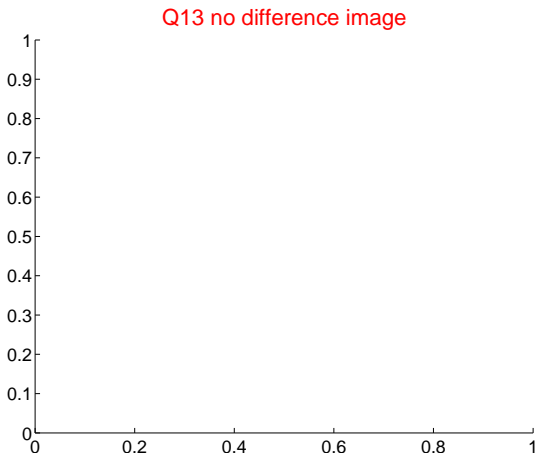
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



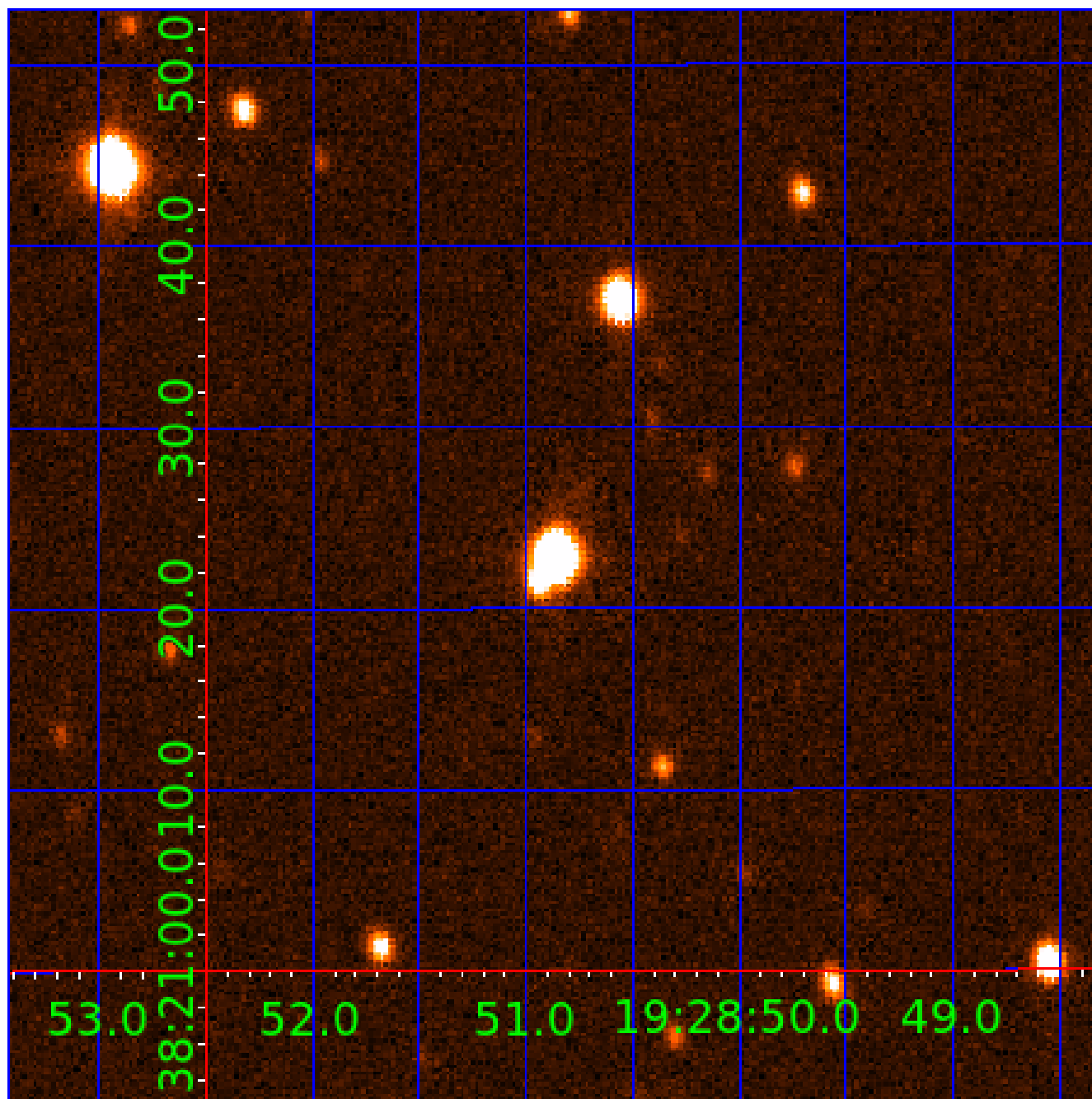
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 003238073

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})
003238073-01	OBS	No	2.202244	132.950262	142.2	10.784	10.5	12.5	1.78	7452	2.57	5905.74
003238073-02	OBS	No	134.707210	254.728914	0.1	4.608	11.7	0.0	1.78	7452	0.05	24.50
003238073-03	OBS	No	0.734075	131.519421	121.3	2.481	10.7	11.6	1.78	7452	2.27	25552.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238073-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003238073-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003238073-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

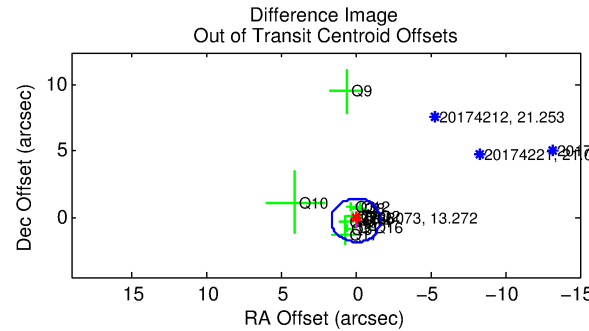
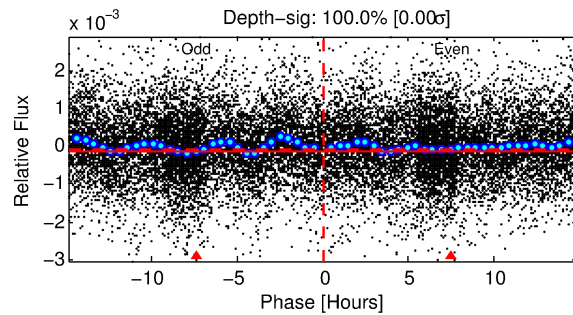
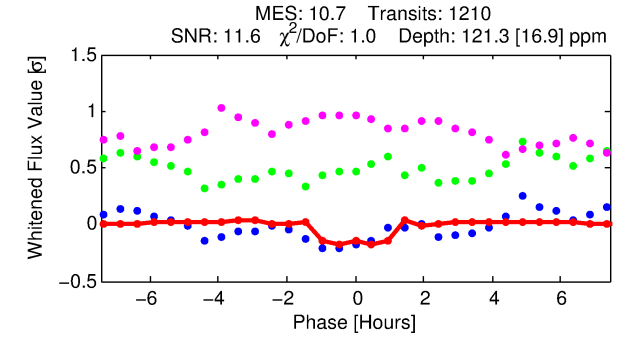
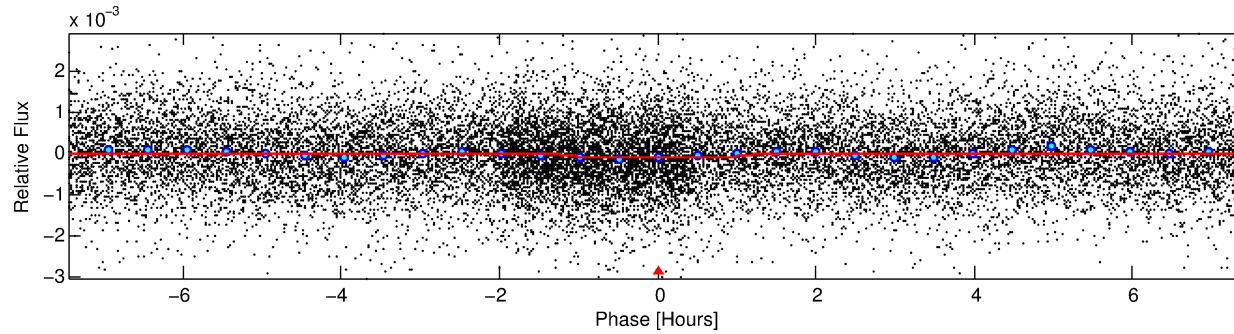
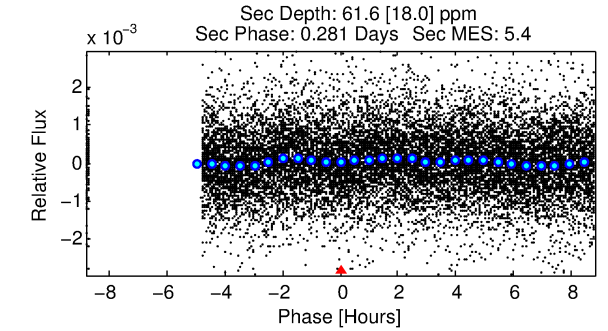
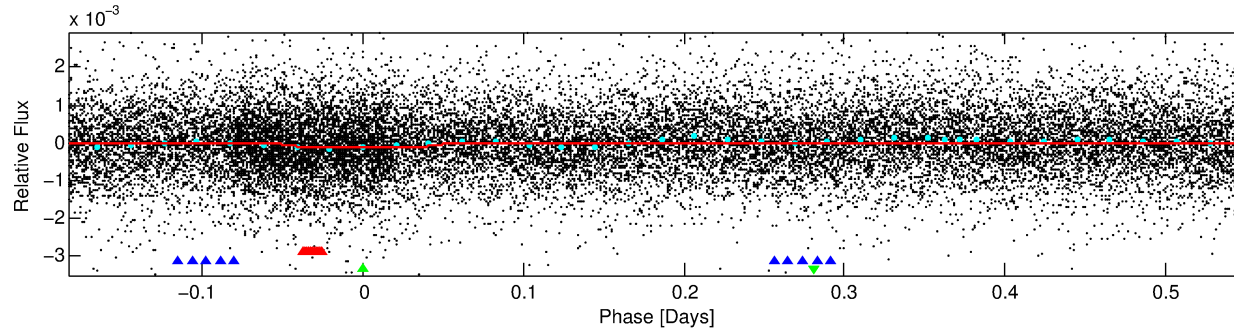
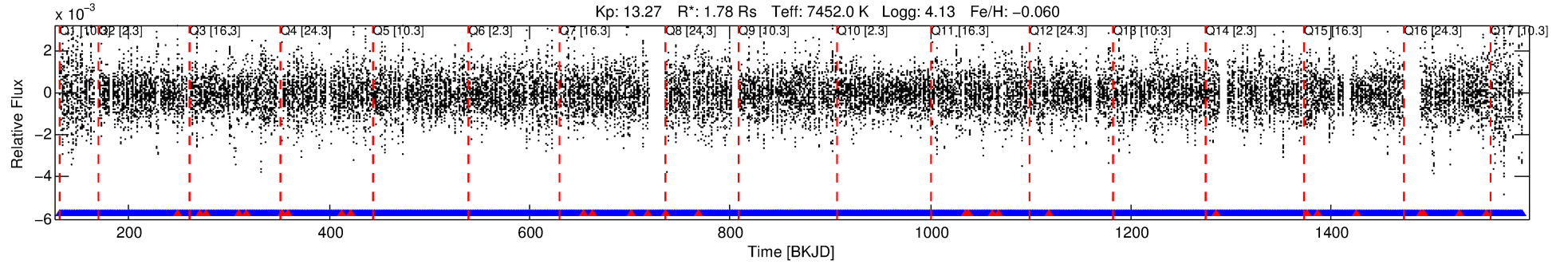
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238073-03

