

KIC 009341243

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})
009341243-01	OBS	No	0.809977	132.054774	10.0	5.759	9.1	4.6	4.46	7021	1.42	92872.75
009341243-02	OBS	No	86.652978	142.186951	349.1	2.482	11.0	12.4	4.46	7021	8.86	182.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009341243-01	OBS	FP	0.00	1	0	0	0	LPP_DV
009341243-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

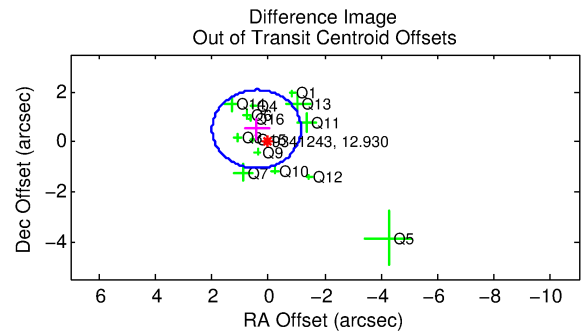
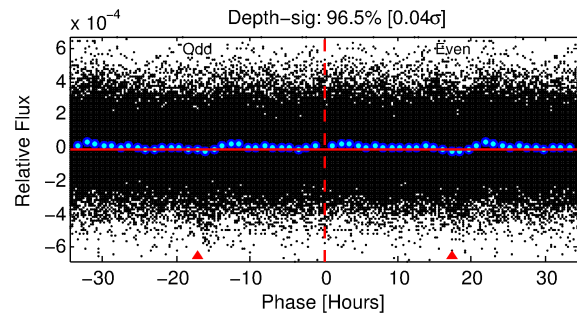
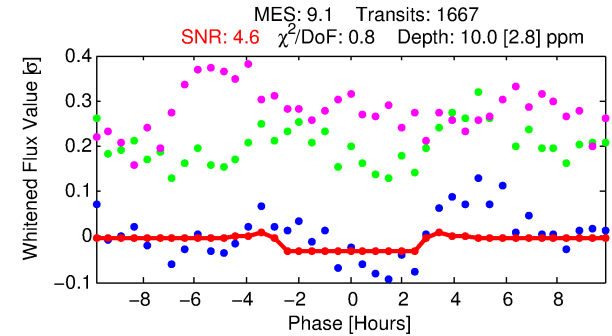
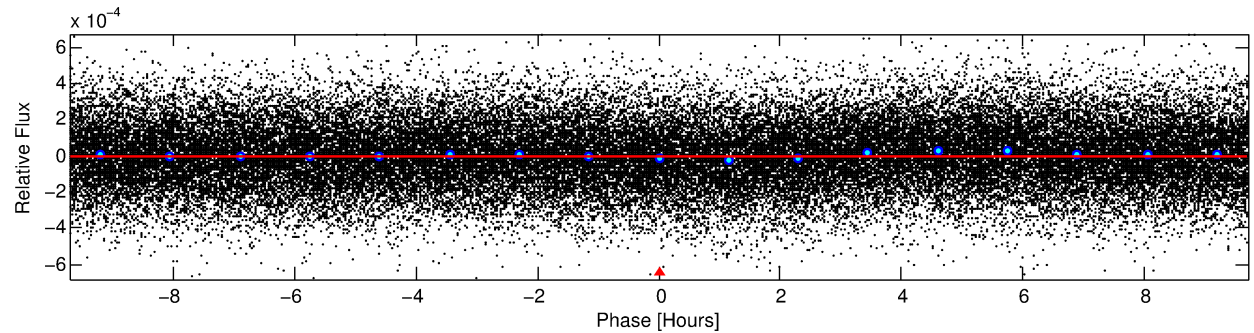
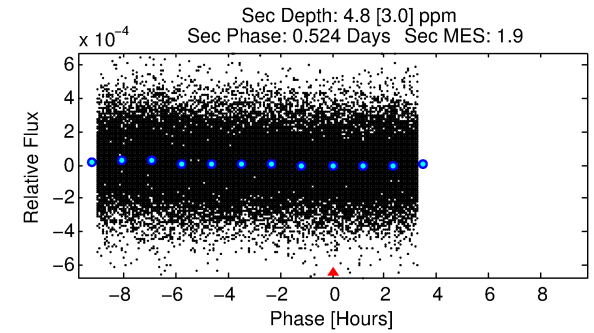
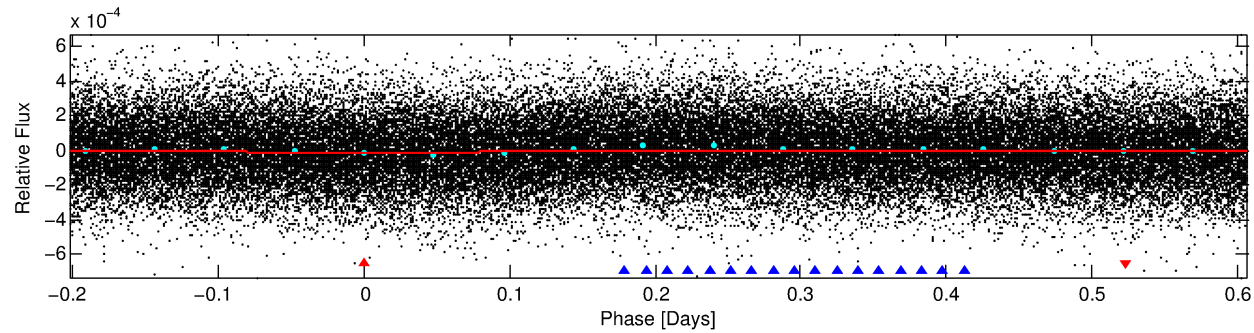
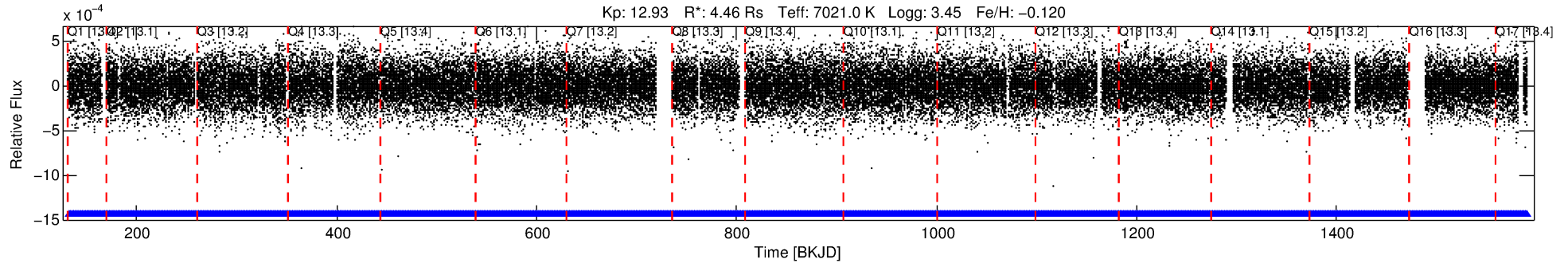
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009341243-01

No Significant Match Found

DV One-Page Summary

KIC: 9341243 Candidate: 1 of 2 Period: 0.810 d



DV Fit Results:

Period = 0.80998 [0.00003] d
Epoch = 132.0548 [0.0083] BKJD
Rp/R* = 0.0029 [0.0044]
a/R* = 1.25 [3.84]
b = 0.07 [127.49]
Seff = 92872.75 [63640.43]
Teq = 4451 [763] K
Rp = 1.42 [2.24] Re
a = 0.0216 [0.0090] AU
Ag = 0.61 [1.92] [-0.20σ]
Teffp = 6074 [4714] K [0.34σ]

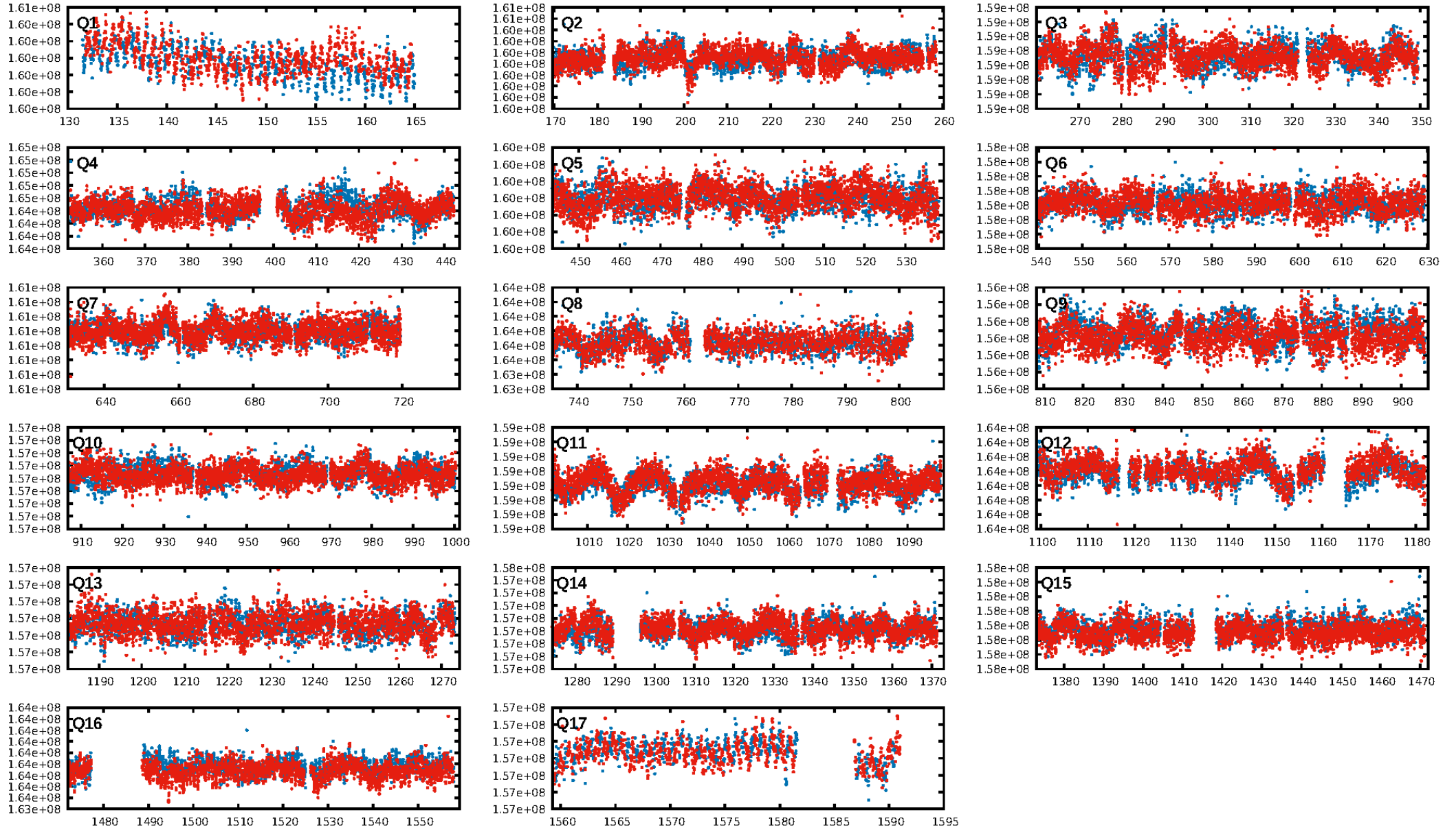
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [328.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.12e-12
RollingBand-fgt: 1.00 [1592/1592]
GhostDiagnostic-chr: -3.385
Centroid-sig: 0.0%
Centroid-so: 4.027 arcsec [2.99σ]
OotOffset-rm: 0.651 arcsec [1.24σ]
KicOffset-rm: 0.687 arcsec [1.38σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [17/17]

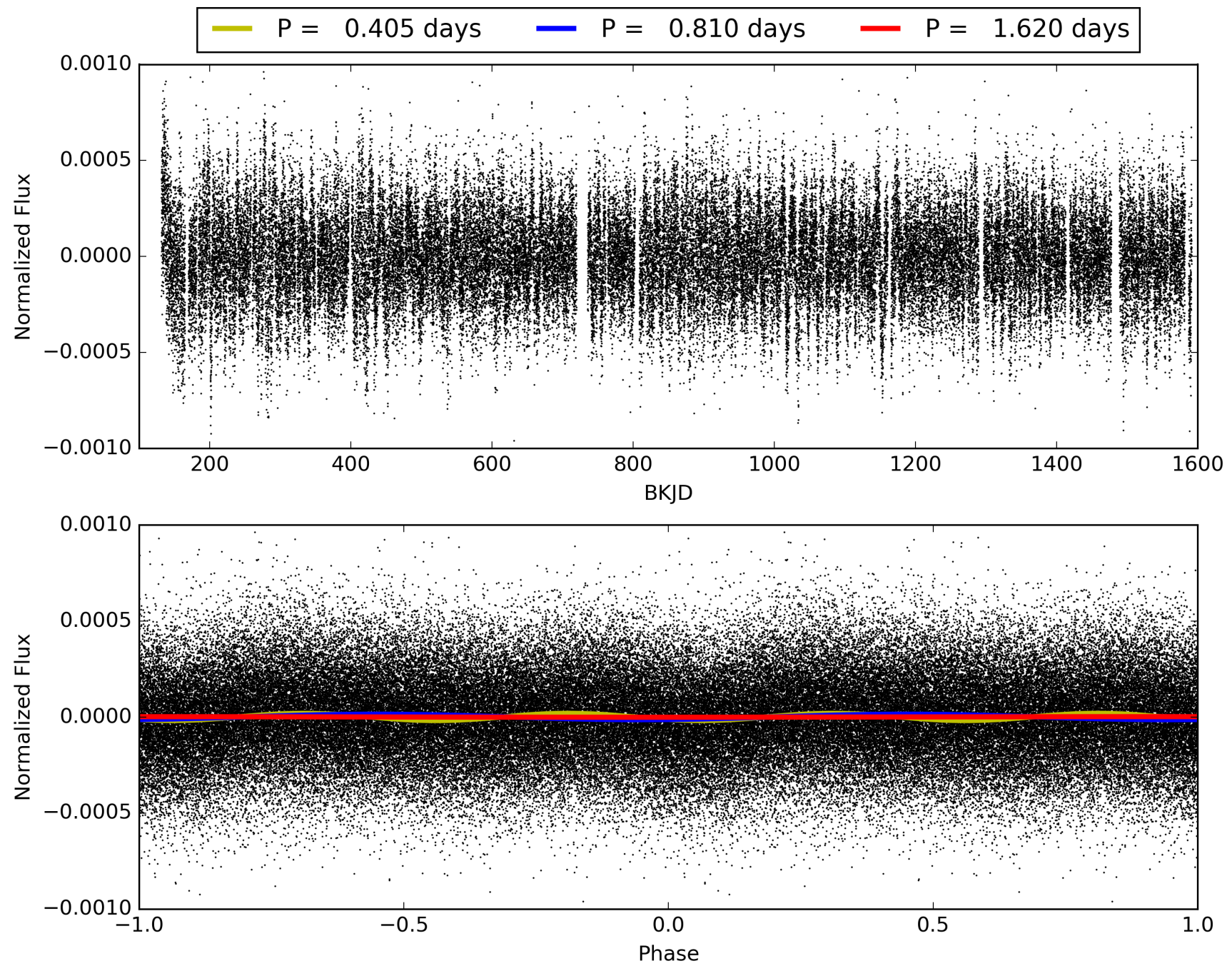
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:30:11 Z