No Significant Match Found

DV One-Page Summary

KIC: 3238073 Candidate: 3 of 3 Period: 0.734 d



DV Fit Results:

Period = 0.73408 [0.00001] d
Epoch = 131.5194 [0.0021] BKJD
Rp/R* = 0.0117 [0.0033]
a/R* = 1.41 [1.22]
b = 0.90 [0.37]
Seff = 25552.94 [9944.88]
Teq = 3224 [314] K
Rp = 2.27 [0.95] Re
a = 0.0185 [0.0046] AU
Ag = 2.25 [1.63] [0.77σ]
Teffp = 6107 [1001] K [2.75σ]

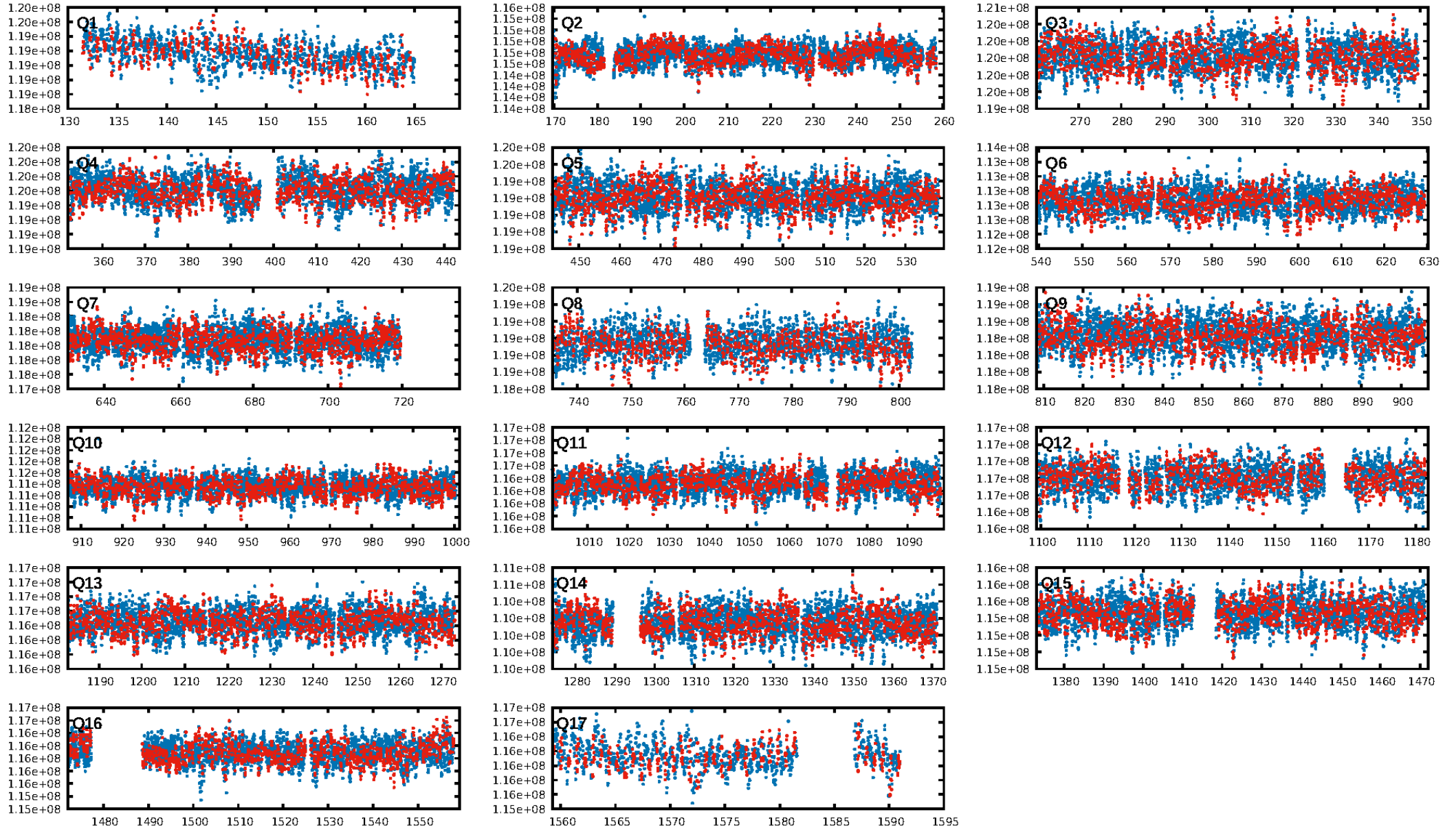
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.9% [3.18σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.64e-34
RollingBand-fgt: 0.98 [1126/1154]
GhostDiagnostic-chr: 1.219
Centroid-sig: 14.5%
Centroid-so: 0.106 arcsec [0.42σ]
OotOffset-rm: 0.207 arcsec [0.38σ]
KicOffset-rm: 0.123 arcsec [0.33σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

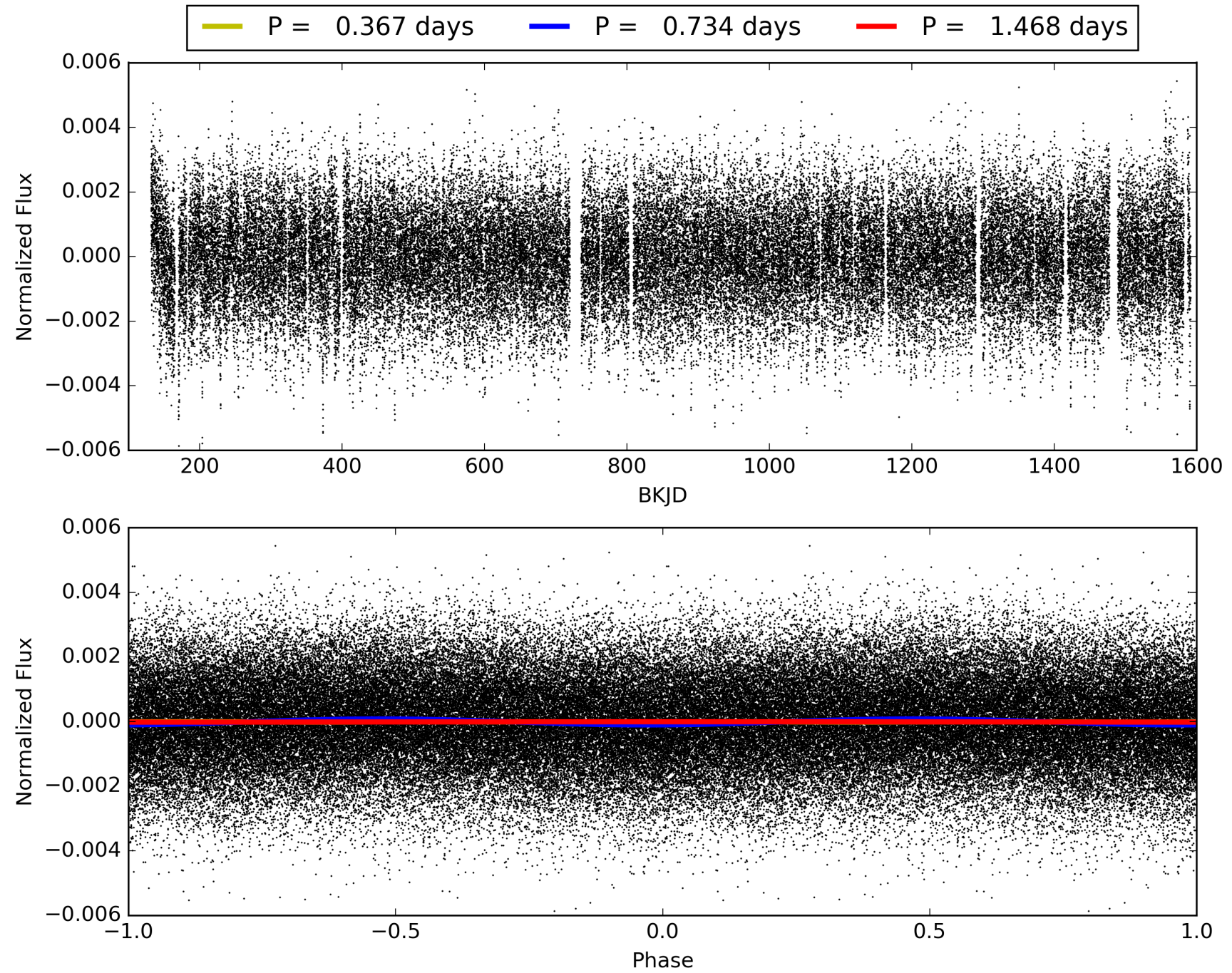
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:28:48 Z