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

TCE 009341243-01, PDC Light Curves

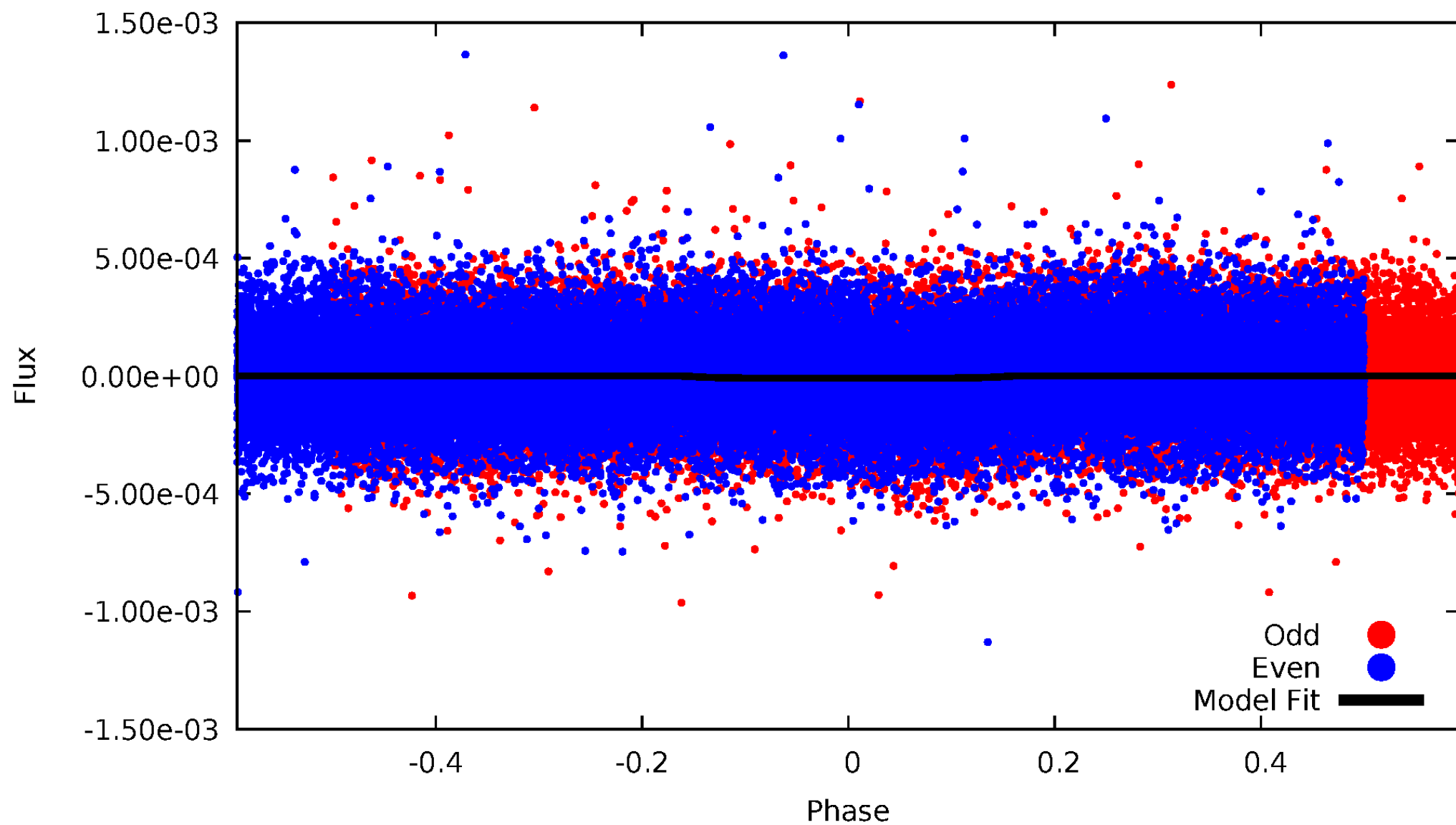


TCE 009341243-01



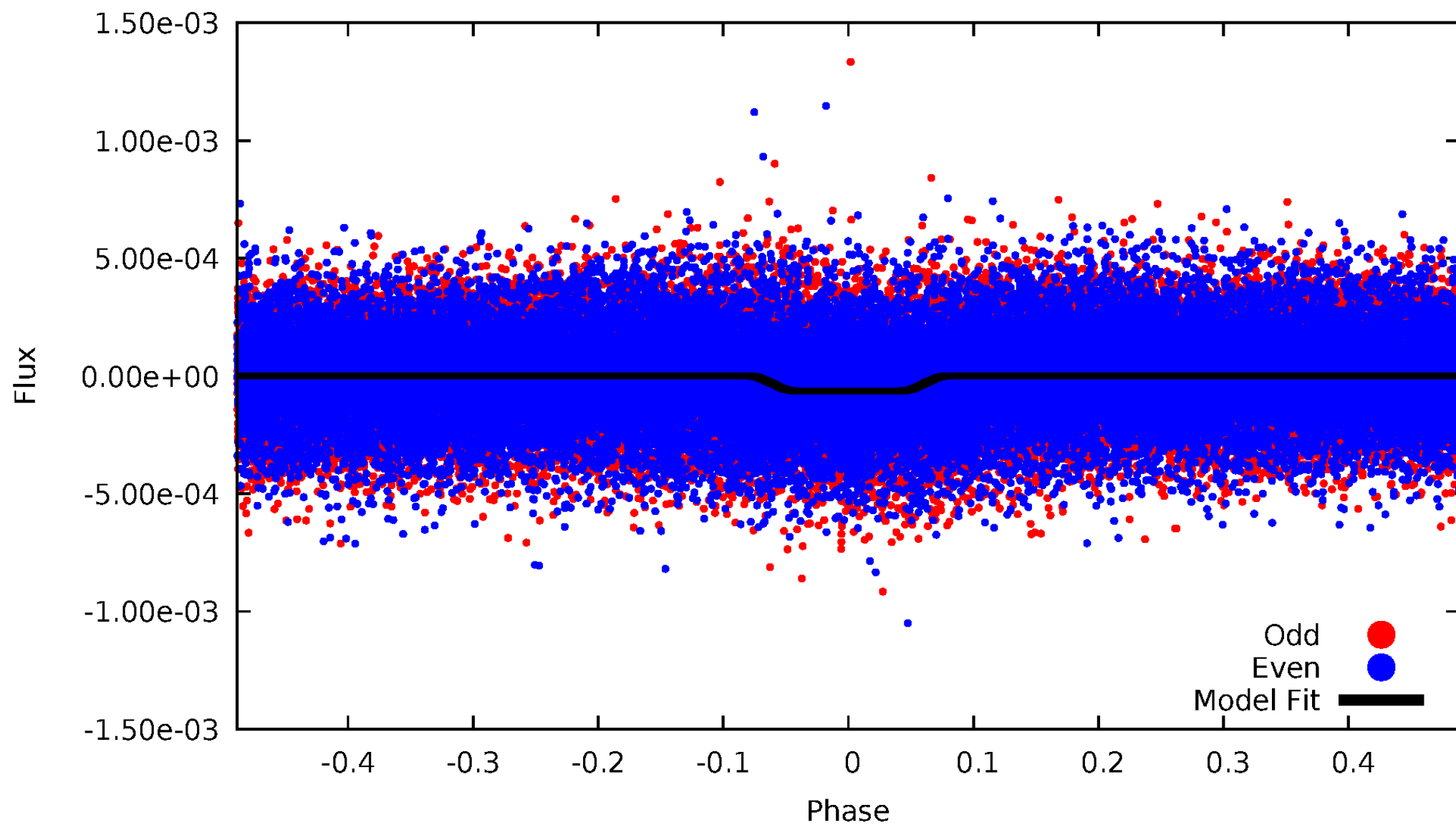
DV Odd/Even

TCE 009341243-01



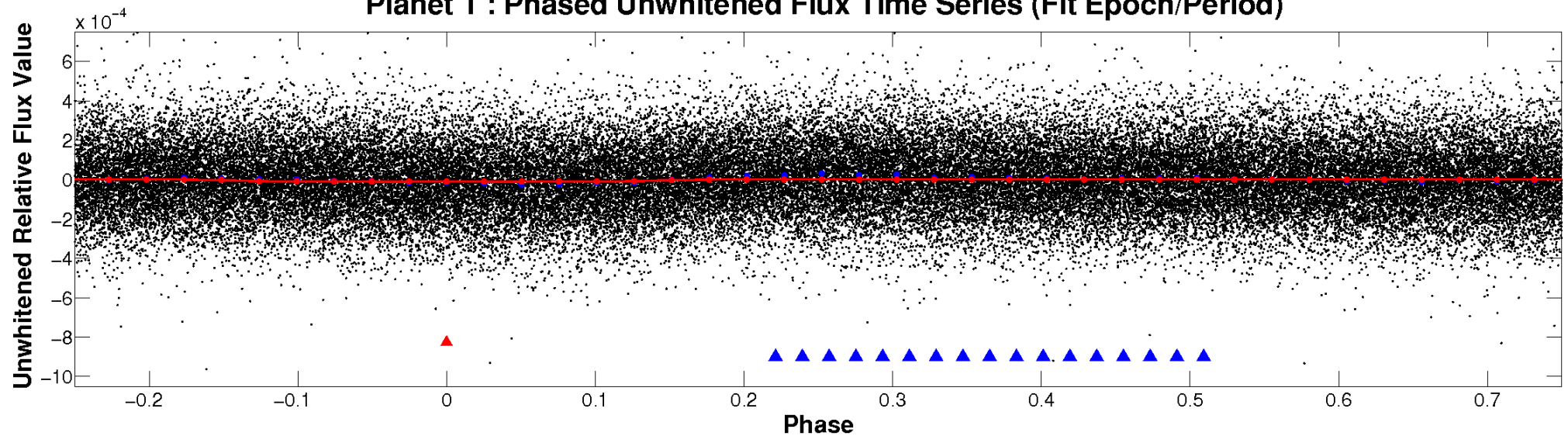
ALT Odd/Even

TCE 009341243-01

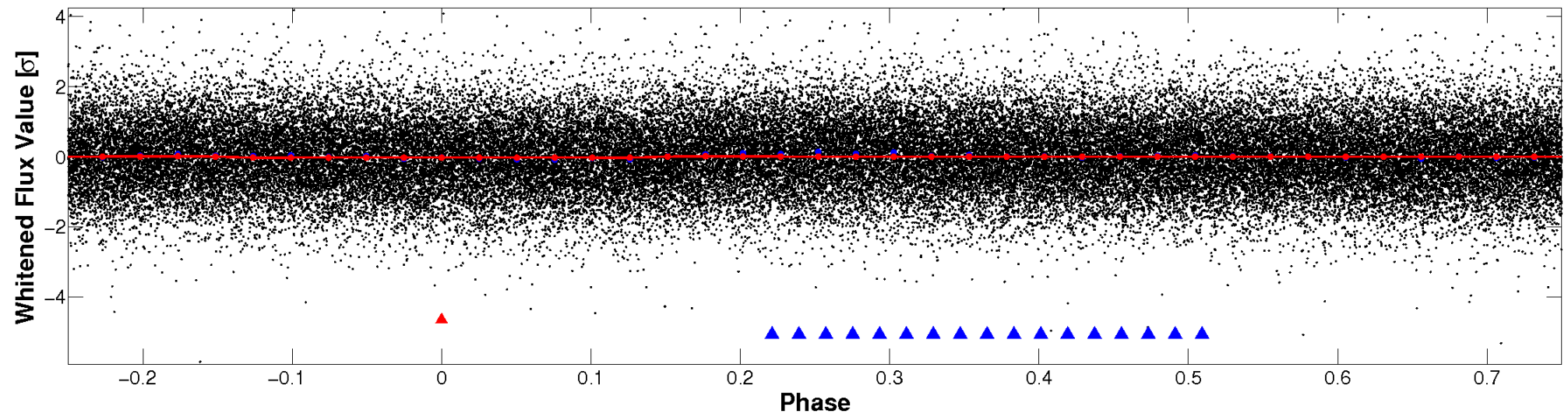


Non-Whitened Vs. Whitened Light Curve

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

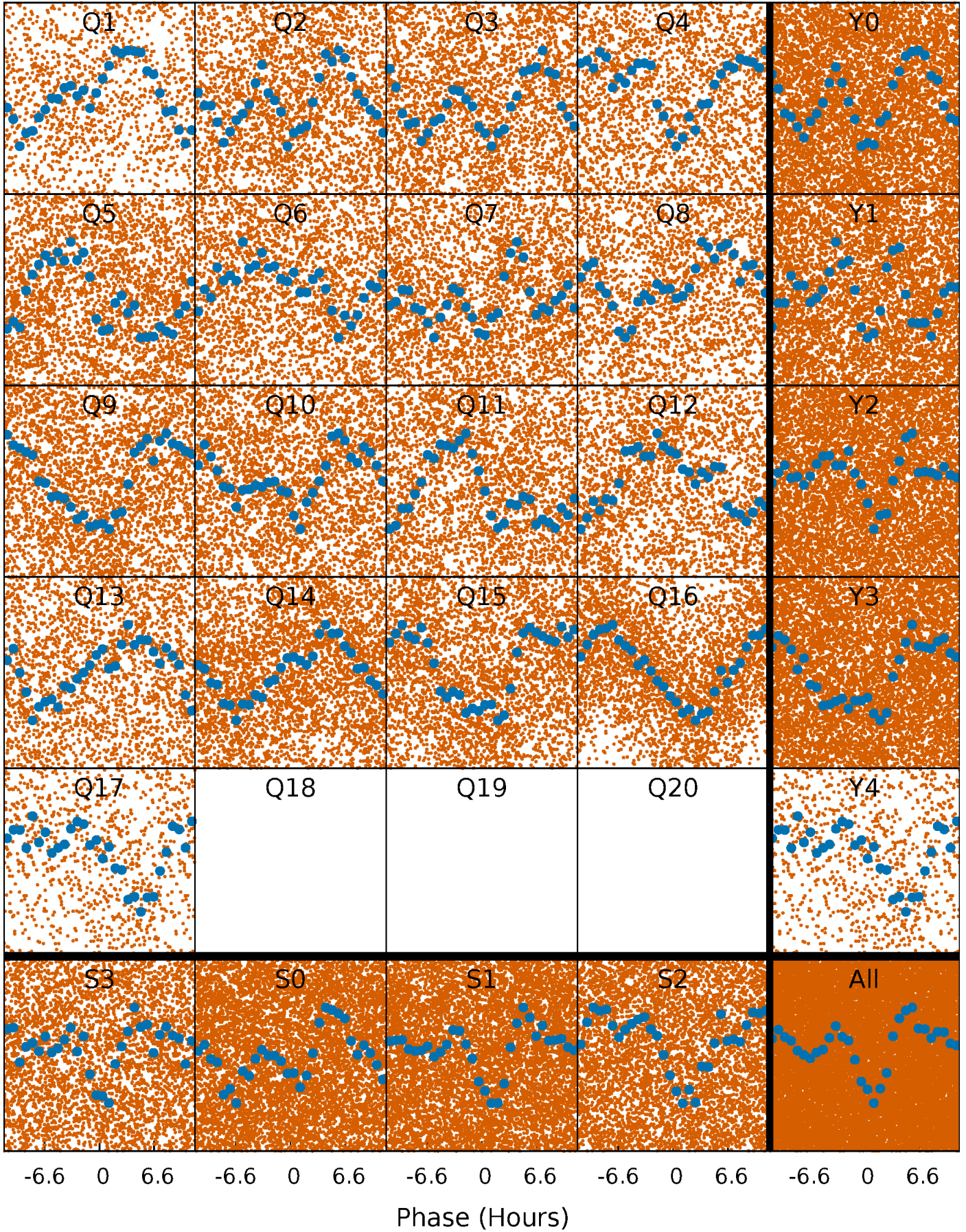


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



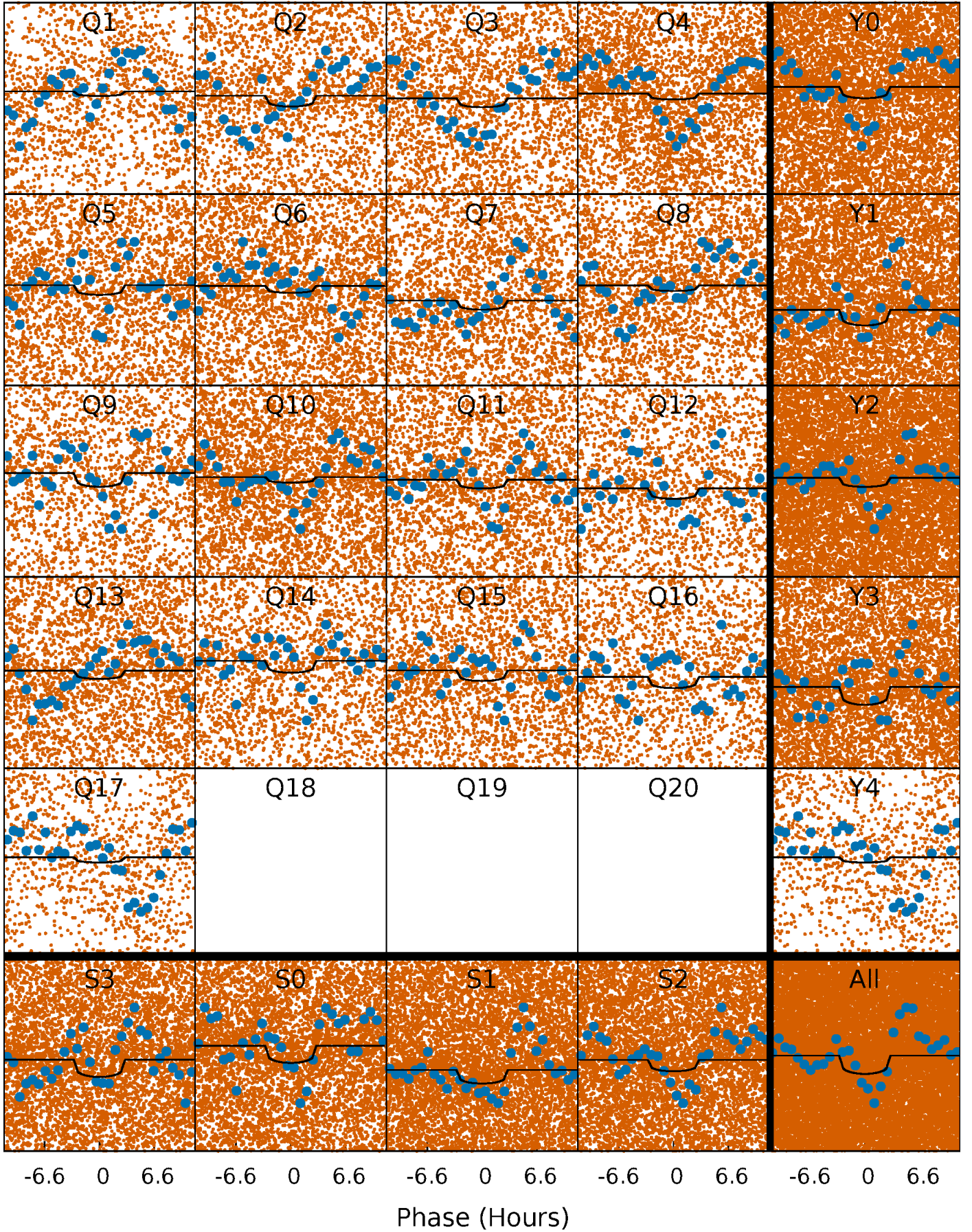
PDC Quarter-Phased Transit Curves

TCE 009341243-01 P= 0.809977 Days $T_0=132.054774$ (BKJD)