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

TCE 003238073-03, PDC Light Curves

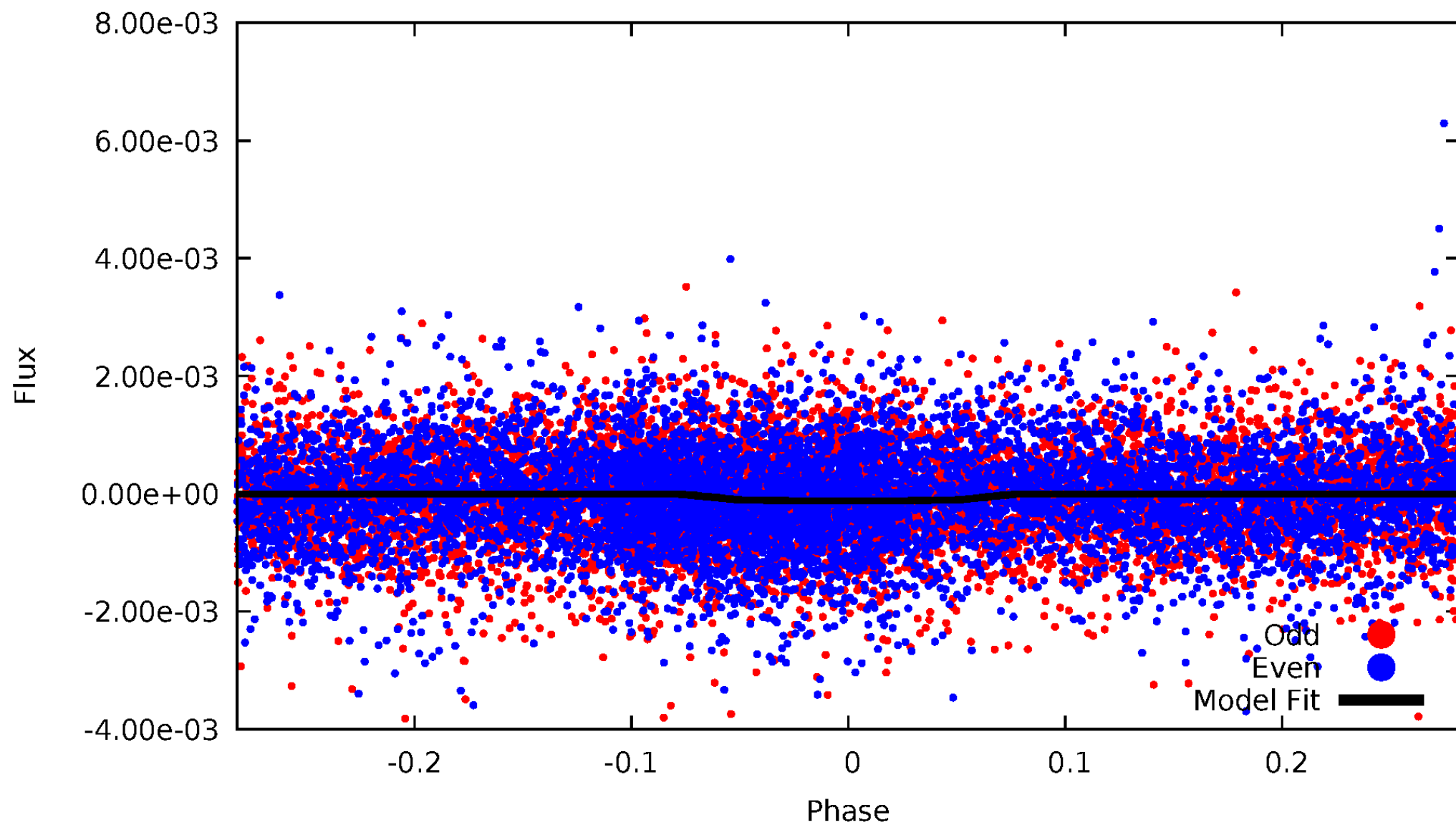


TCE 003238073-03



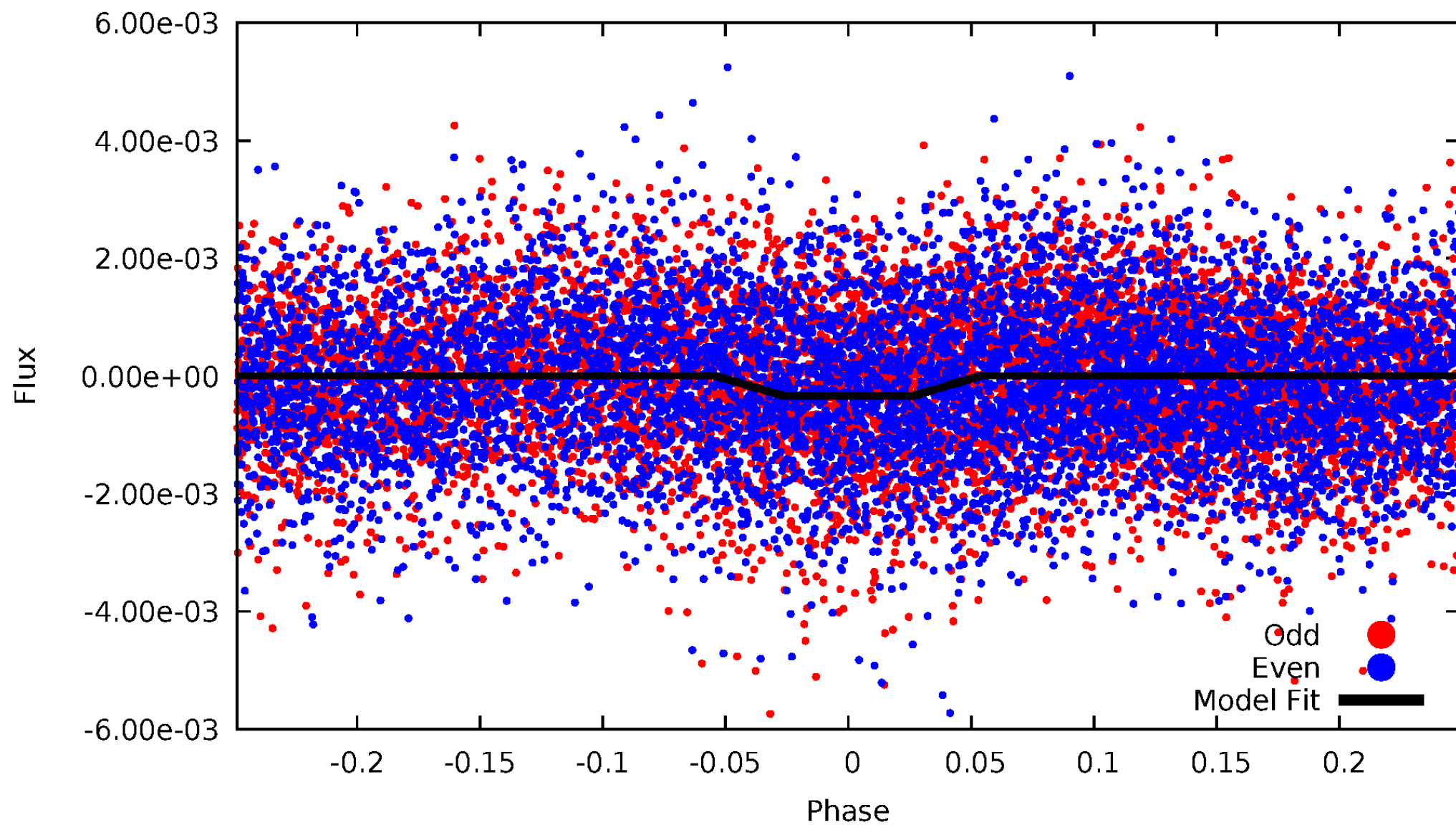
DV Odd/Even

TCE 003238073-03



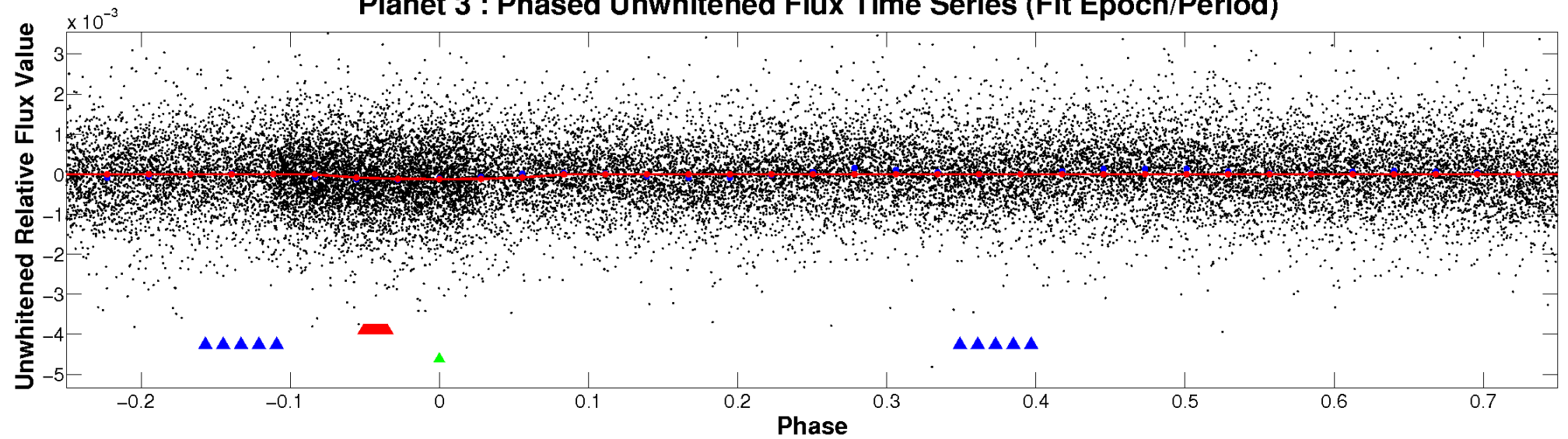
ALT Odd/Even

TCE 003238073-03

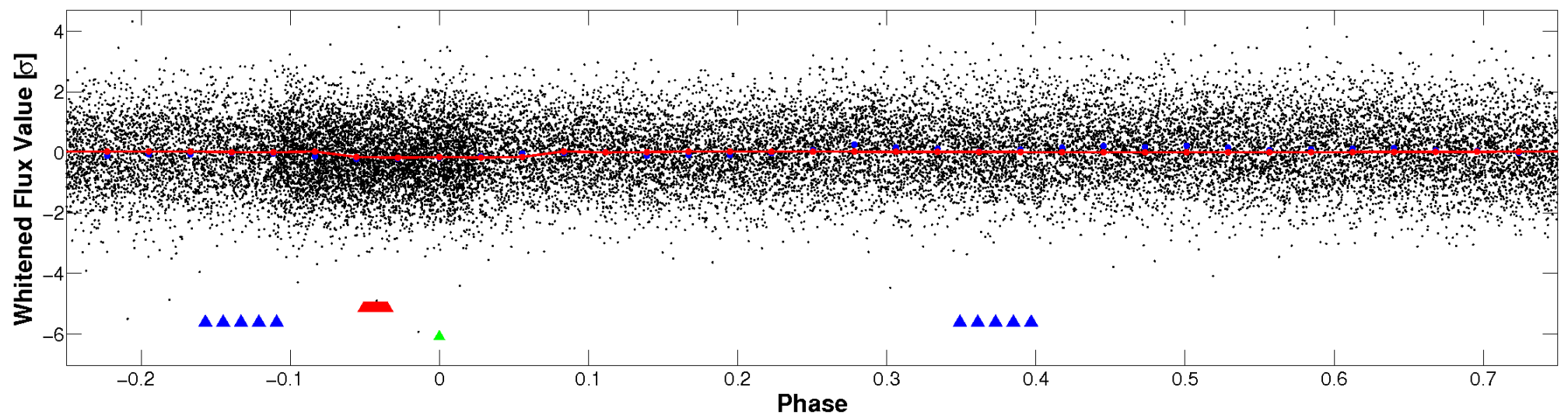


Non-Whitened Vs. Whitened Light Curve

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

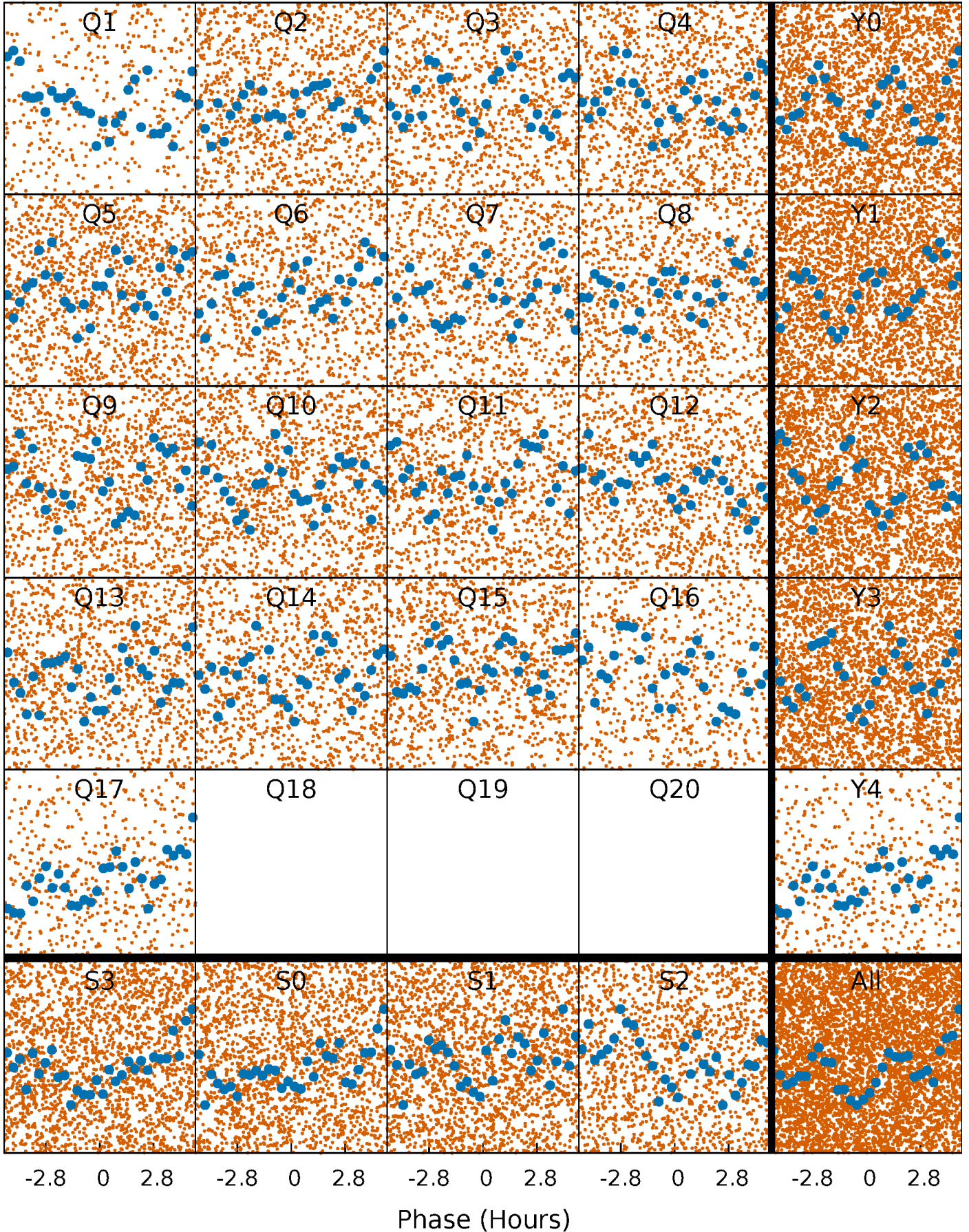


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



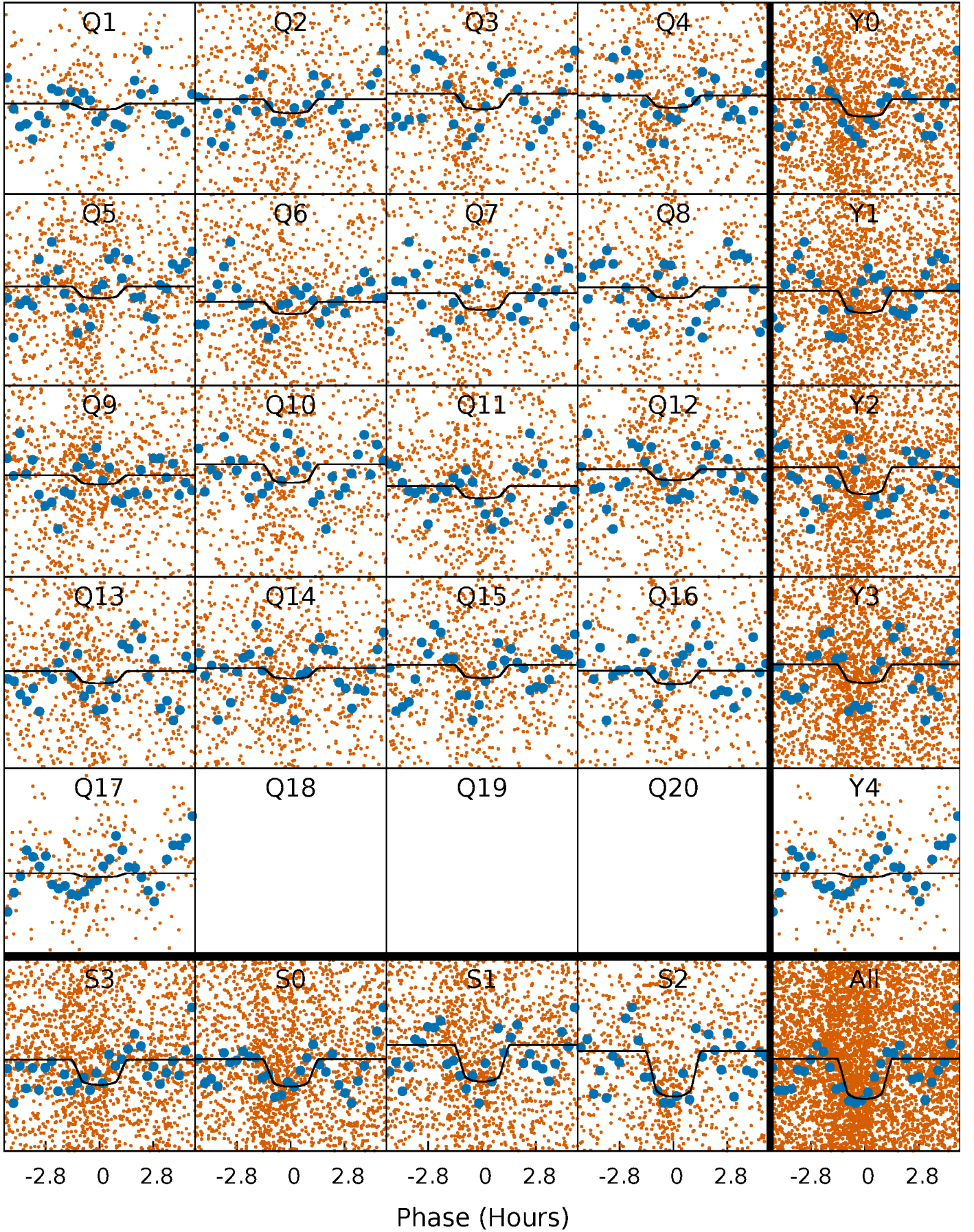
PDC Quarter-Phased Transit Curves

TCE 003238073-03 P= 0.734075 Days $T_0=131.519421$ (BKJD)



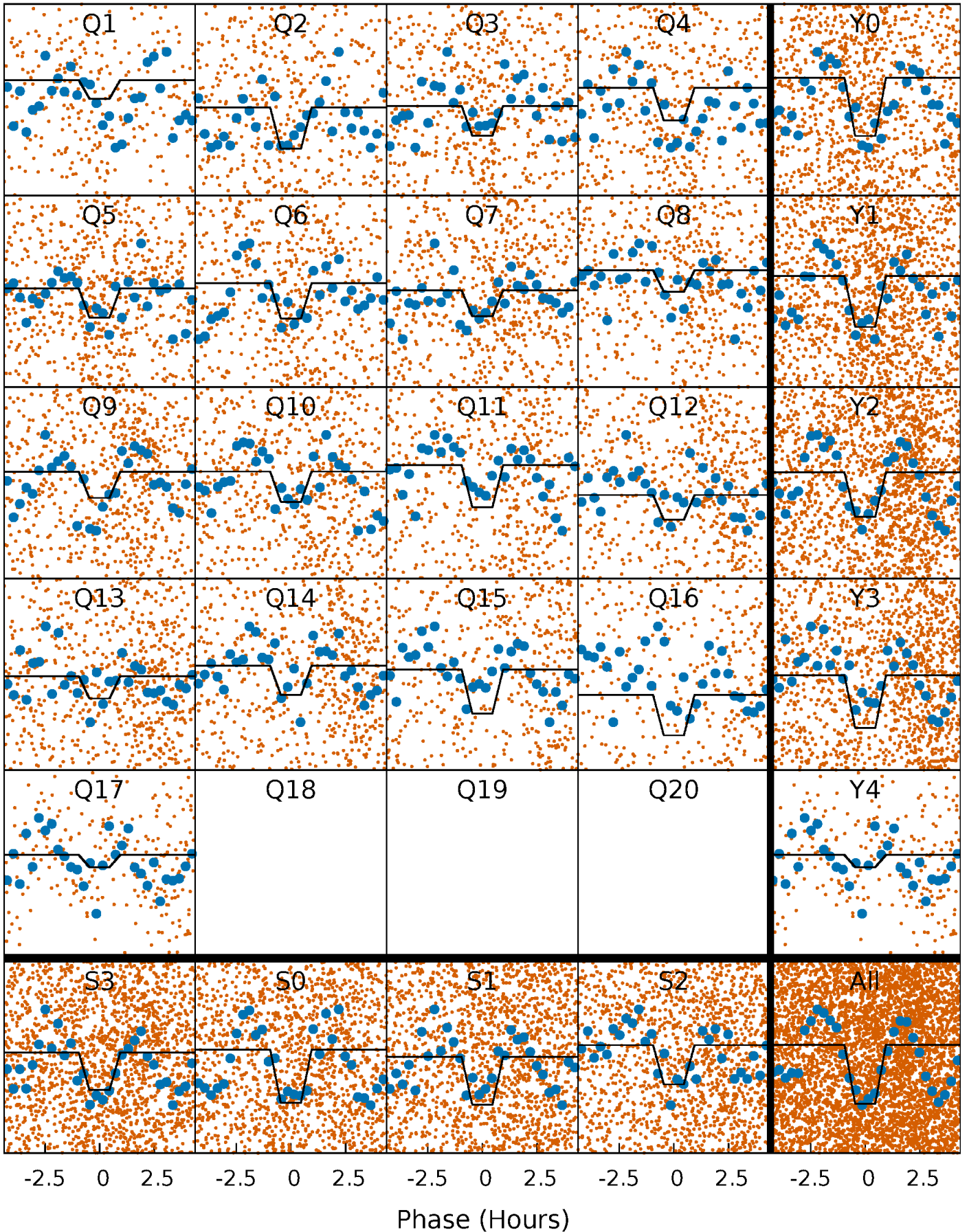
DV Quarter-Phased Transit Curves

TCE 003238073-03 P= 0.734075 Days $T_0=131.519421$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