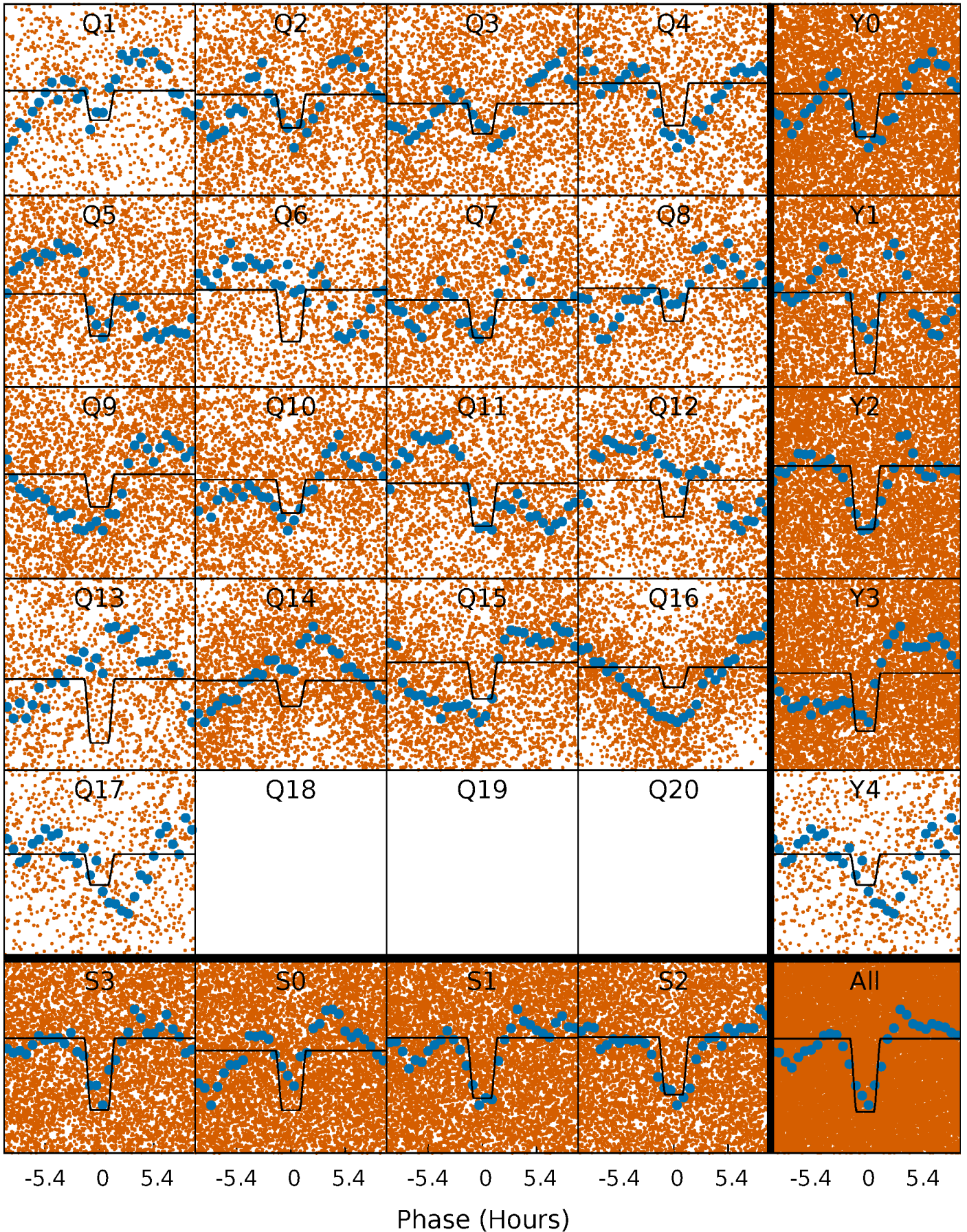
DV Quarter-Phased Transit Curves

TCE 009341243-01 P= 0.809977 Days $T_0=132.054774$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

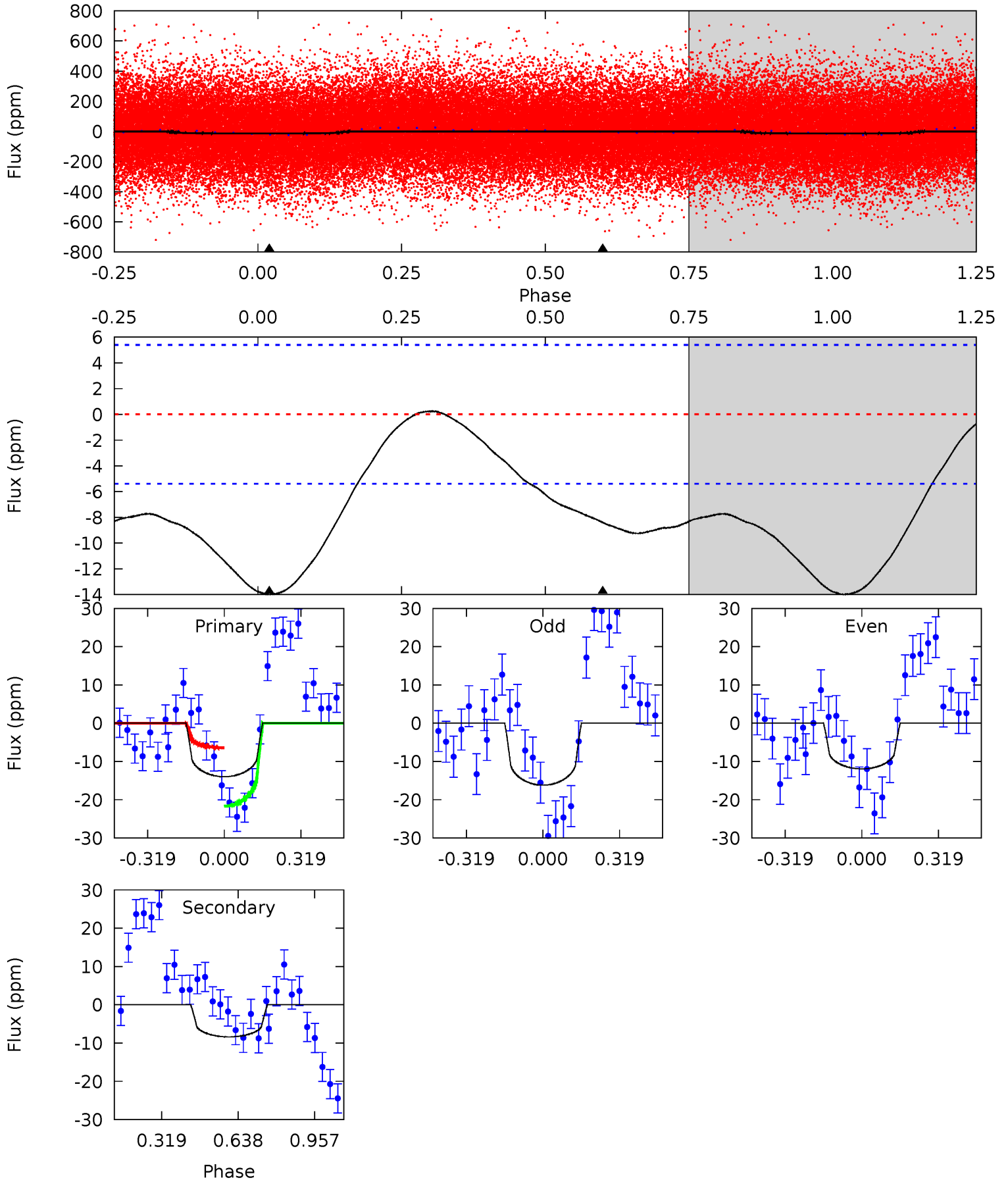
TCE 009341243-01 P= 0.810052 Days $T_0=132.034440$ (BKJD)



DV Model-Shift Uniqueness Test

009341243-01, P = 0.809977 Days, E = 131.244797 Days

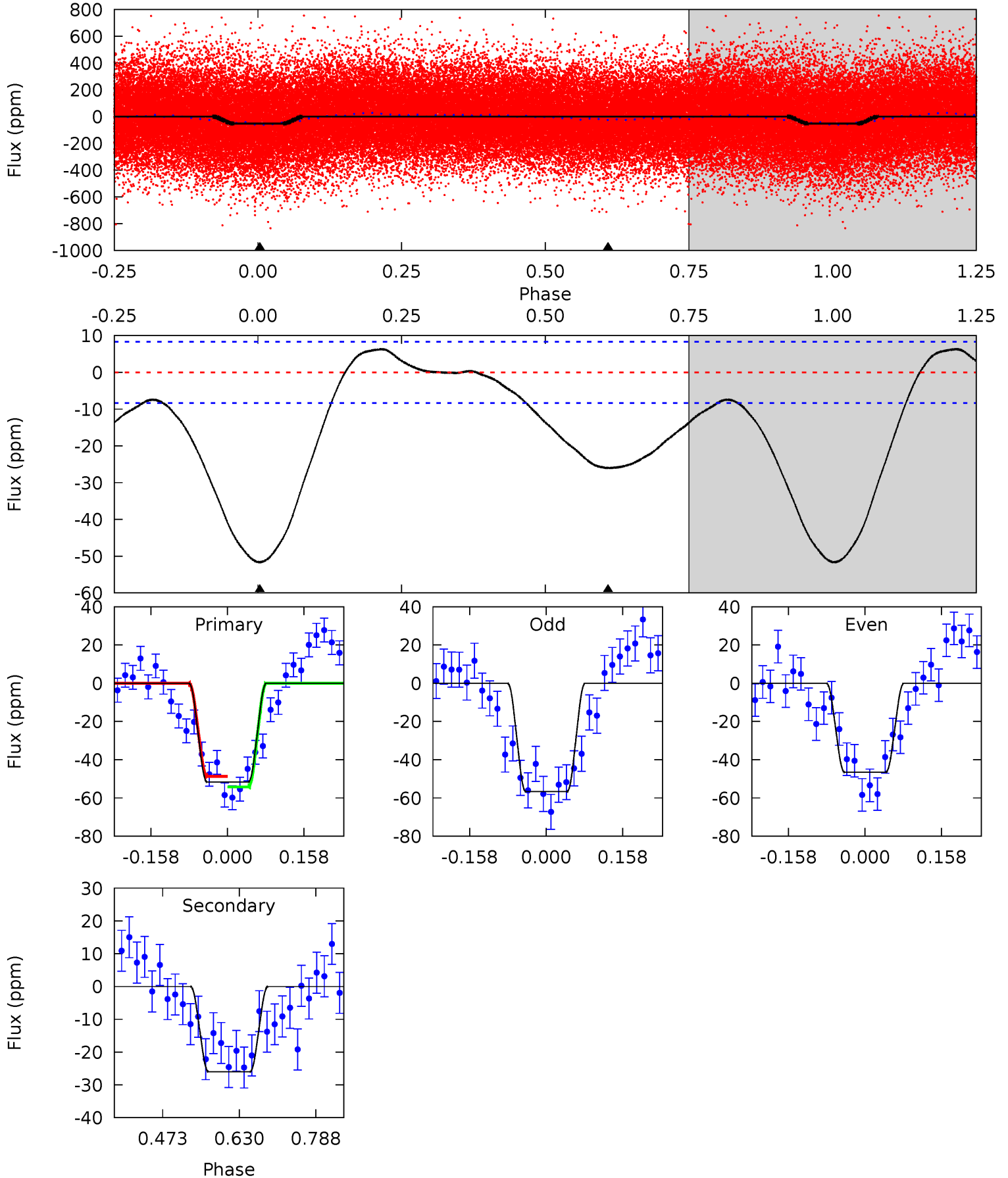
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	6.72	0	0	4.32	1.00	0.27	11.2	11.2	6.72	6.72	1.70	1.17	0.02	6.27



Alt Model-Shift Uniqueness Test

009341243-01, P = 0.810052 Days, E = 131.224388 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.6	13.9	0	0	4.47	1.41	2.68	27.6	27.6	13.9	13.9	2.73	0.90	0.11	1.47



Stellar Parameters For KIC 009341243

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7021^{+188}_{-250}	$3.450^{+0.396}_{-0.066}$	$-0.120^{+0.300}_{-0.250}$	$4.457^{+0.222}_{-1.888}$	$2.041^{+0.078}_{-0.441}$	$0.032^{+0.109}_{-0.005}$
	+3%/-4%	+11%/-2%	+250%/-208%	+5%/-42%	+4%/-22%	+337%/-15%
Source	PHO1	FLK73	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 009341243-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 1	$2.03^{+1.63}_{-1.40}$	6076^{+303}_{-583}	4530^{+6017}_{-8862}	$0.514^{+4.727}_{-0.356}$
Alt.	-26 ± 2	$3.52^{+2.18}_{-1.79}$	6102^{+326}_{-589}	4666^{+2787}_{-8722}	$0.538^{+1.559}_{-0.335}$

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

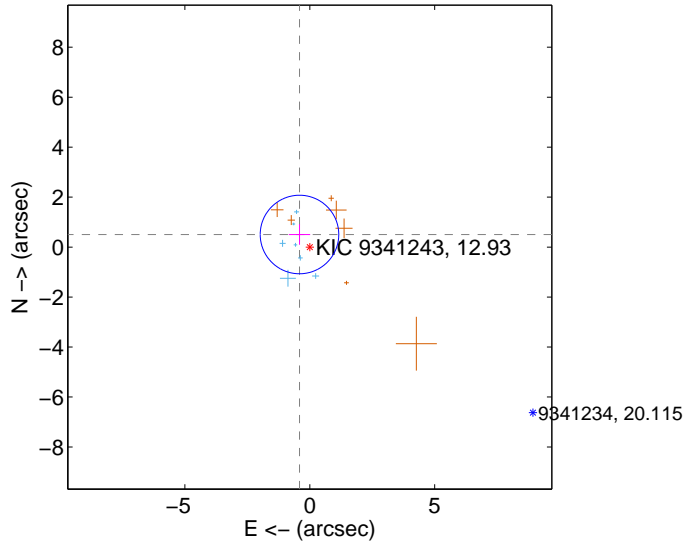
Supplemental centroid analysis for 009341243-01. Kepler magnitude: 12.93. Transit SNR 4.58

There are 7 quarters with good PRF difference image offsets

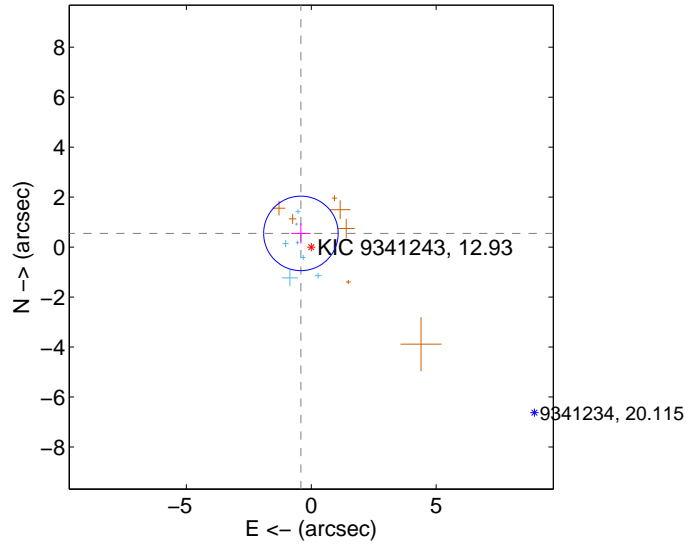
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.651 ± 0.524	1.24	0.412 ± 0.428	0.504 ± 0.412
PRF-fit source offset from KIC position	0.687 ± 0.497	1.38	0.414 ± 0.384	0.548 ± 0.411
photometric centroid source offset	4.03 ± 1.35	2.99	1.29 ± 1.37	3.82 ± 1.35

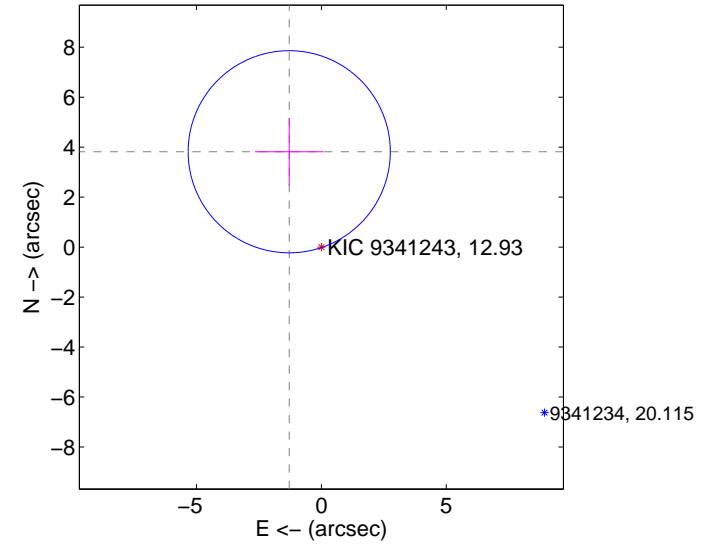
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

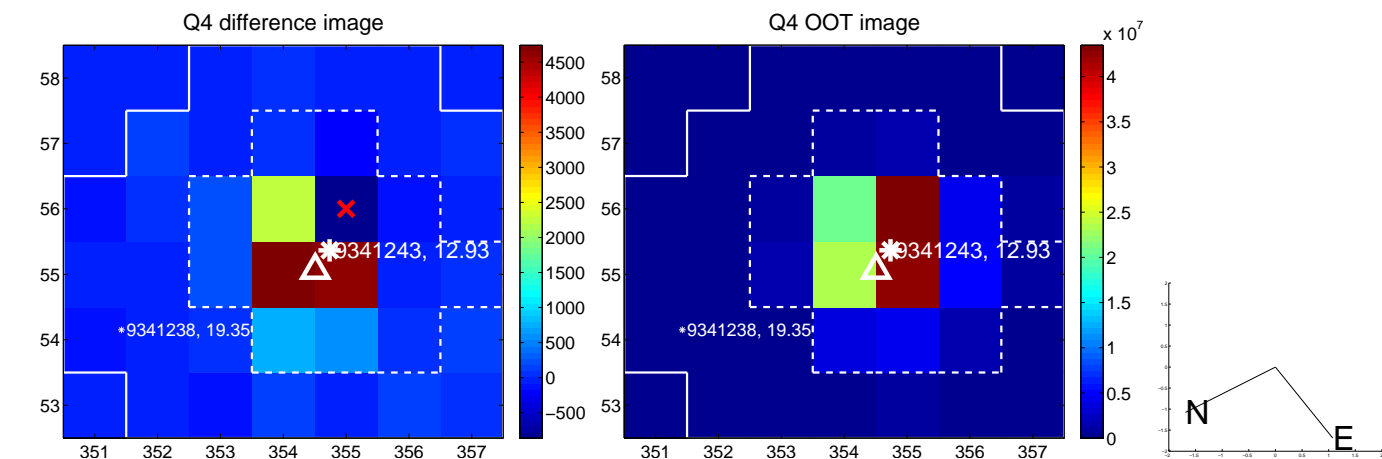
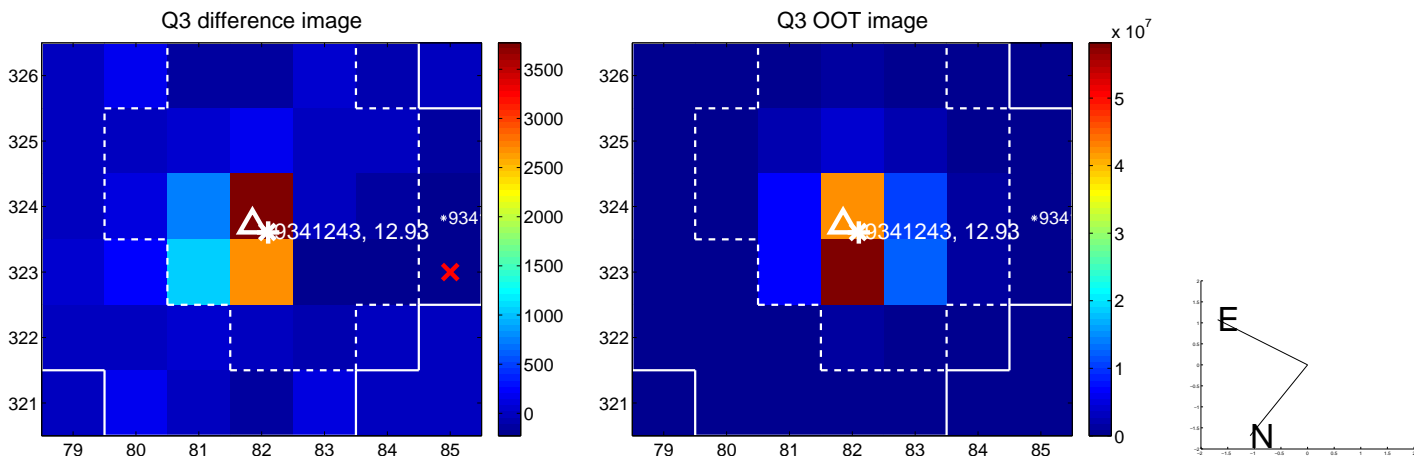
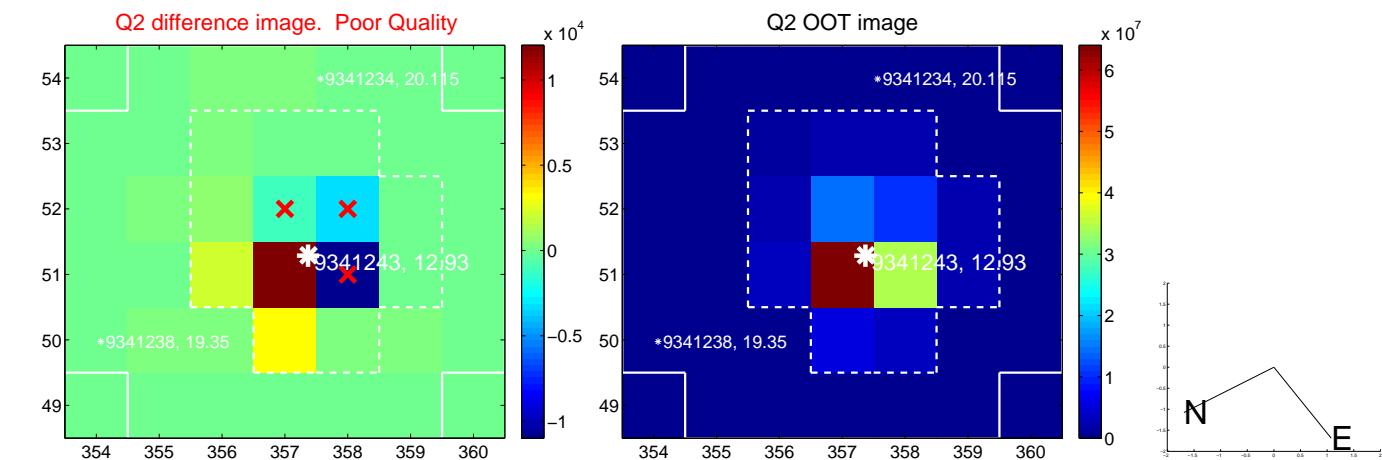
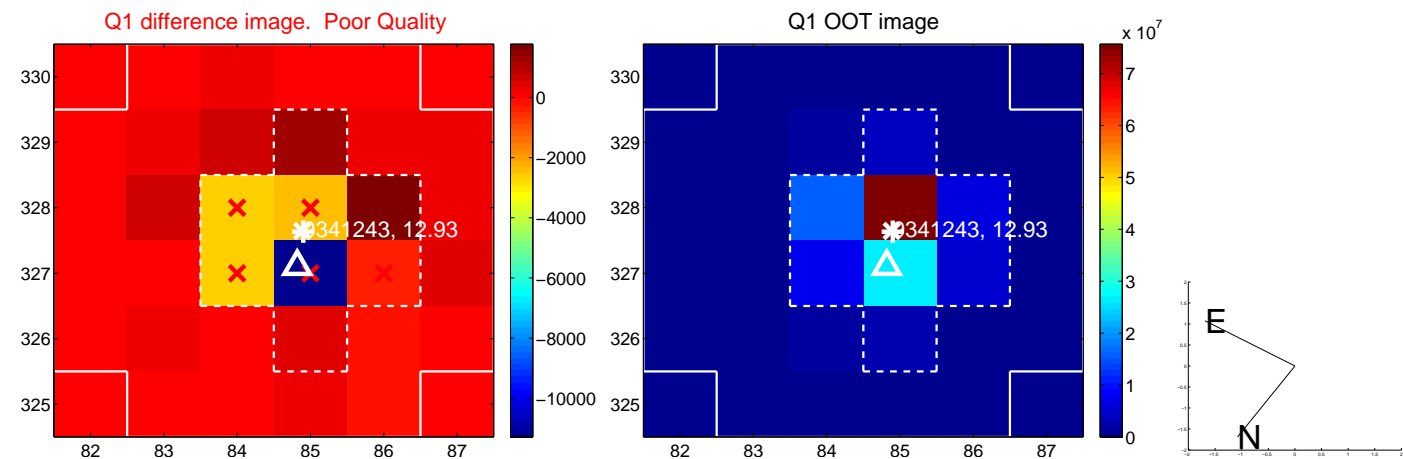


offset from photometric centroids

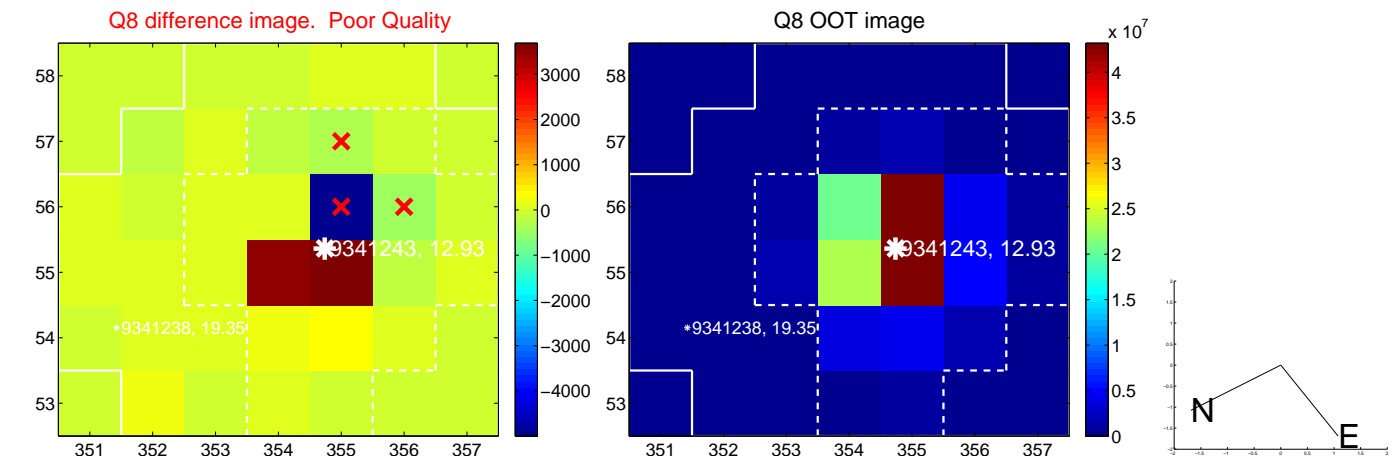
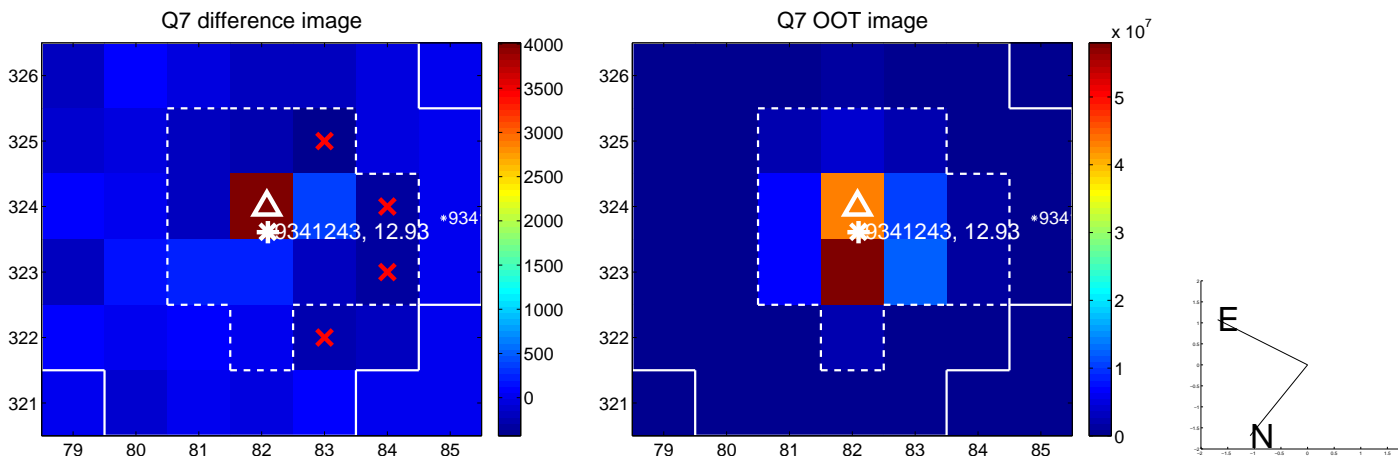
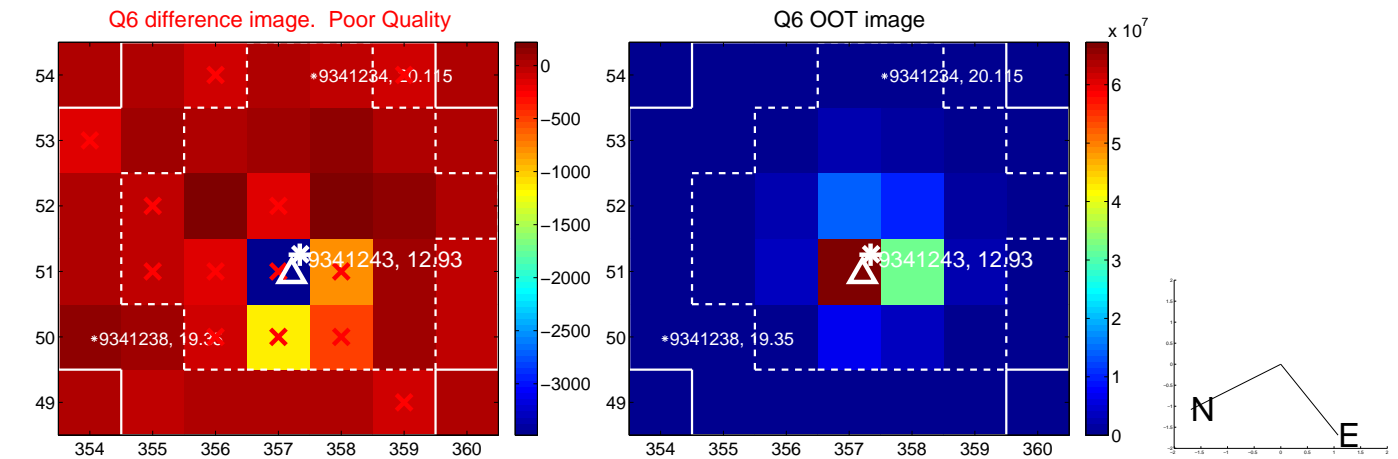
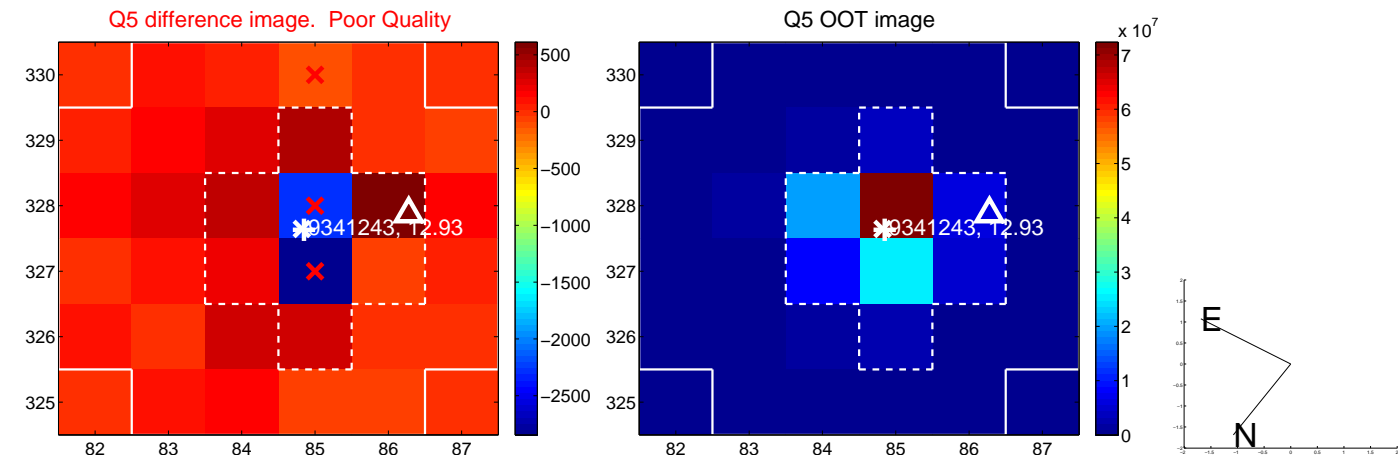