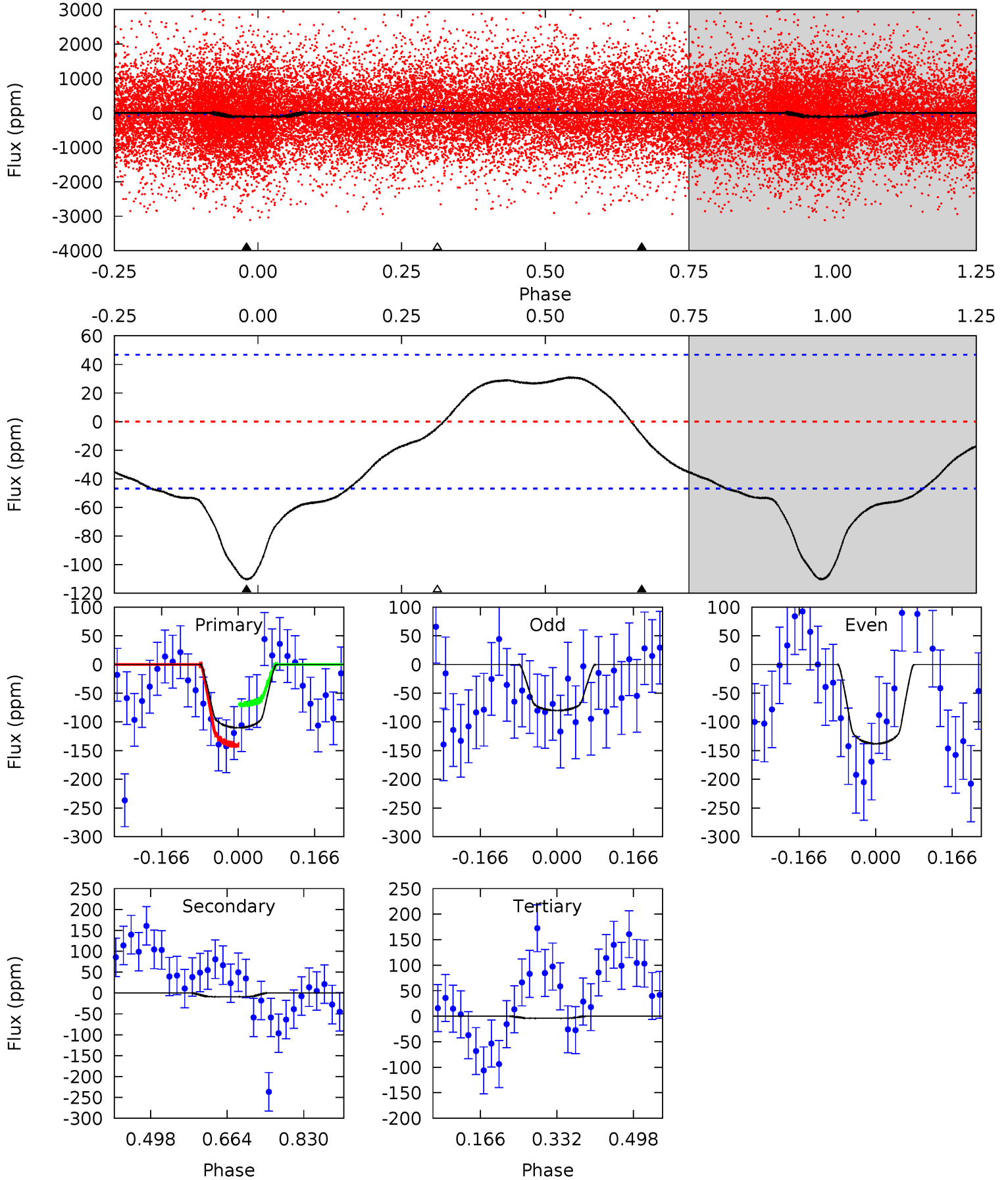
TCE 003238073-03 P= 0.733987 Days $T_0=131.517165$ (BKJD)



DV Model-Shift Uniqueness Test

003238073-03, P = 0.734075 Days, E = 130.785346 Days

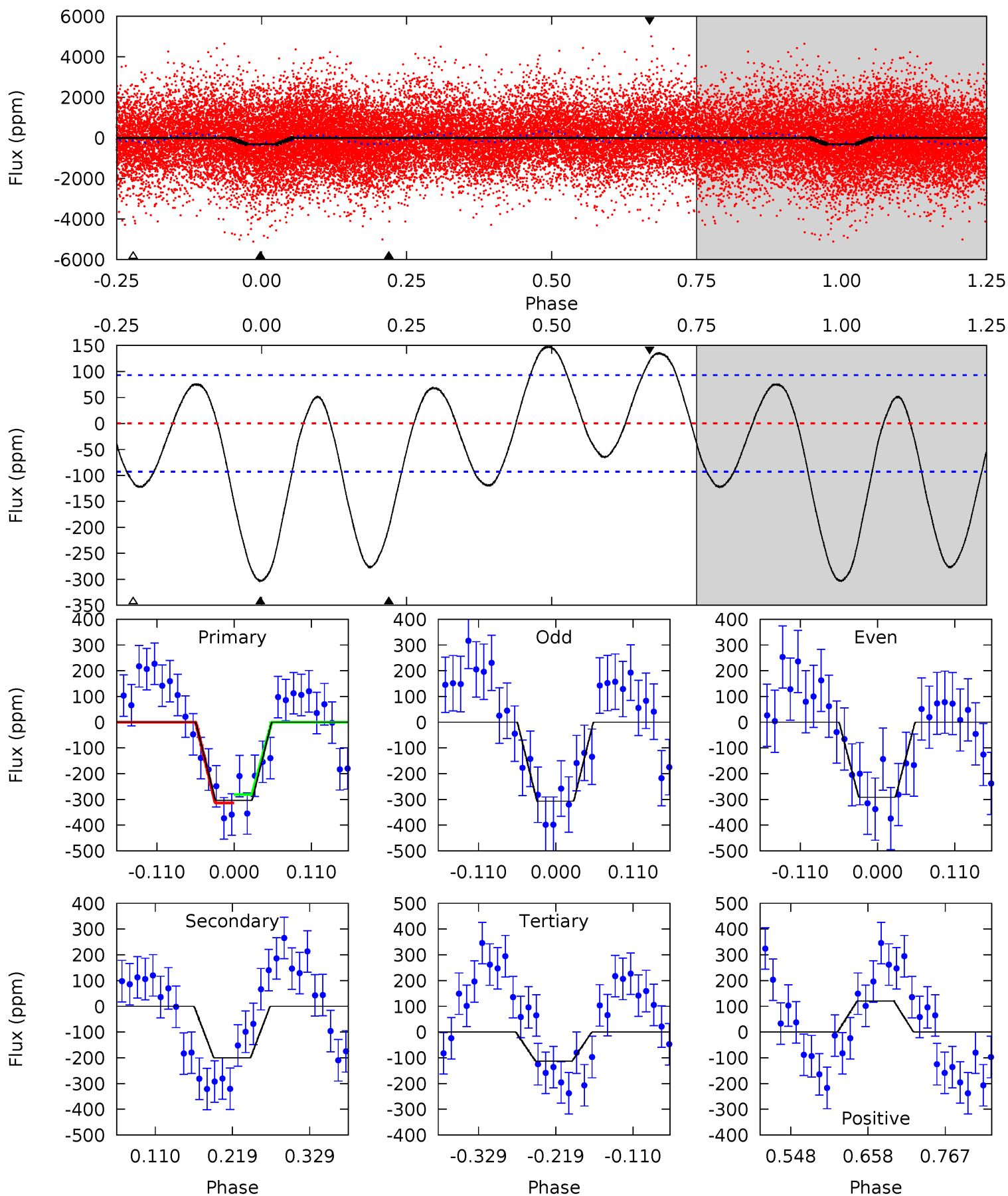
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	0.88	0.40	0	4.46	1.39	2.45	10.1	10.5	0.48	0.88	2.77	1.09	0.22	3.26



Alt Model-Shift Uniqueness Test

003238073-03, P = 0.733987 Days, E = 130.783178 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	9.81	5.53	5.91	4.55	1.60	4.14	9.34	8.97	4.28	3.90	0.38	1.12	0.33	0.77



Stellar Parameters For KIC 003238073

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7452^{+233}_{-311}	$4.133^{+0.124}_{-0.186}$	$-0.060^{+0.200}_{-0.350}$	$1.781^{+0.548}_{-0.365}$	$1.570^{+0.213}_{-0.237}$	$0.392^{+0.275}_{-0.185}$
	+3%/-4%	+3%/-5%	+333%/-583%	+31%/-20%	+14%/-15%	+70%/-47%
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 003238073-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 10	$2.29^{+0.82}_{-0.64}$	4536^{+362}_{-299}	-2442^{+6833}_{-1736}	$0.291^{+0.481}_{-0.342}$
Alt.	-200 ± 20	$3.62^{+0.88}_{-0.74}$	4539^{+341}_{-284}	6222^{+844}_{-577}	$2.858^{+1.571}_{-1.042}$