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

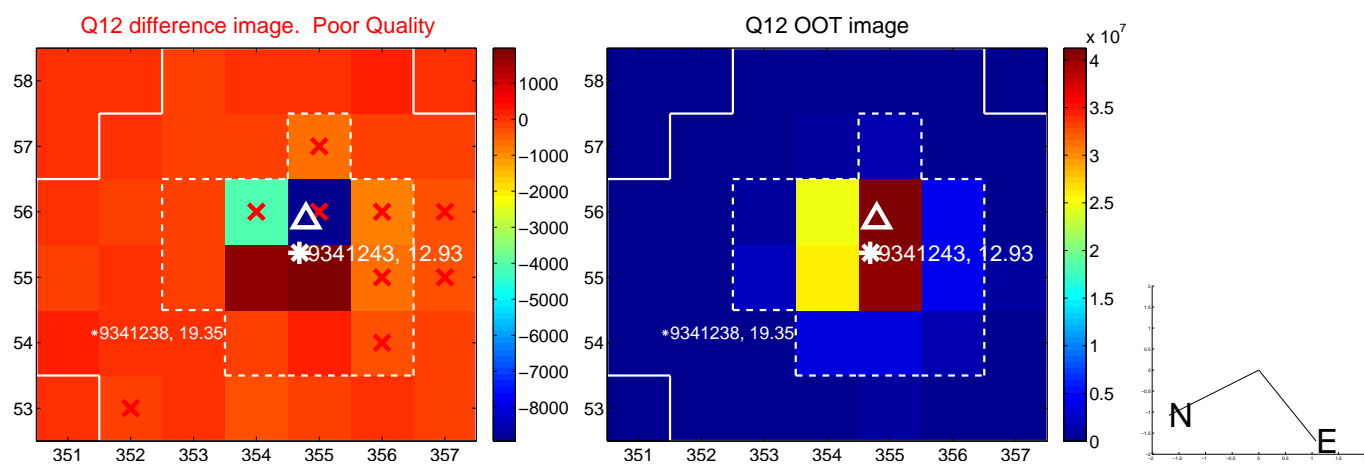
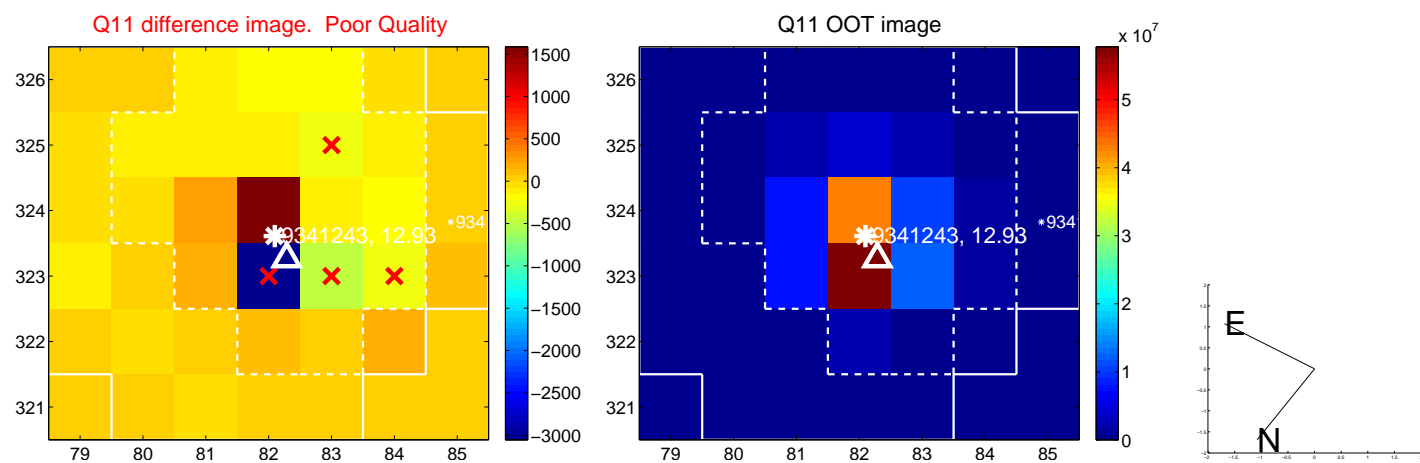
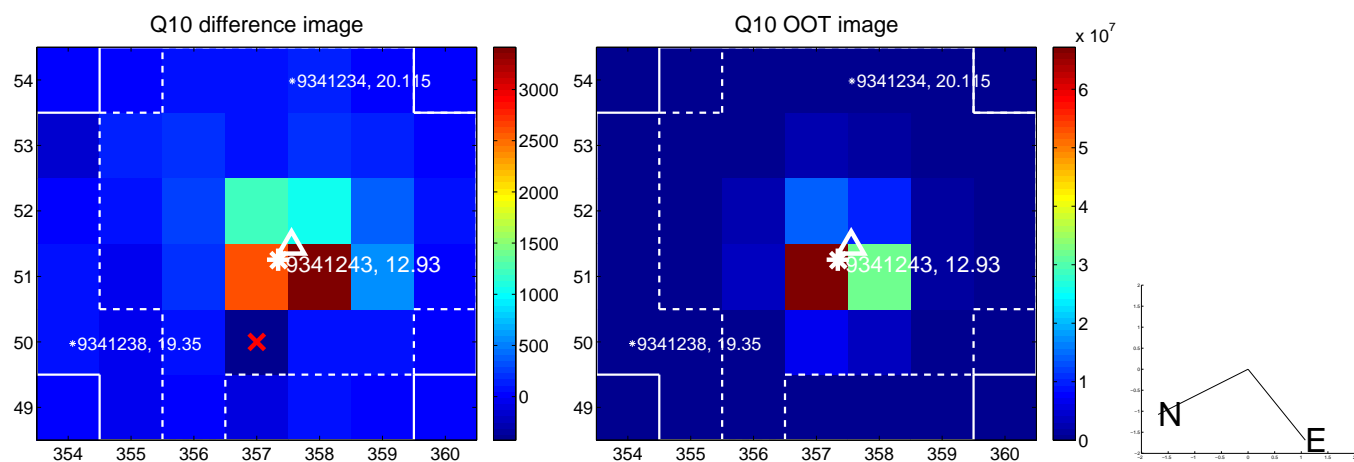
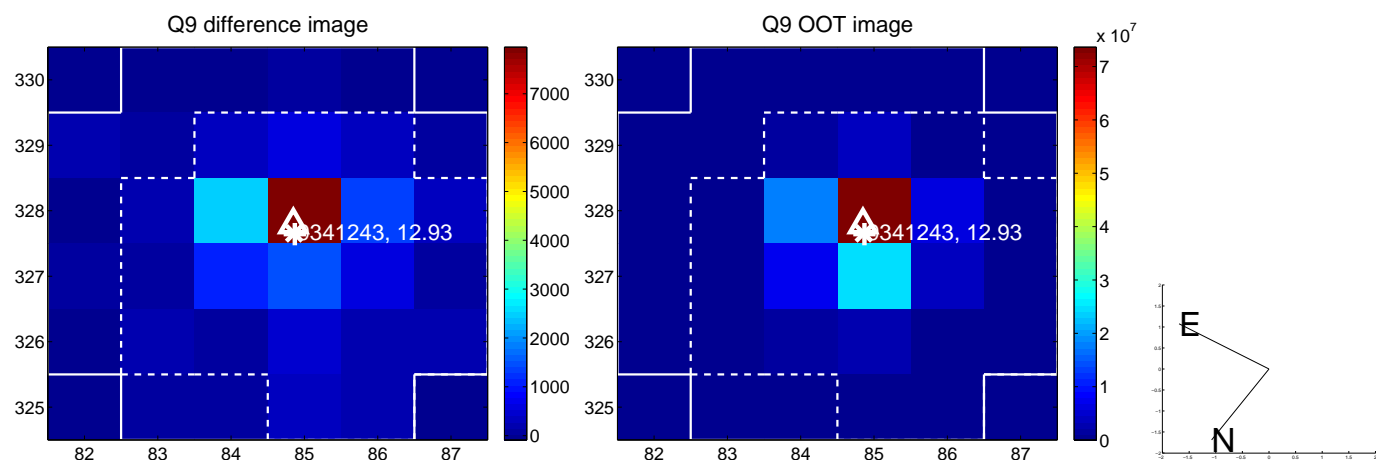
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



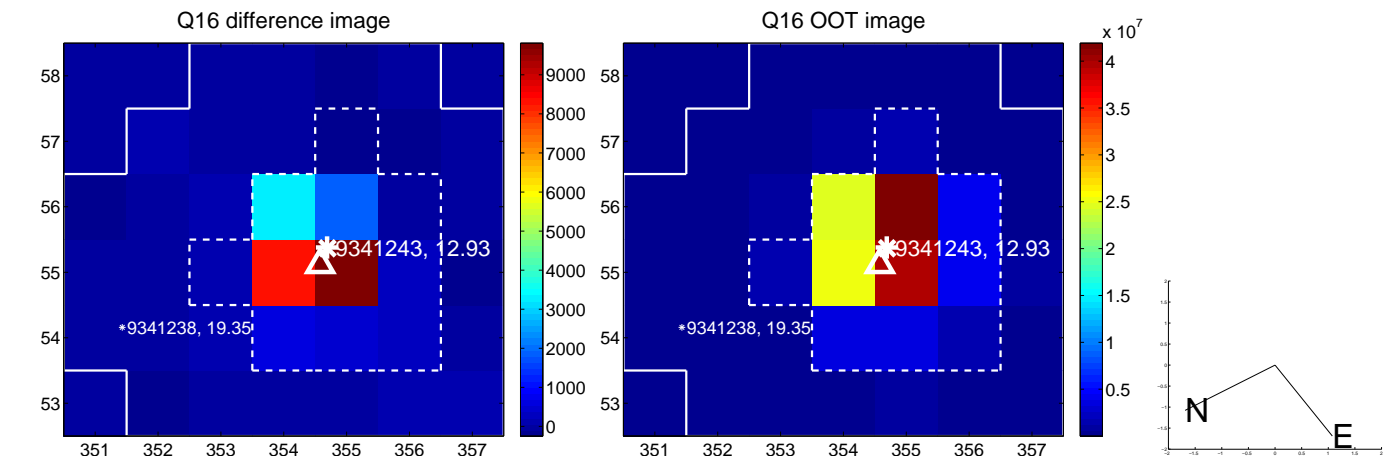
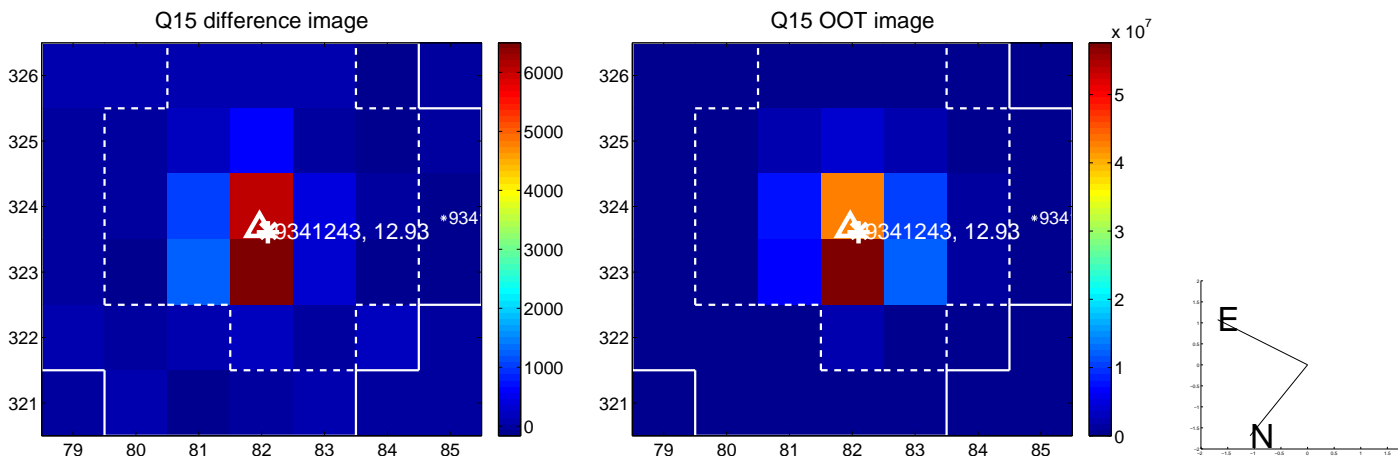
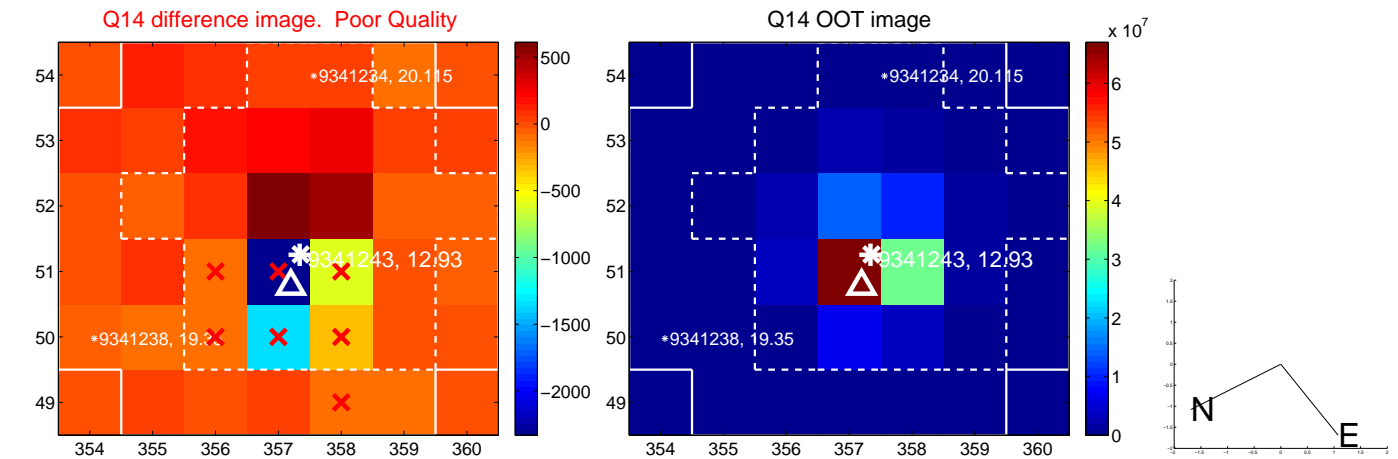
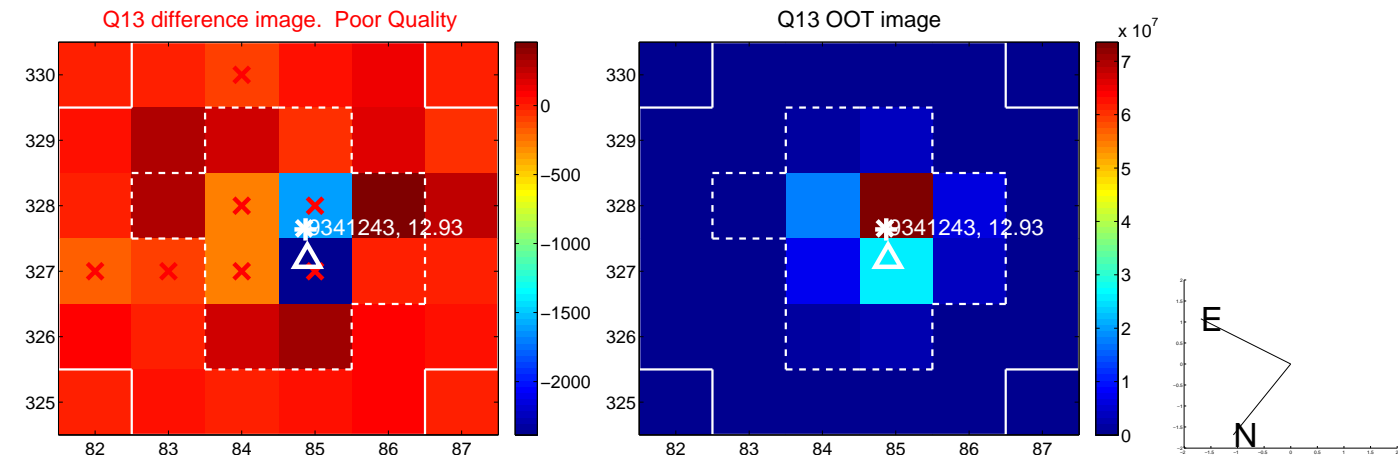
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



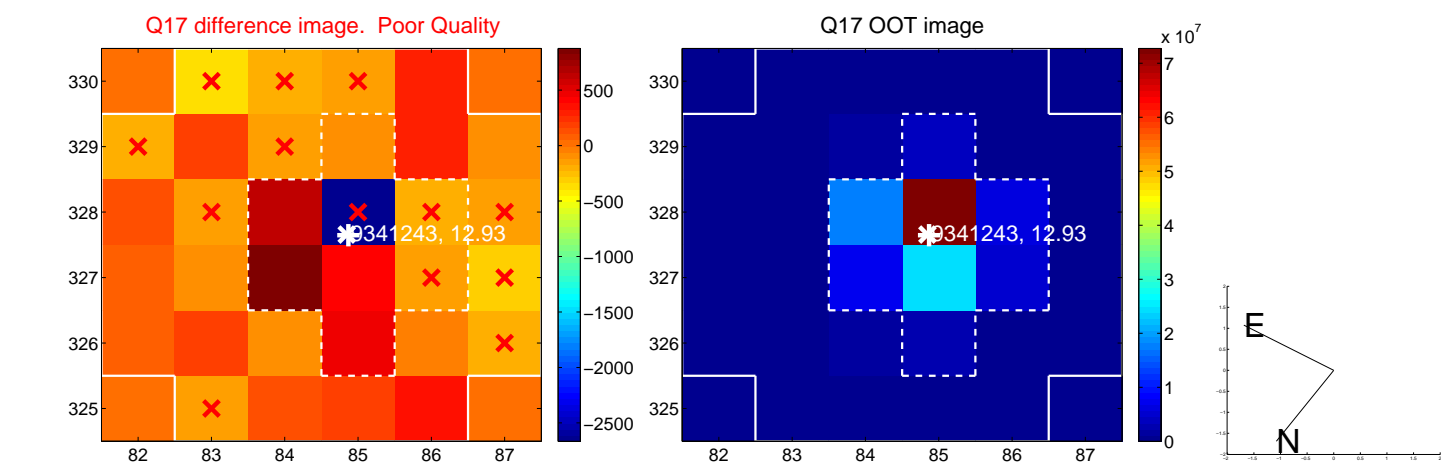
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



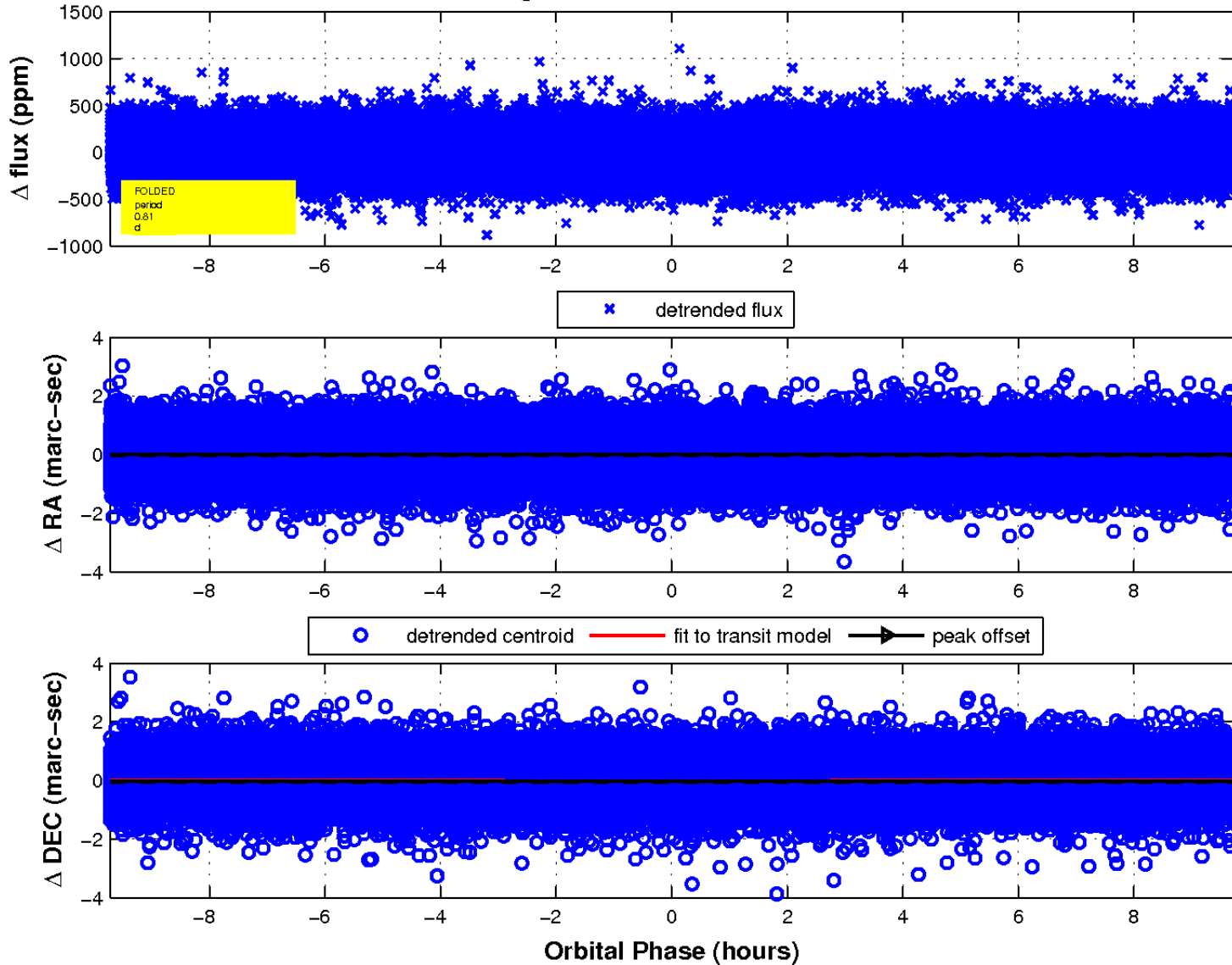
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