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 $A_{obs} \gg 1.0$

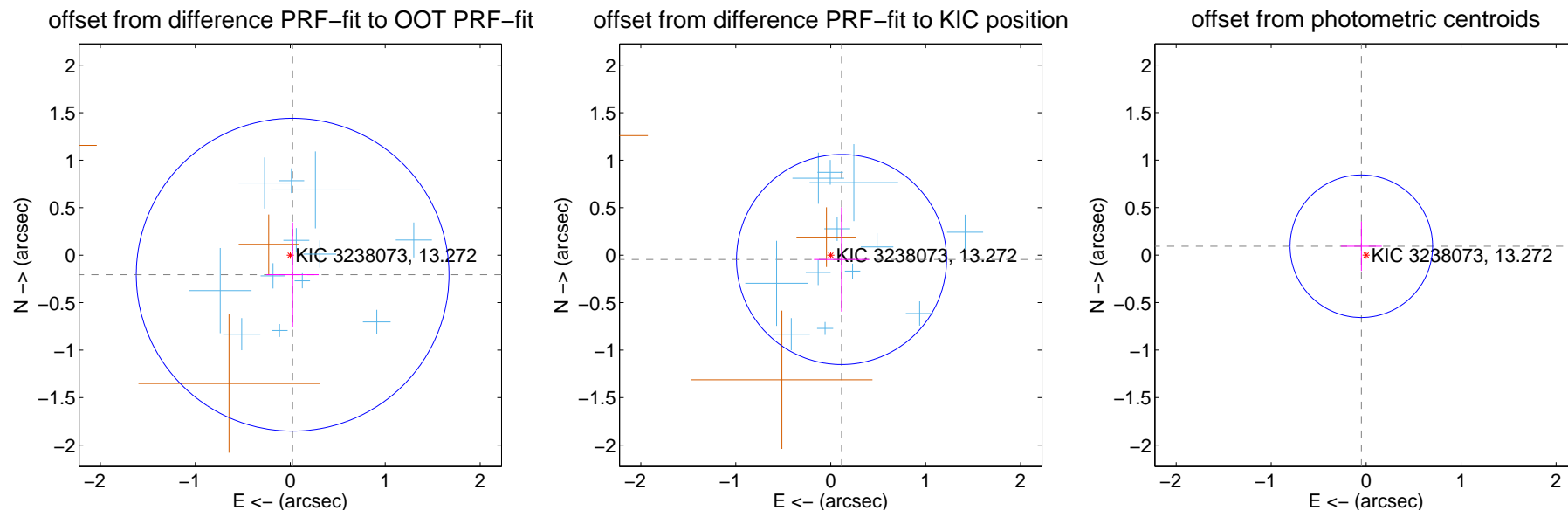
DV Centroid Data

Supplemental centroid analysis for 003238073-03. Kepler magnitude: 13.27. Transit SNR 11.65

There are 12 quarters with good PRF difference image offsets

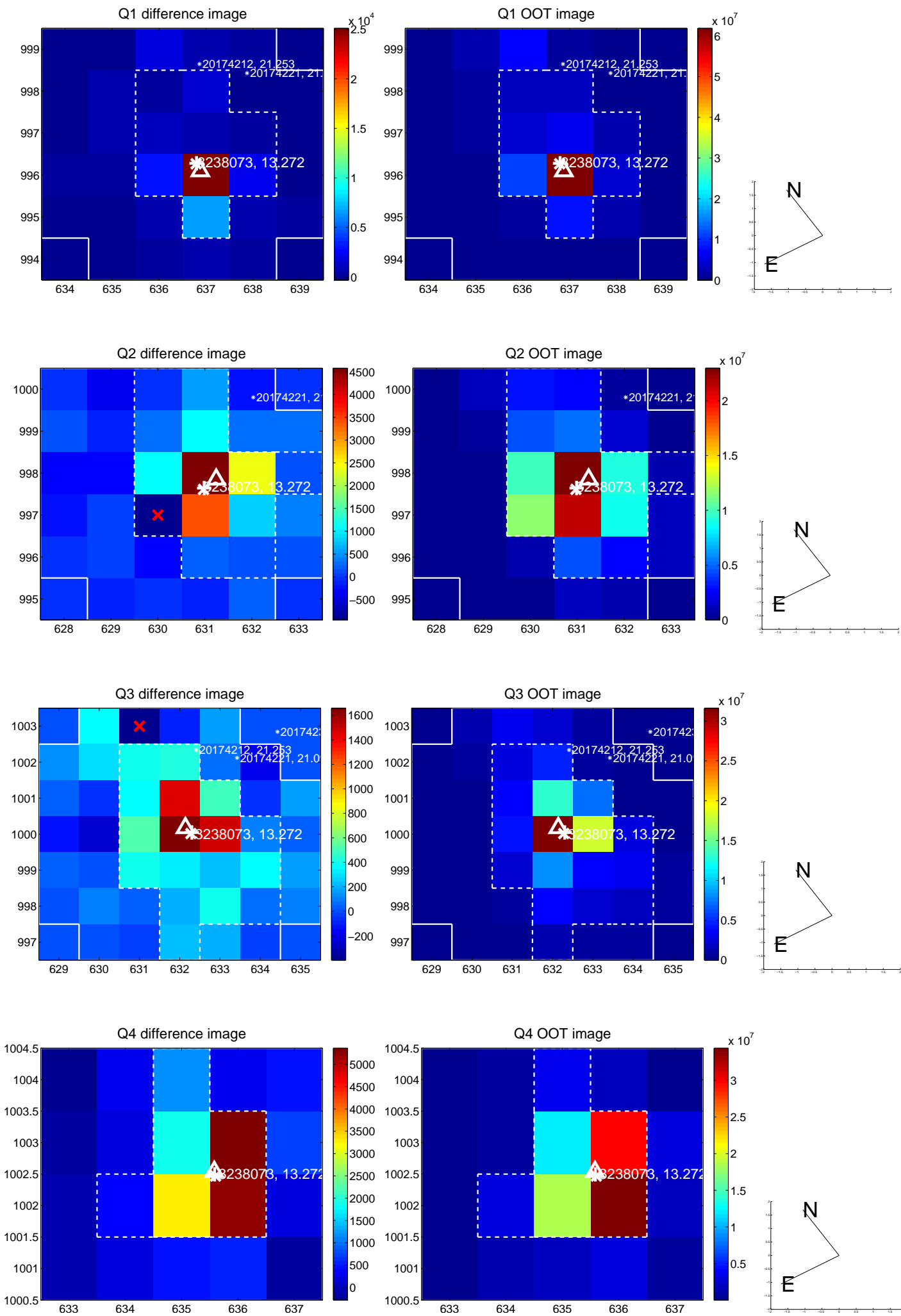
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.207 ± 0.549	0.38	-0.025 ± 0.275	-0.206 ± 0.549
PRF-fit source offset from KIC position	0.123 ± 0.369	0.33	-0.114 ± 0.290	-0.046 ± 0.549
photometric centroid source offset	0.11 ± 0.25	0.42	0.05 ± 0.21	0.09 ± 0.26

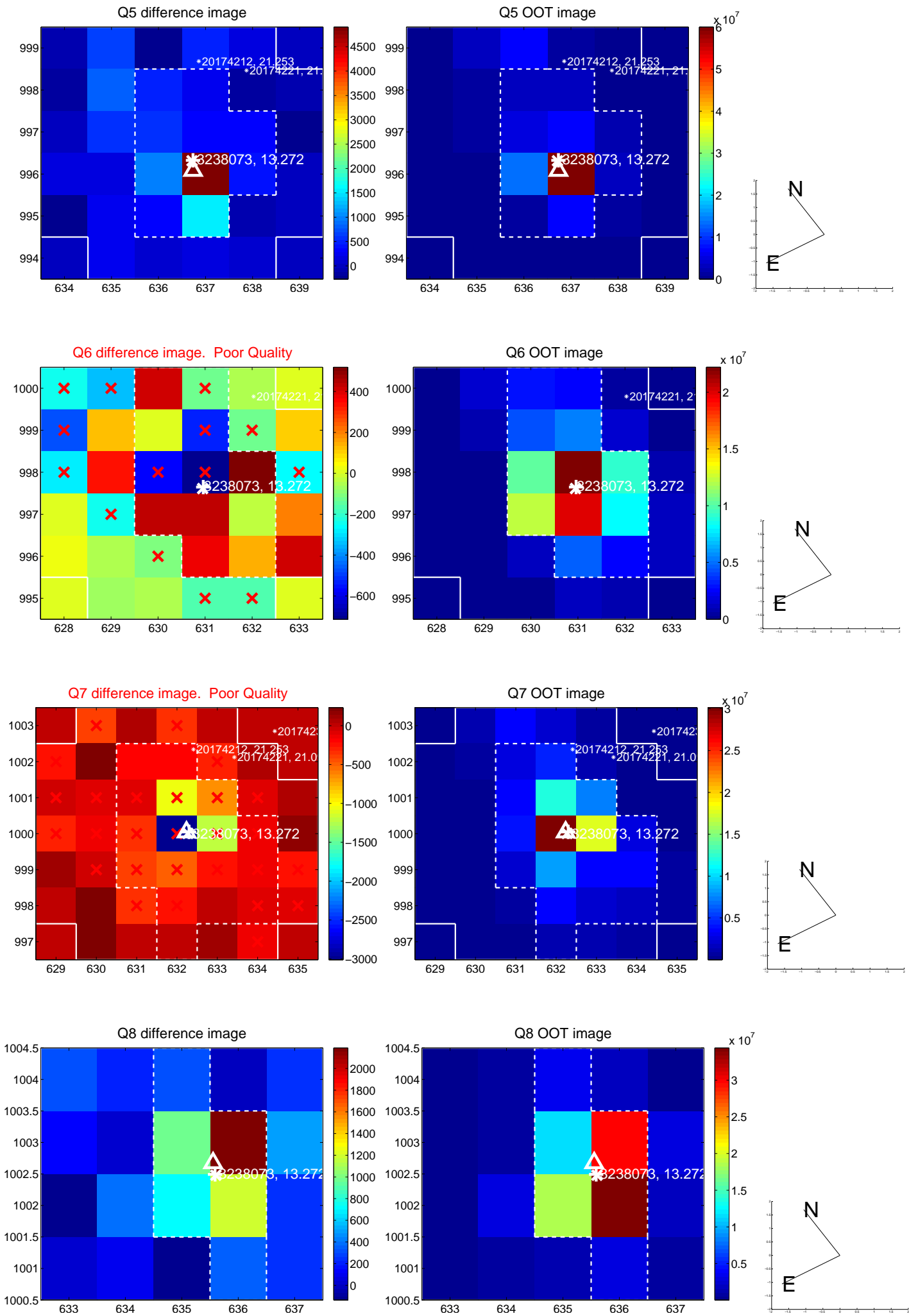


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

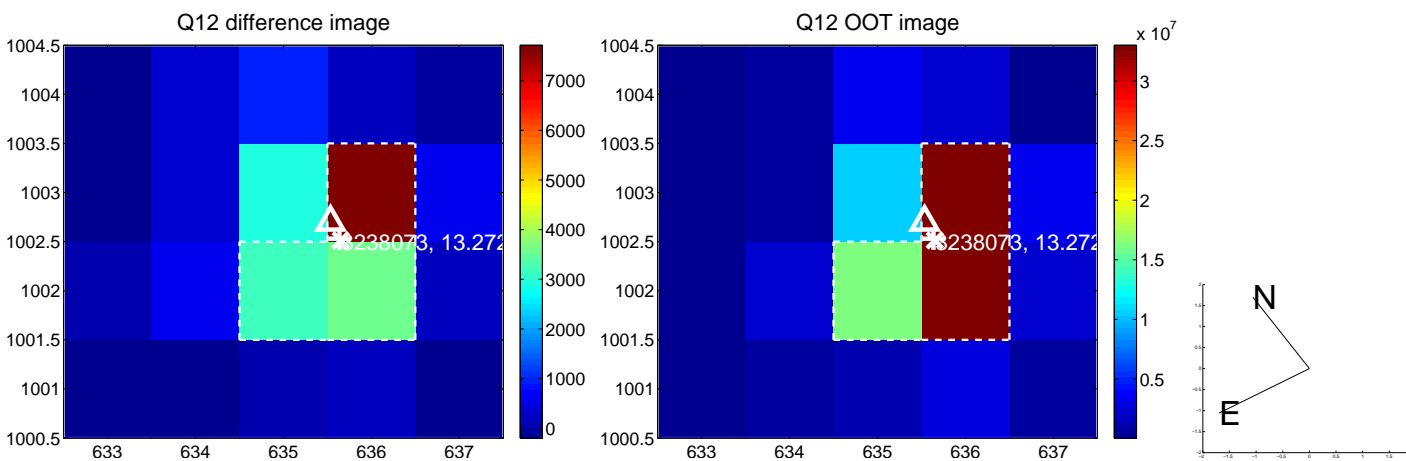
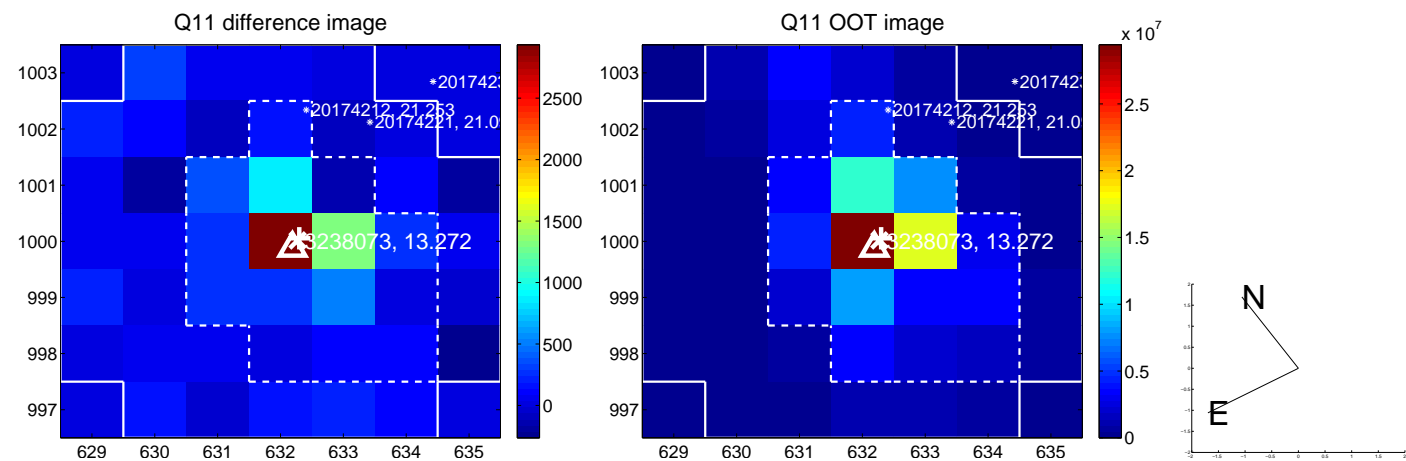
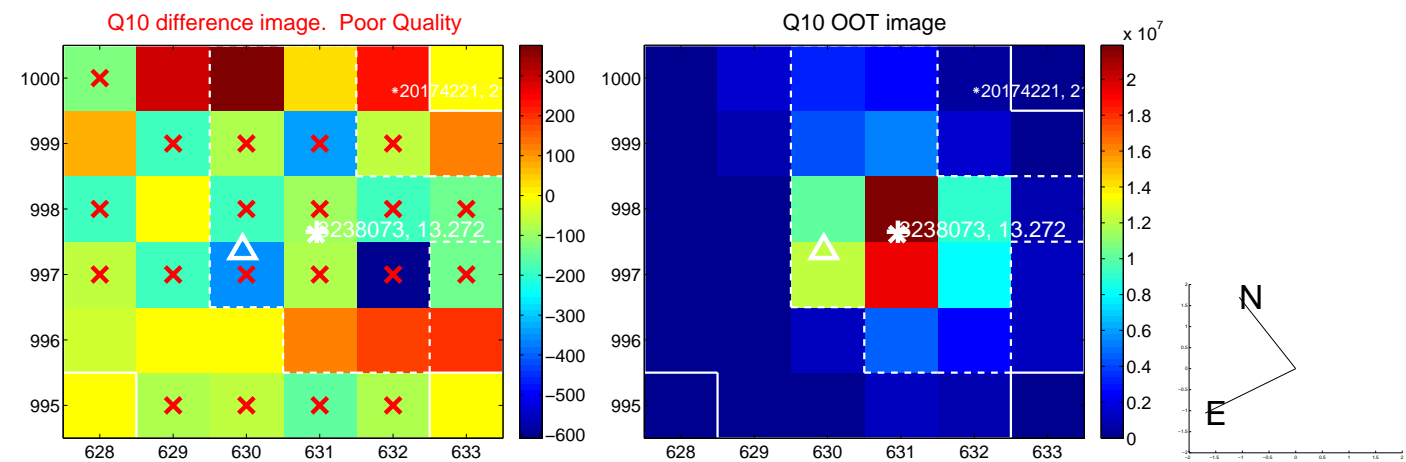
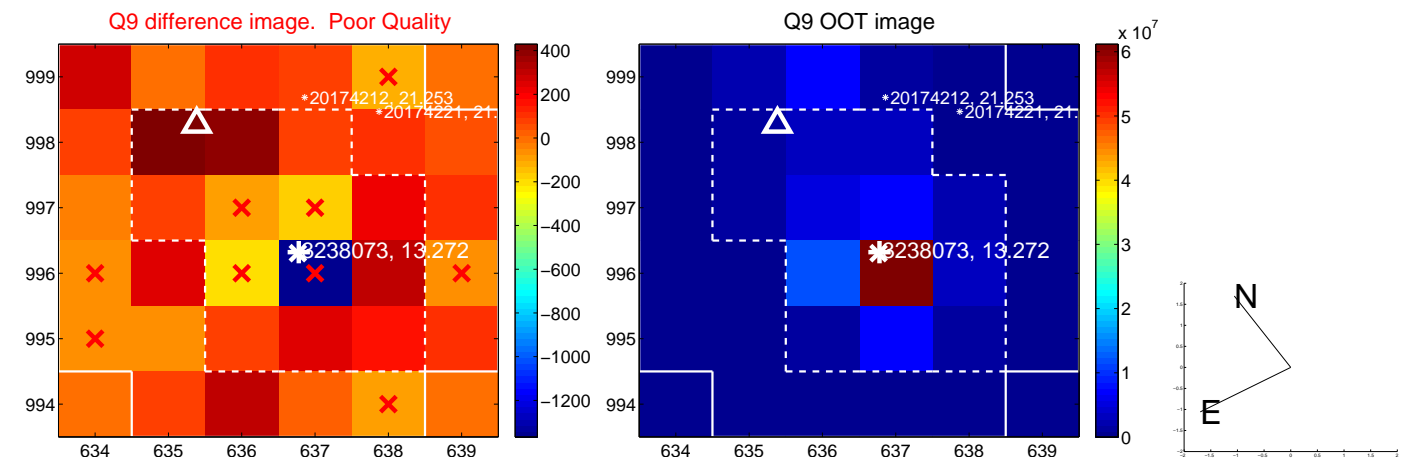
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