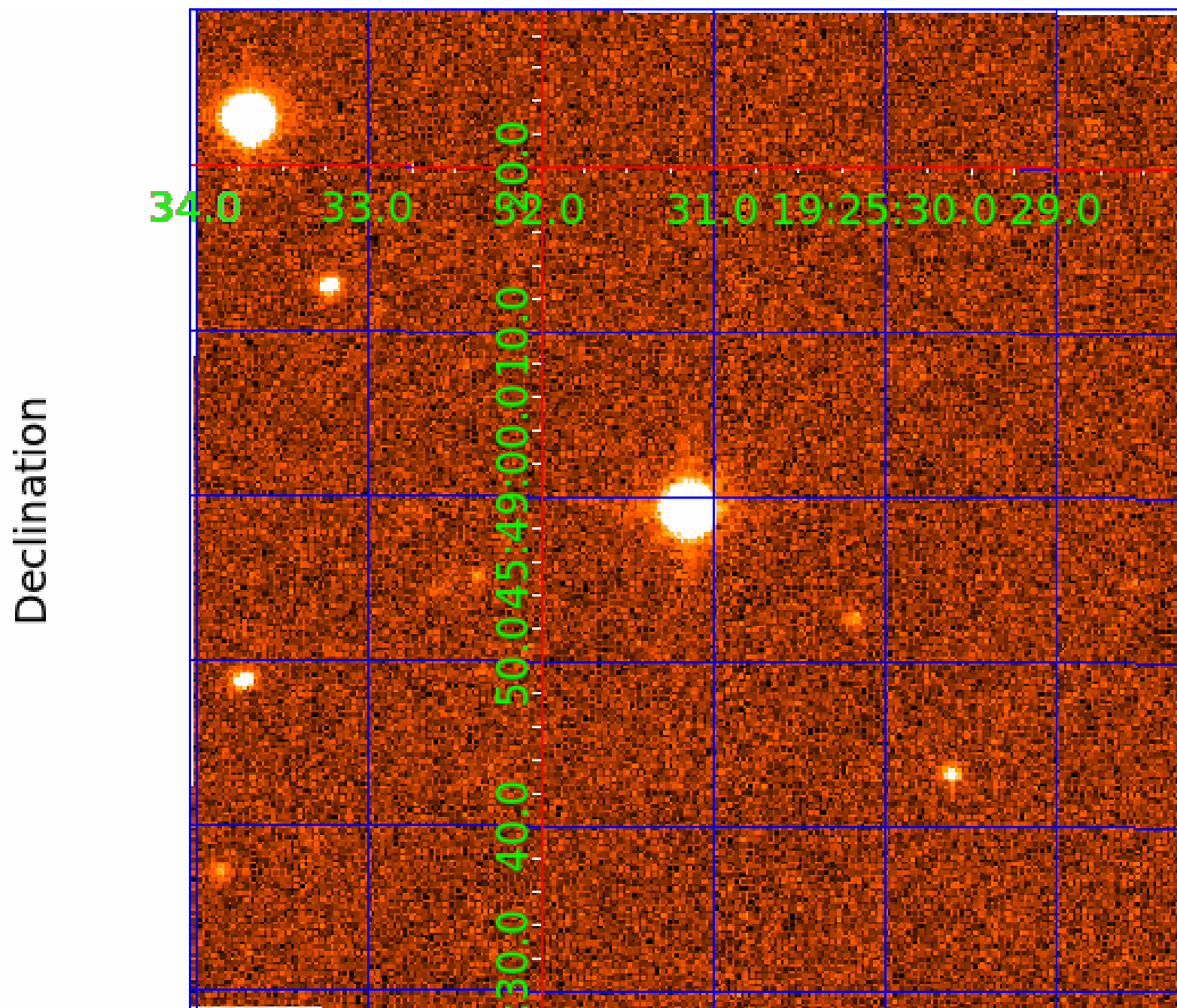
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 009341243

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})
009341243-01	OBS	No	0.809977	132.054774	10.0	5.759	9.1	4.6	4.46	7021	1.42	92872.75
009341243-02	OBS	No	86.652978	142.186951	349.1	2.482	11.0	12.4	4.46	7021	8.86	182.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009341243-01	OBS	FP	0.00	1	0	0	0	LPP_DV
009341243-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

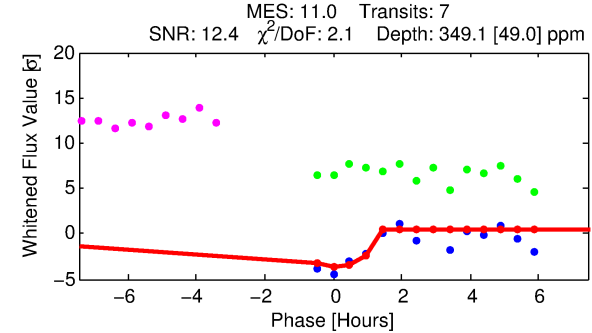
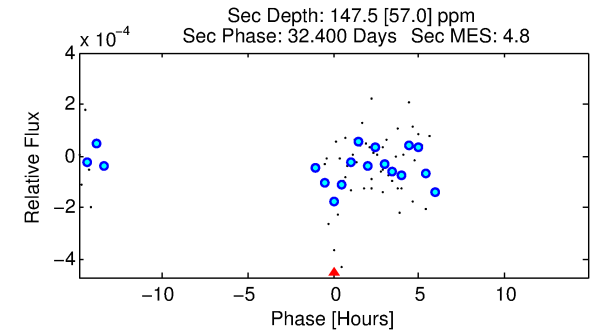
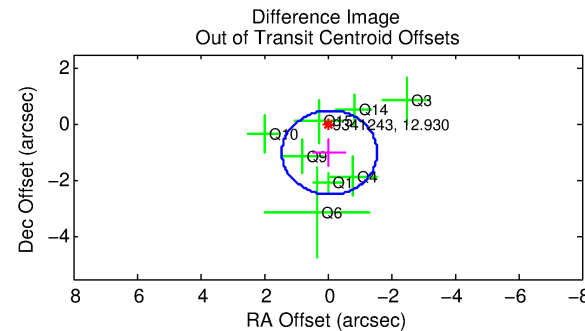
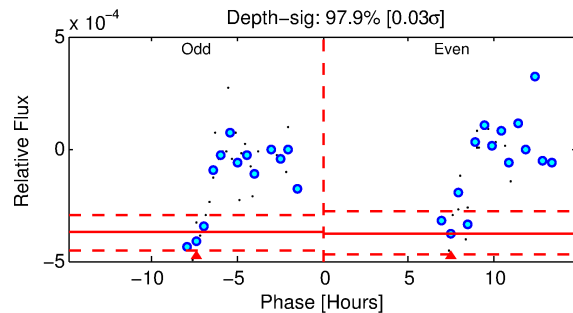
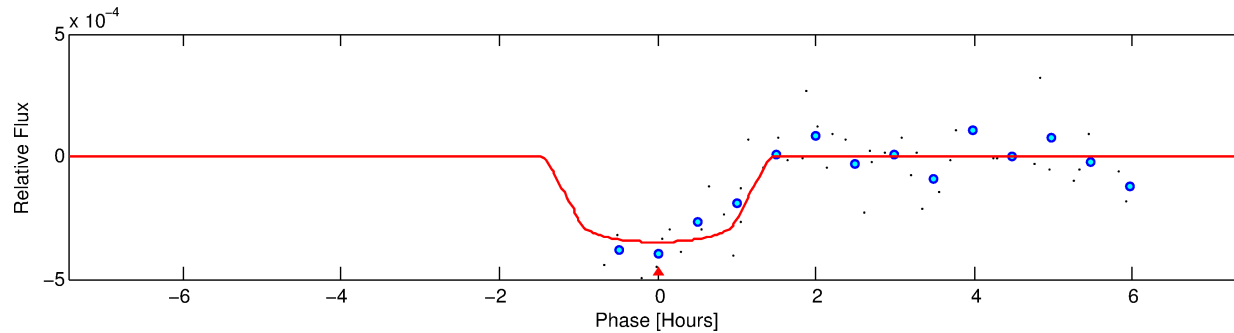
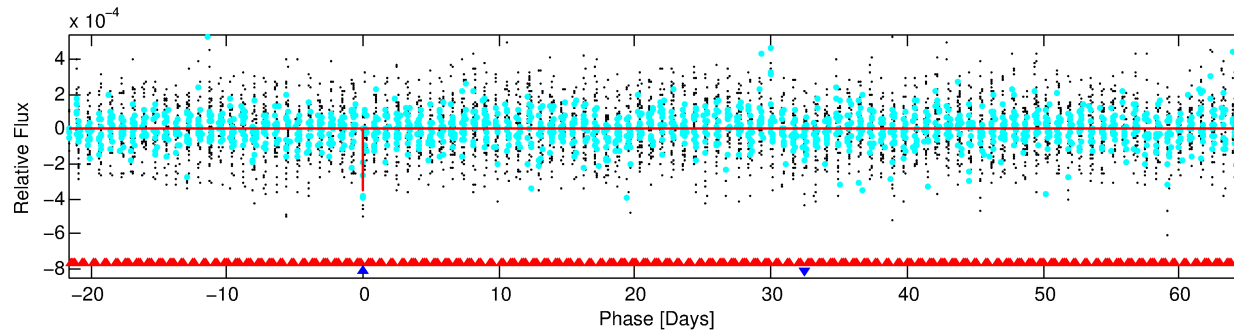
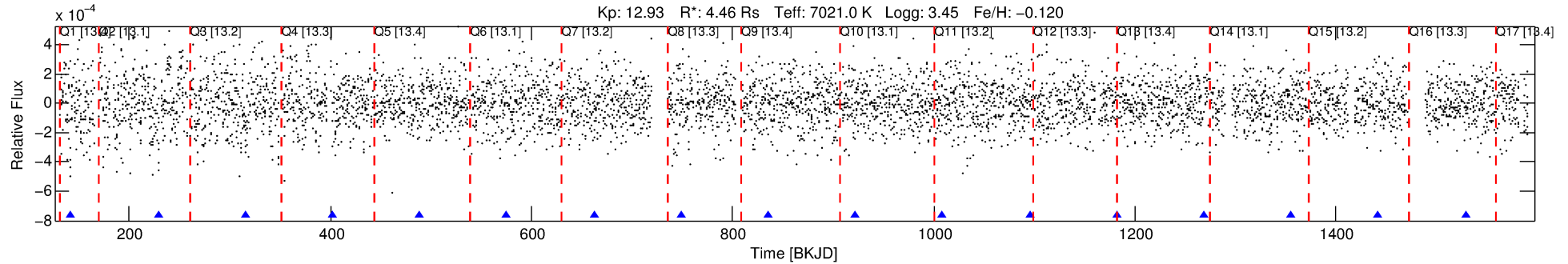
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009341243-02

No Significant Match Found

DV One-Page Summary

KIC: 9341243 Candidate: 2 of 2 Period: 86.653 d



DV Fit Results:

Period = 86.65298 [0.00267] d
Epoch = 142.1870 [0.0136] BKJD
Rp/R* = 0.0182 [0.0435]
a/R* = 206.35 [2829.43]
b = 0.66 [11.71]
Seff = 182.87 [125.31]
Teq = 938 [161] K
Rp = 8.85 [21.49] Re
a = 0.4863 [0.2018] AU
Ag = 244.81 [1185.56] [0.21σ]
Teffp = 5735 [6879] K [0.70σ]

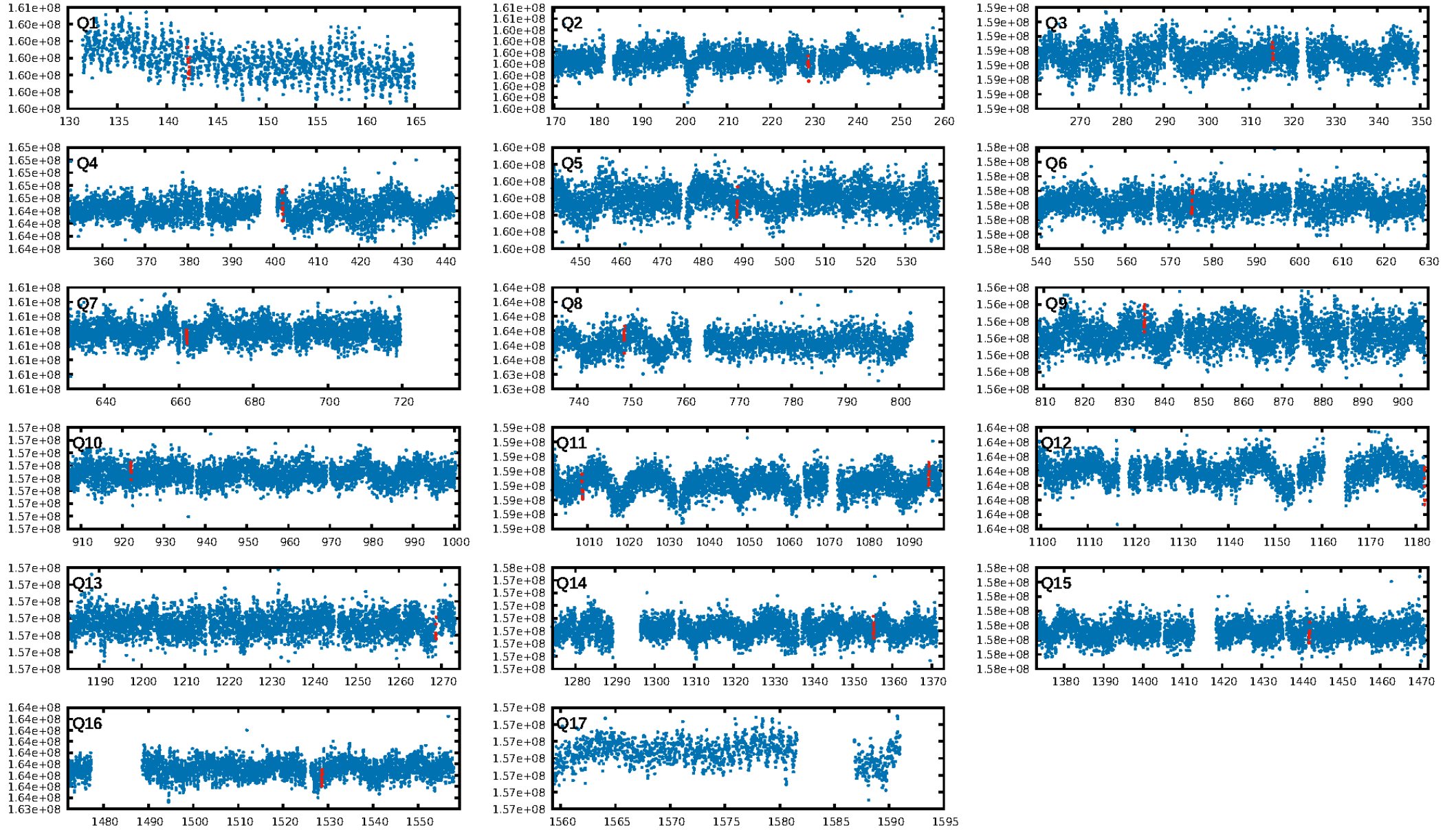
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [328.53σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 17.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.72e-12
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.6317
Centroid-sig: 57.8%
Centroid-so: 0.377 arcsec [0.64σ]
OotOffset-rm: 1.001 arcsec [2.01σ]
KicOffset-rm: 0.986 arcsec [1.96σ]
OotOffset-st: 3/2/1/2 [8]
KicOffset-st: 3/2/1/2 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.00 [0/13]