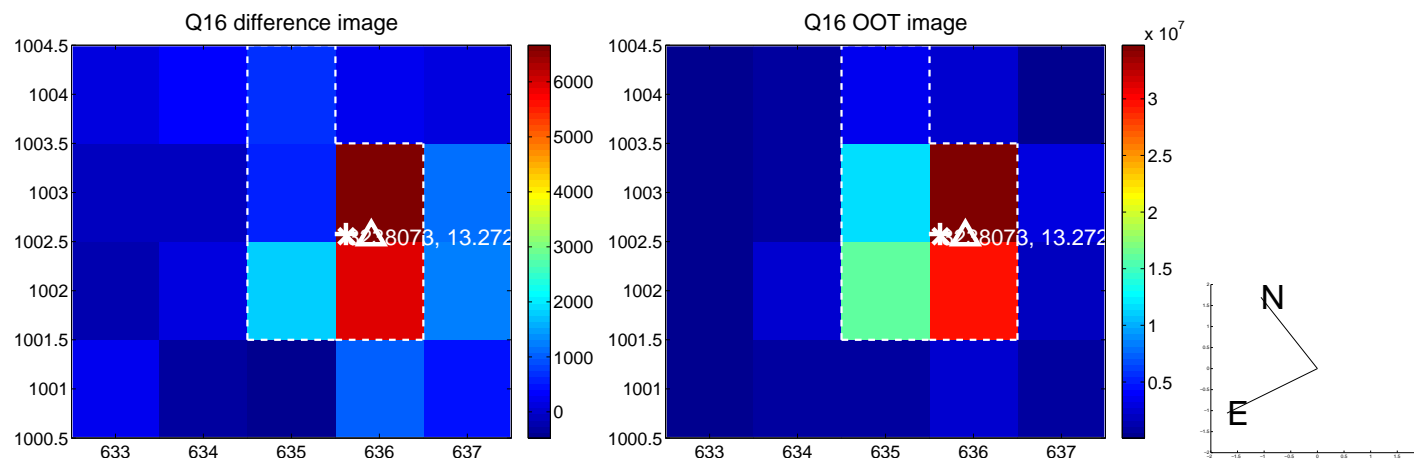
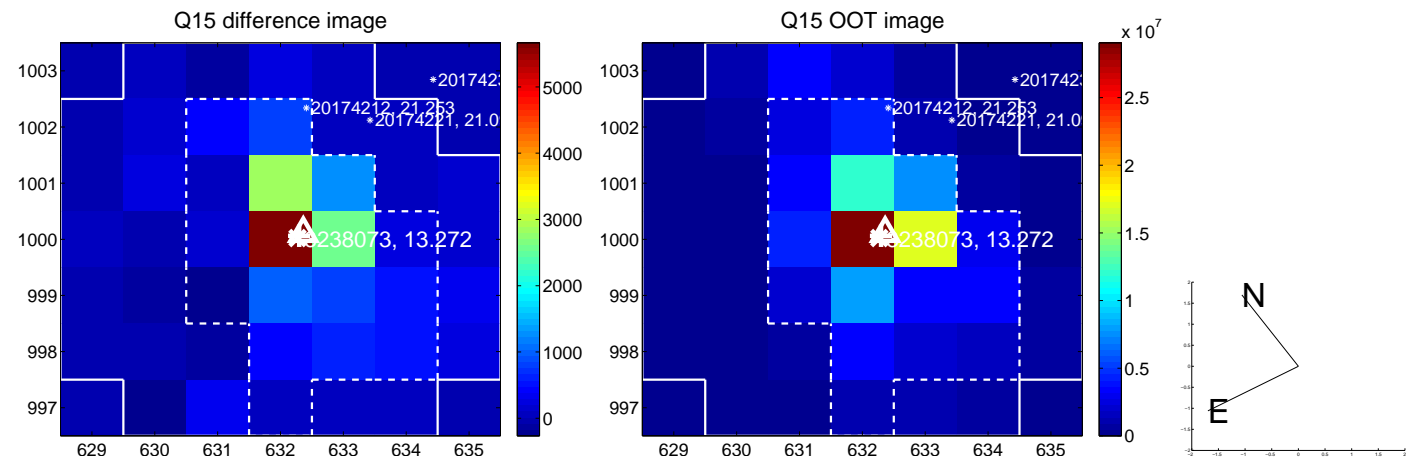
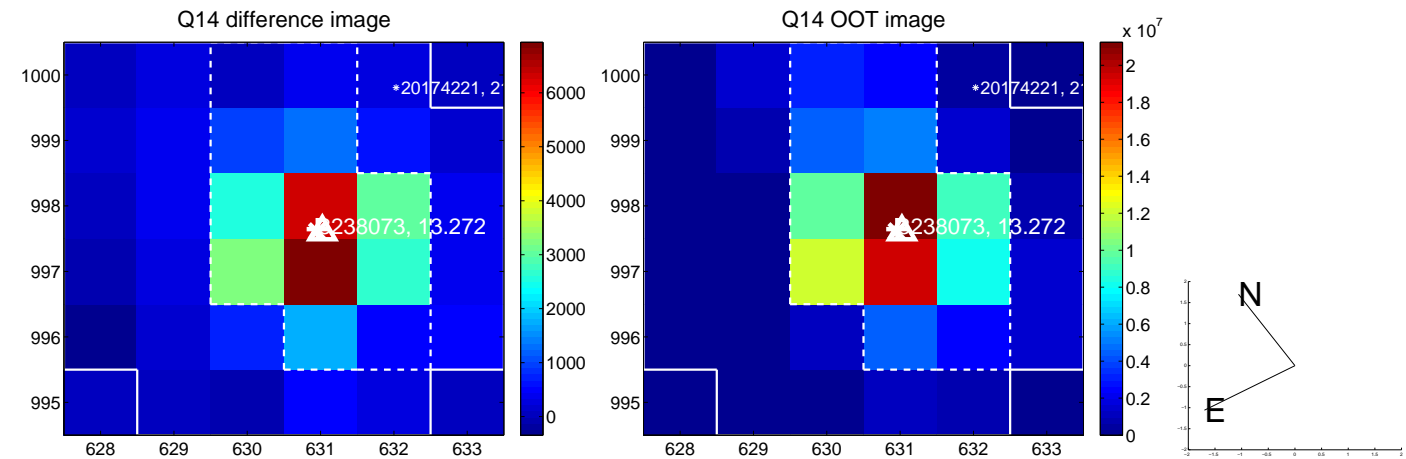
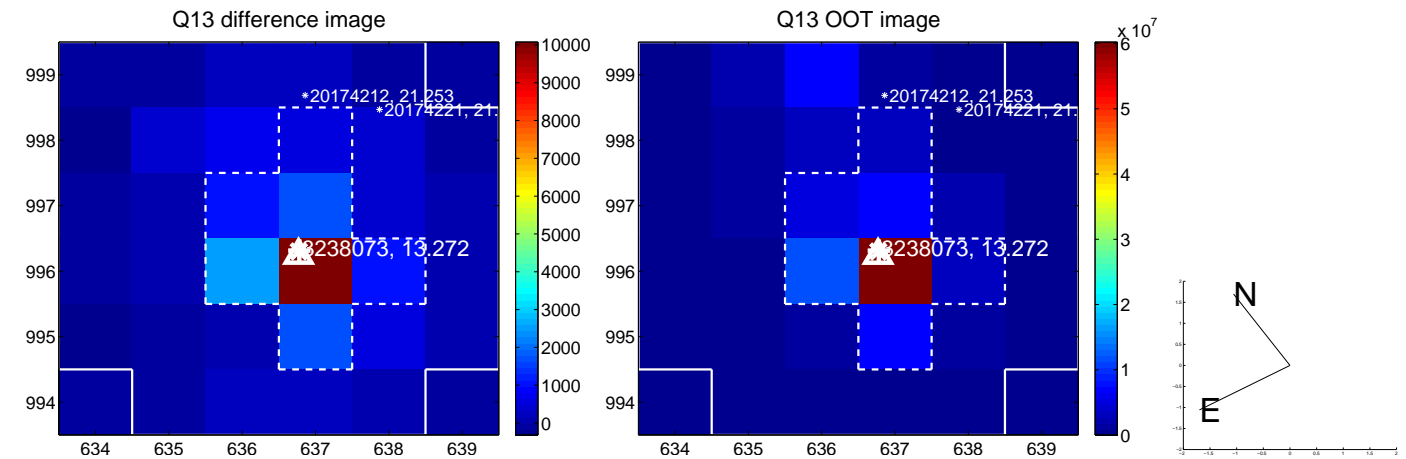
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



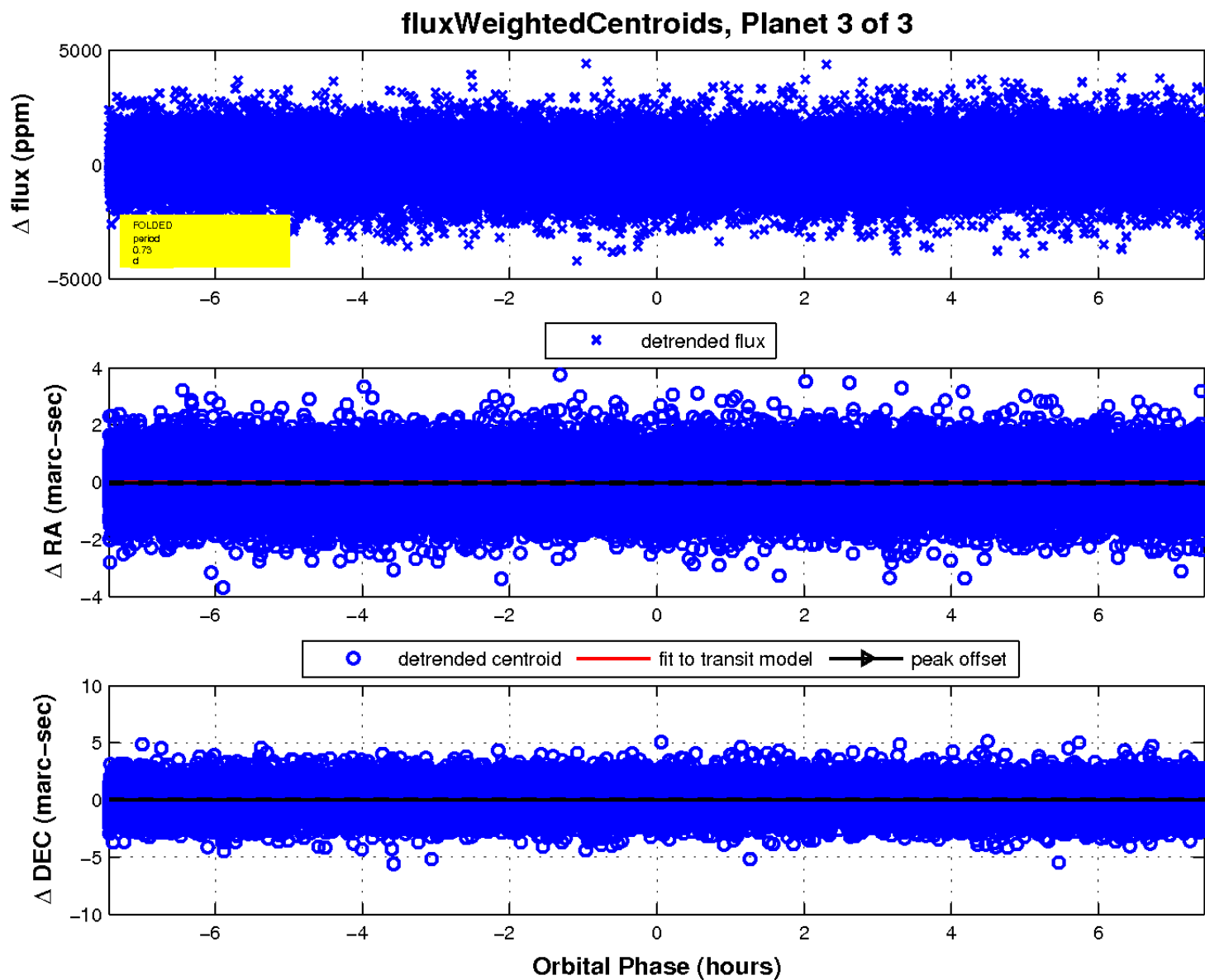
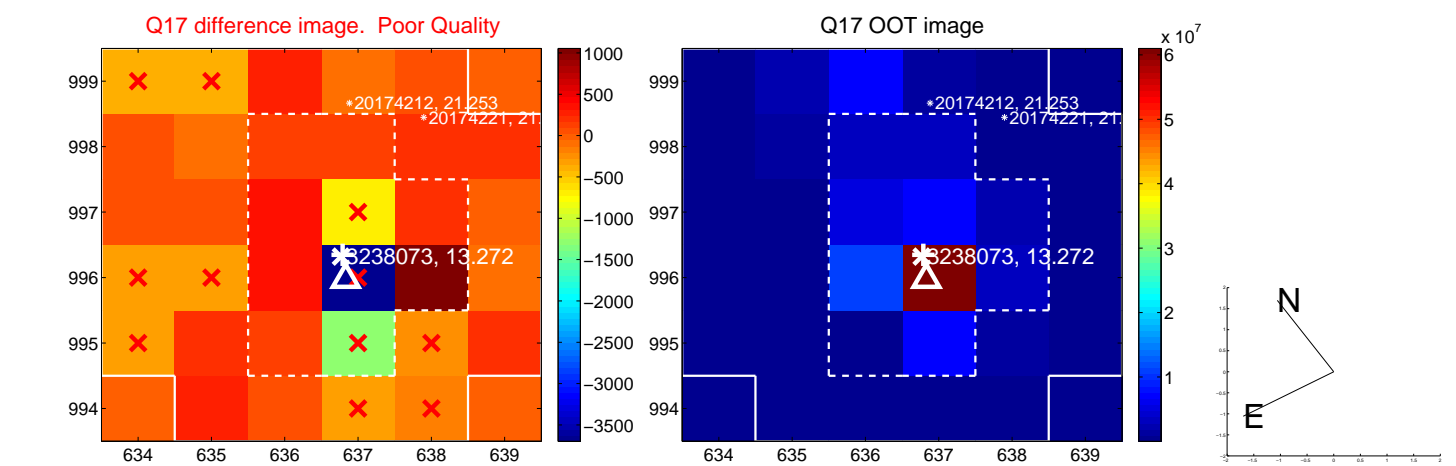
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