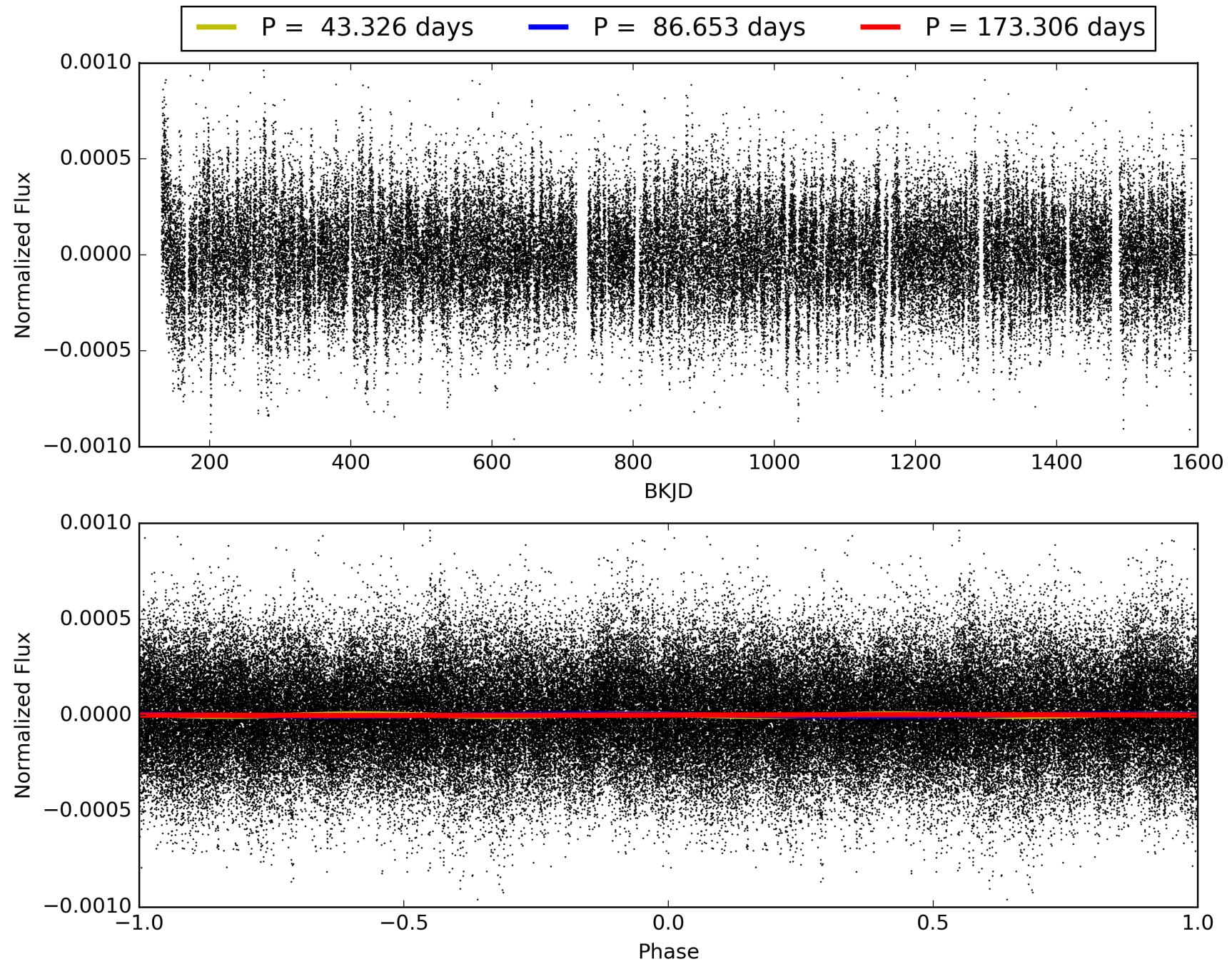
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:30:22 Z

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

TCE 009341243-02, PDC Light Curves

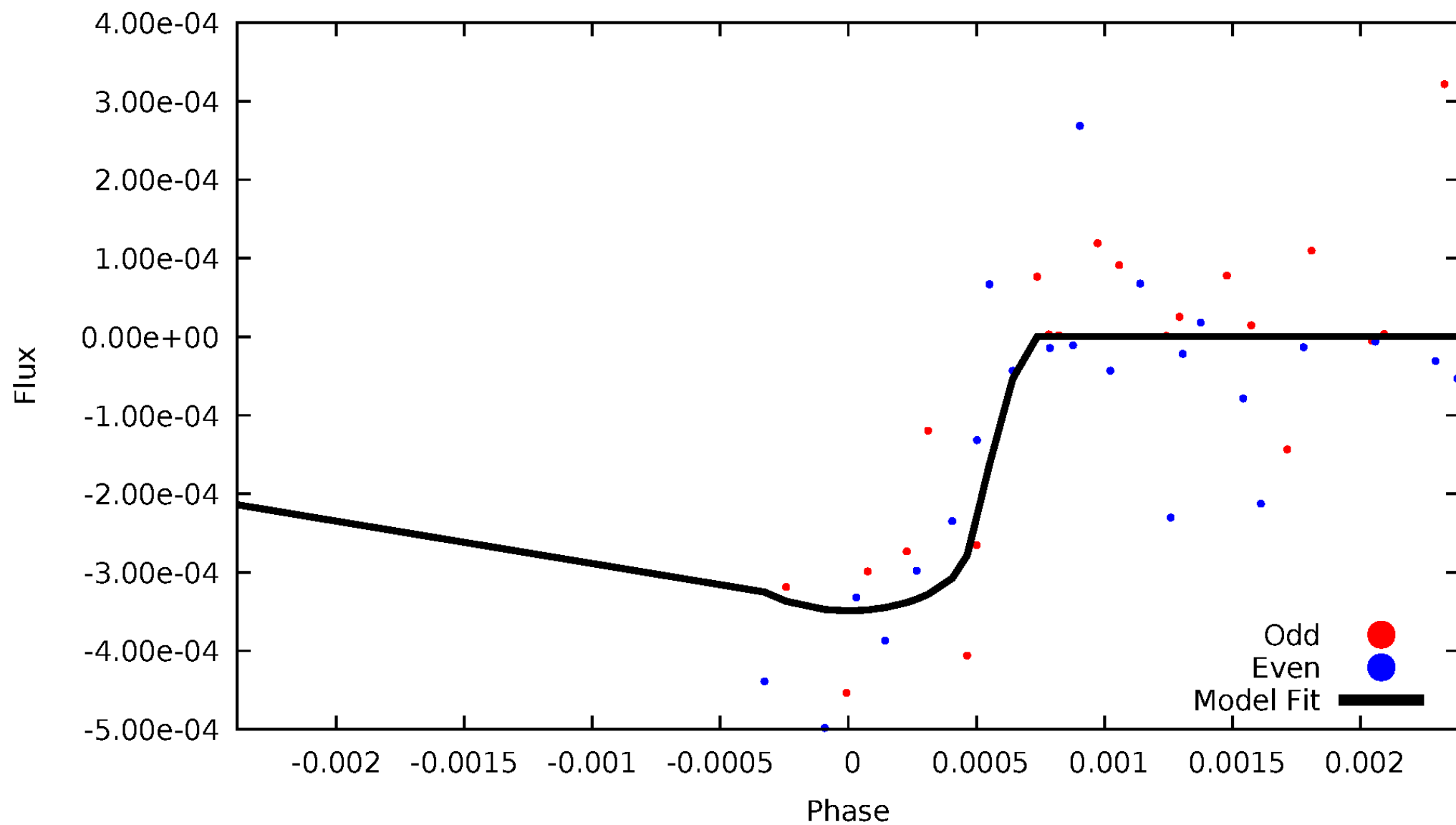


TCE 009341243-02



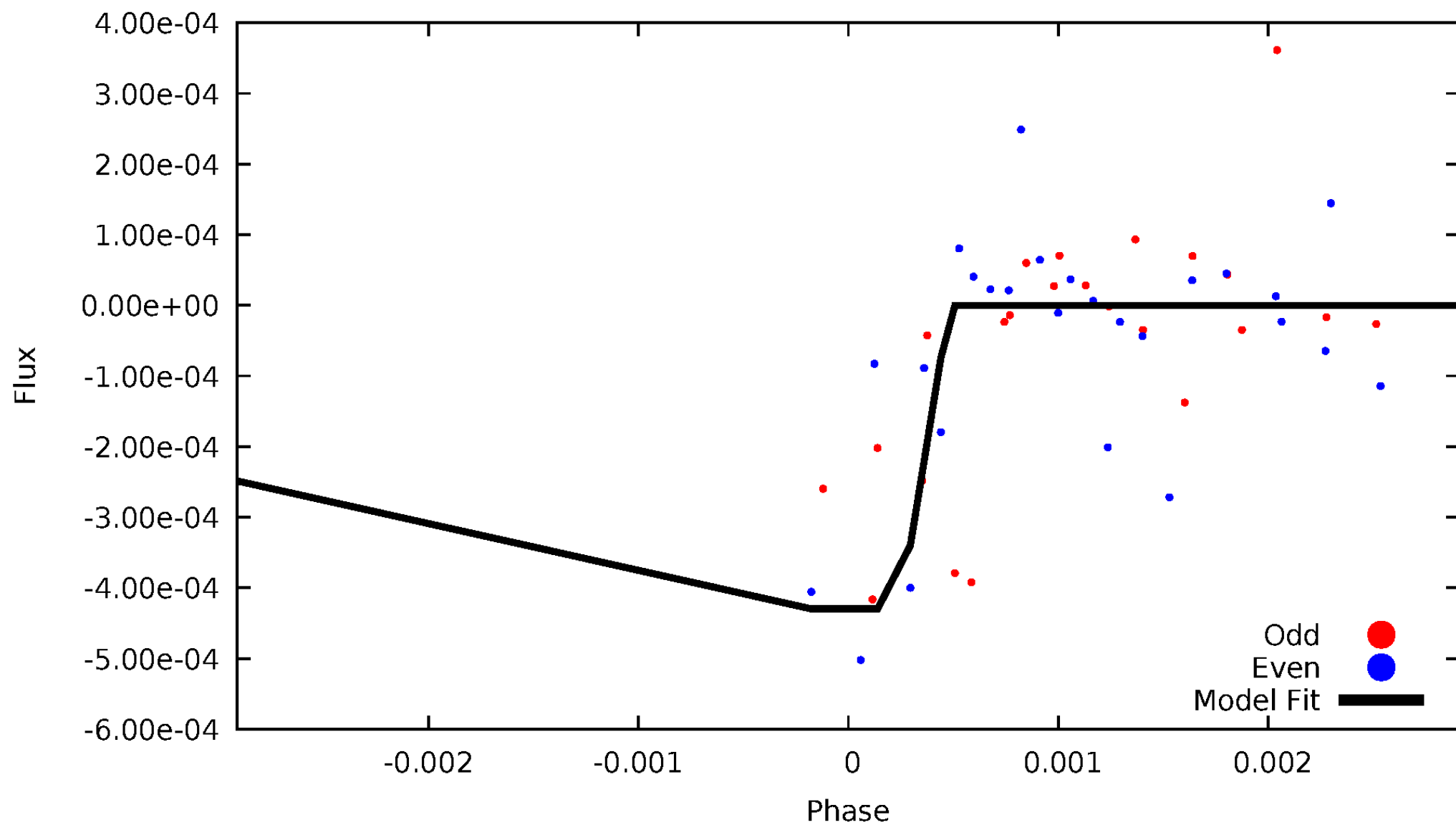
DV Odd/Even

TCE 009341243-02



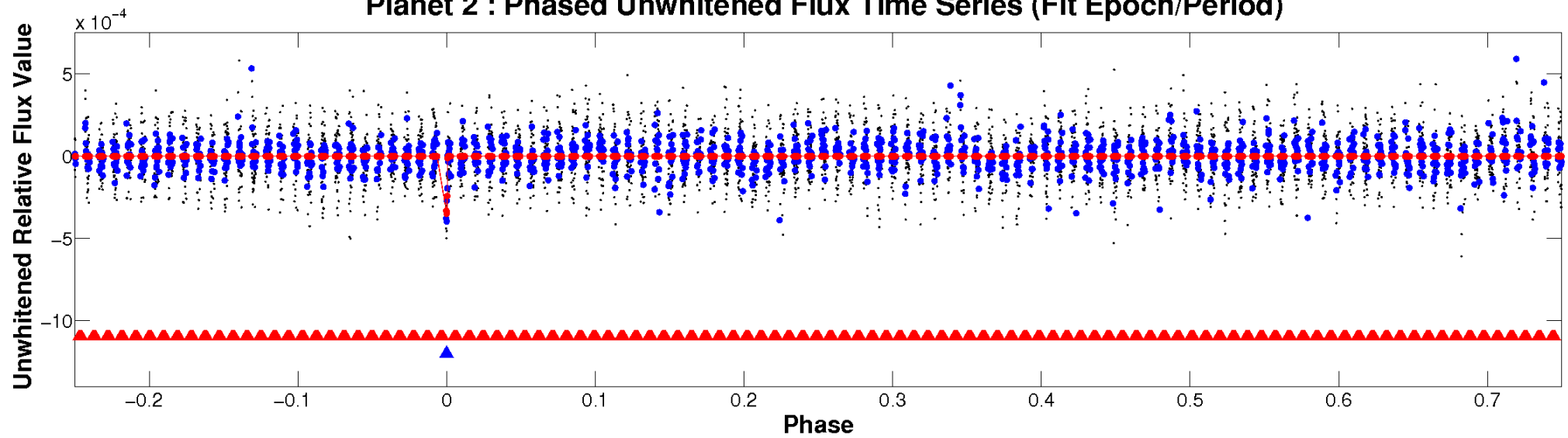
ALT Odd/Even

TCE 009341243-02

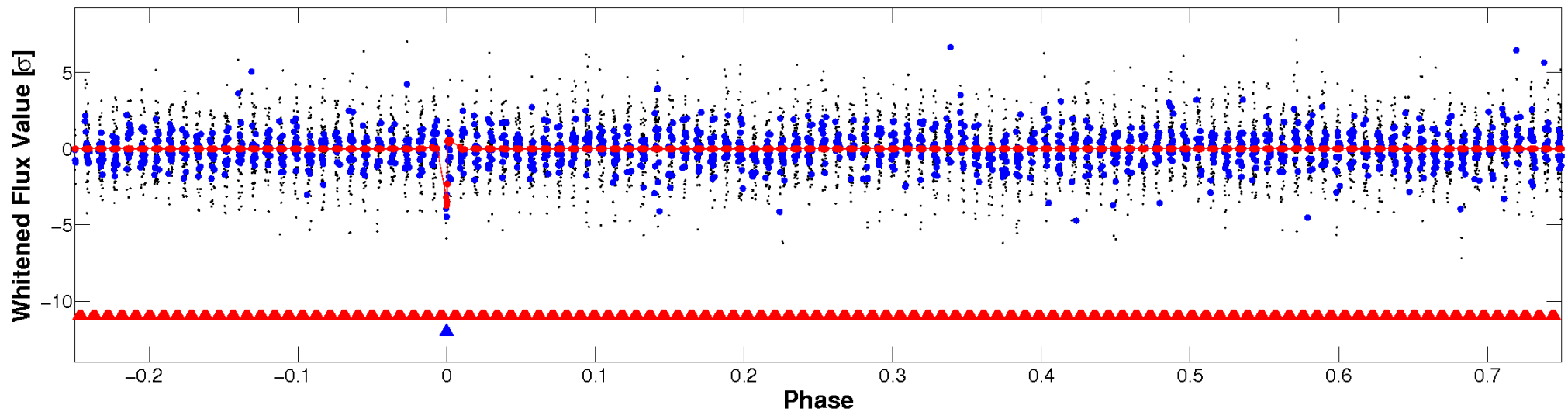


Non-Whitened Vs. Whitened Light Curve

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

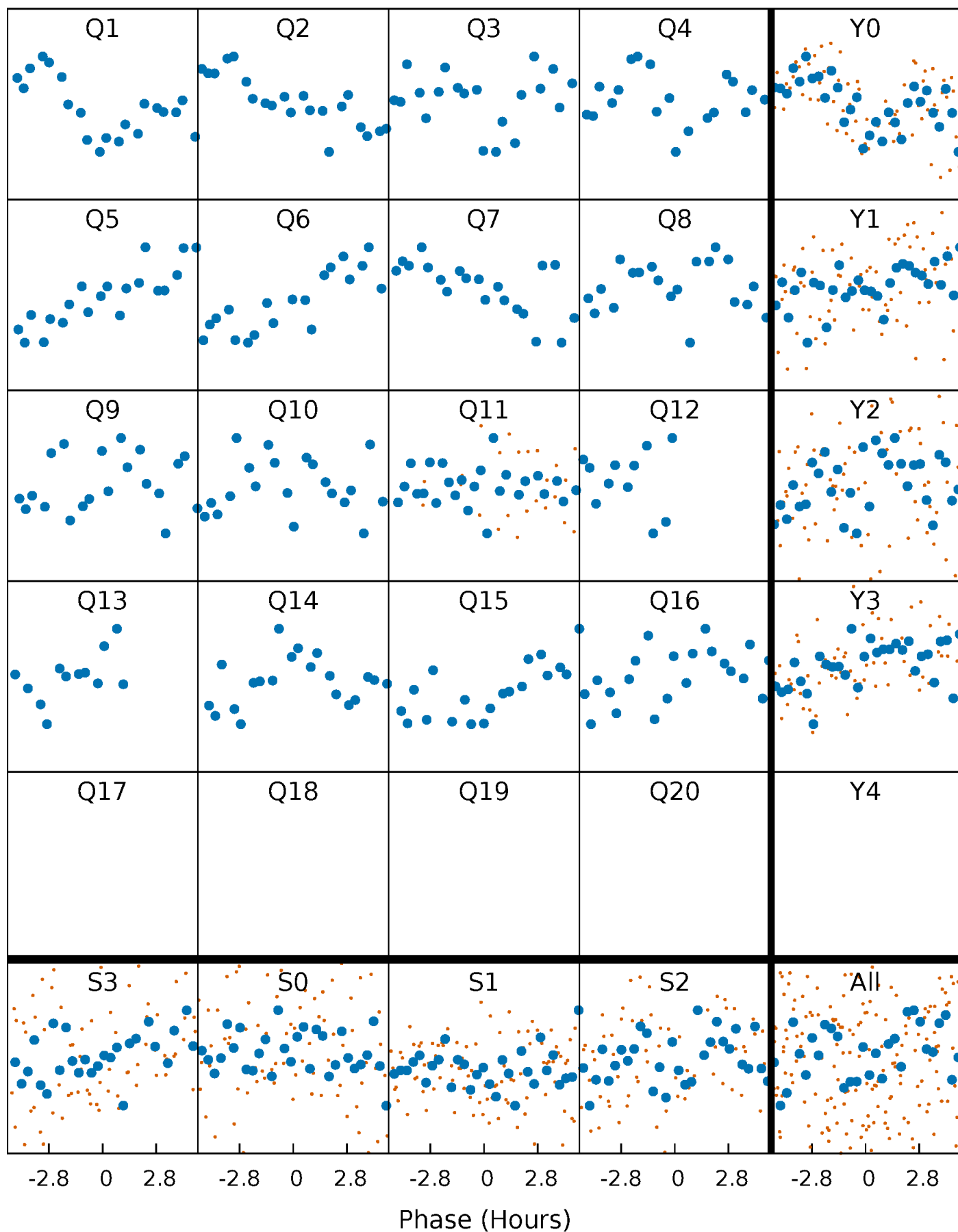


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



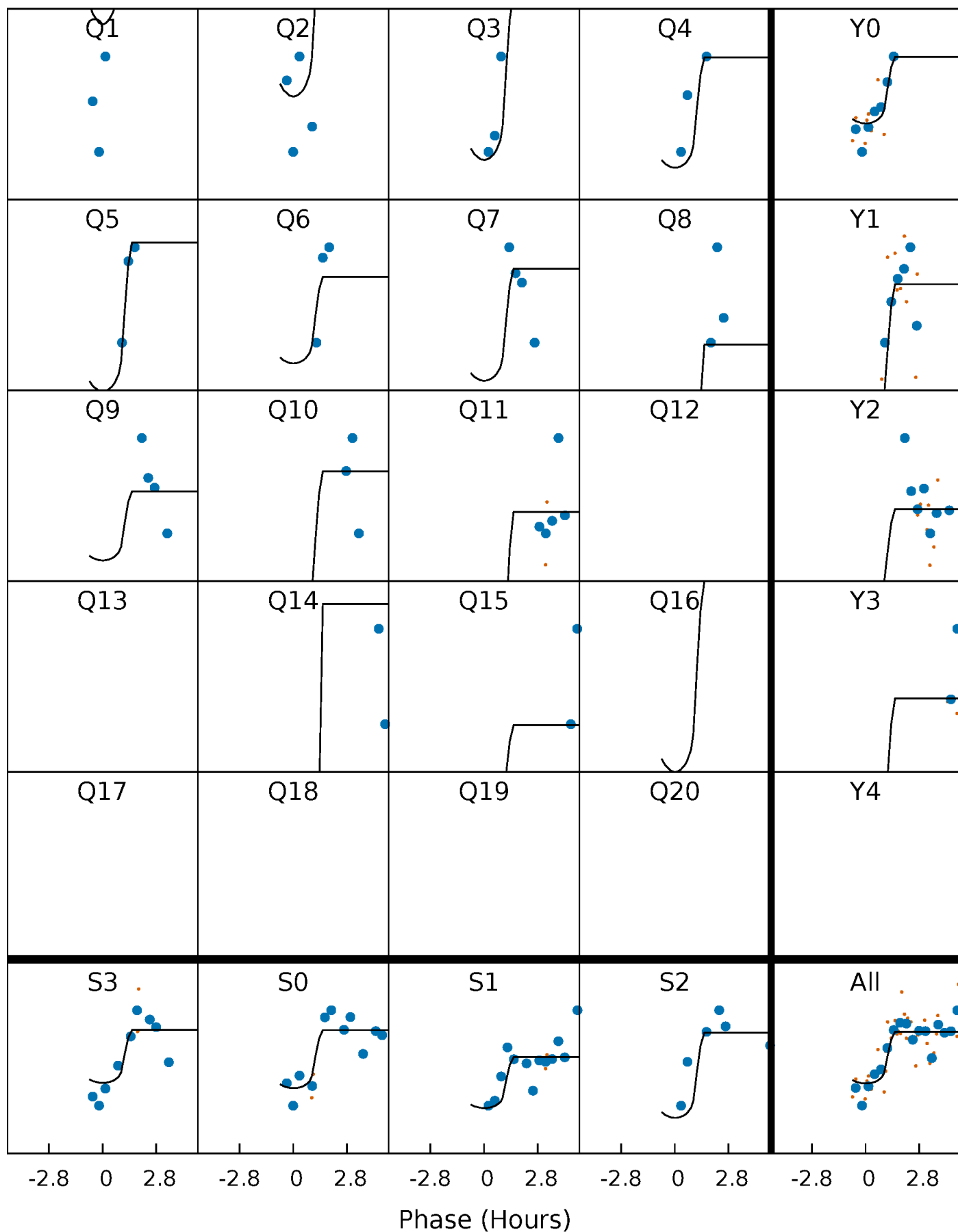
PDC Quarter-Phased Transit Curves

TCE 009341243-02 P= 86.652978 Days $T_0=142.186951$ (BKJD)



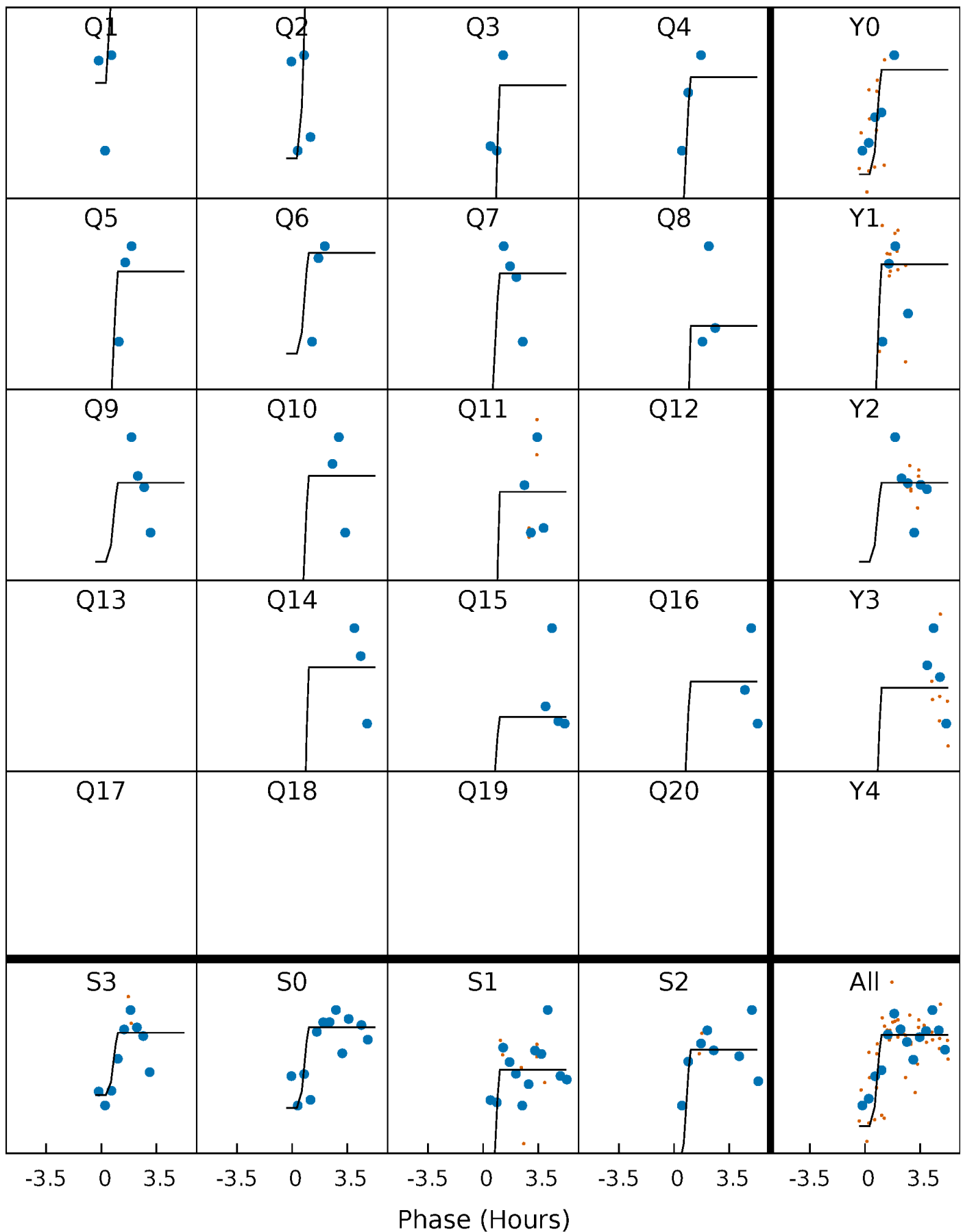
DV Quarter-Phased Transit Curves

TCE 009341243-02 P= 86.652978 Days $T_0=142.186951$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

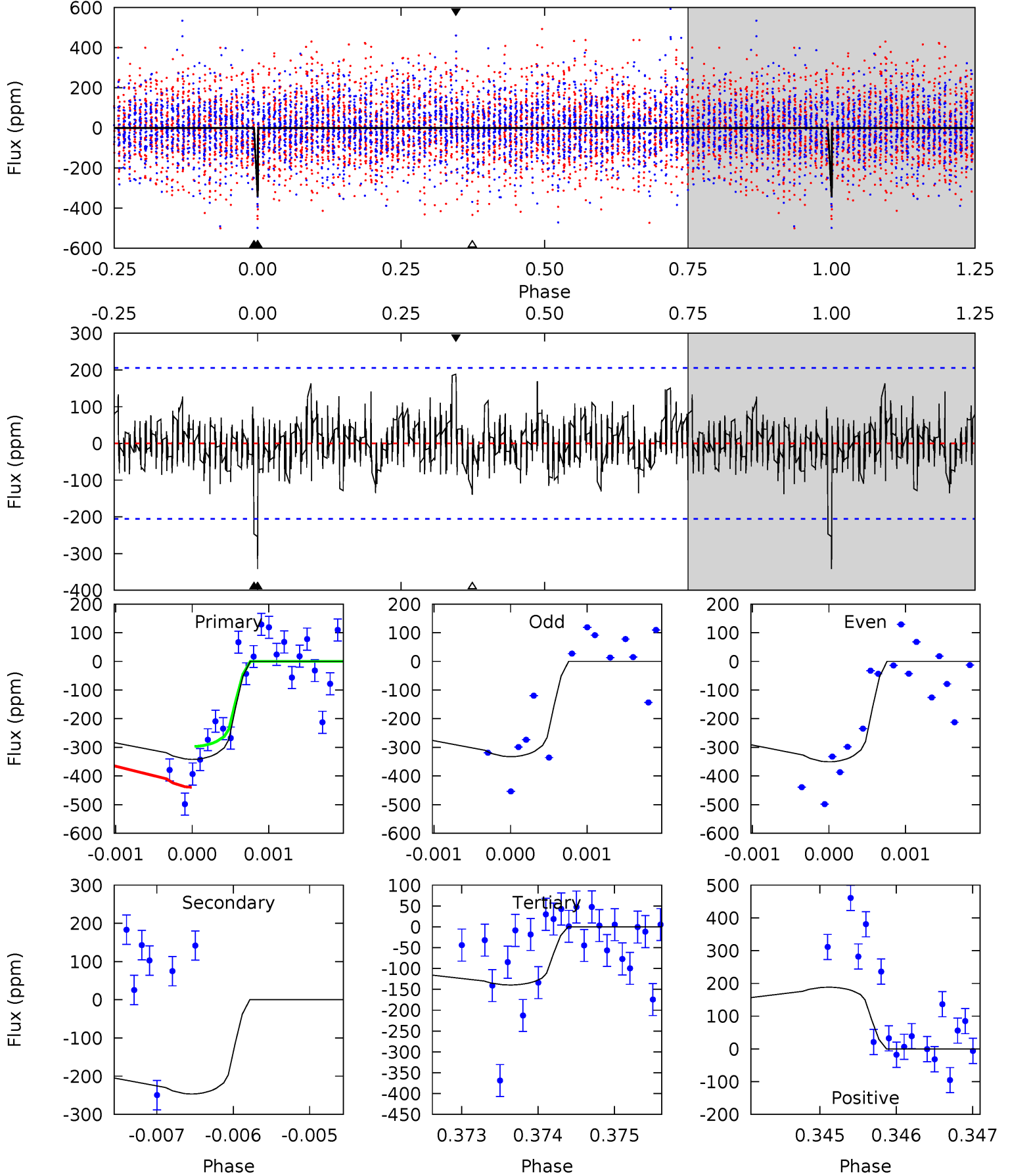
TCE 009341243-02 P= 86.655512 Days $T_0=142.173802$ (BKJD)



DV Model-Shift Uniqueness Test

009341243-02, P = 86.652978 Days, E = 55.533973 Days

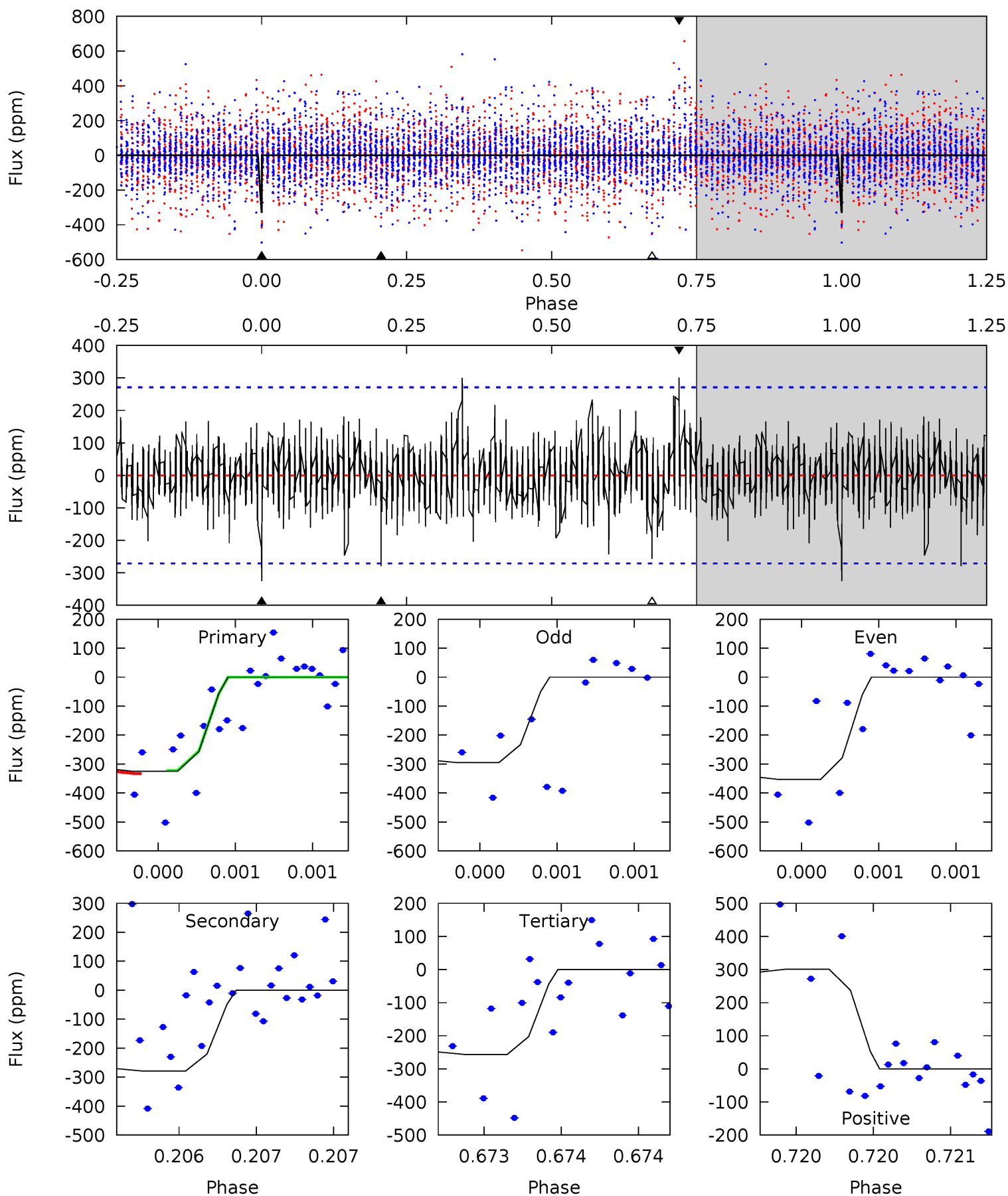
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.08	6.55	3.71	5.00	5.46	3.30	1.16	5.38	4.08	2.84	1.55	0.24	1.08	0.36	1.56



Alt Model-Shift Uniqueness Test

009341243-02, P = 86.655512 Days, E = 55.518290 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.66	5.70	5.25	6.16	5.55	3.45	1.26	1.41	0.50	0.46	-0.45	0.59	1.03	0.48	0.00



Stellar Parameters For KIC 009341243

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7021^{+188}_{-250}	$3.450^{+0.396}_{-0.066}$	$-0.120^{+0.300}_{-0.250}$	$4.457^{+0.222}_{-1.888}$	$2.041^{+0.078}_{-0.441}$	$0.032^{+0.109}_{-0.005}$
	+3%/-4%	+11%/-2%	+250%/-208%	+5%/-42%	+4%/-22%	+337%/-15%
Source	PHO1	FLK73	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 009341243-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-247 ± 38	$17.25^{+16.95}_{-11.37}$	1284^{+65}_{-137}	4578^{+3191}_{-975}	108^{+805}_{-81}
Alt.	-279 ± 49	$17.15^{+16.22}_{-11.49}$	1287^{+61}_{-110}	4709^{+3451}_{-1020}	122^{+977}_{-90}

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

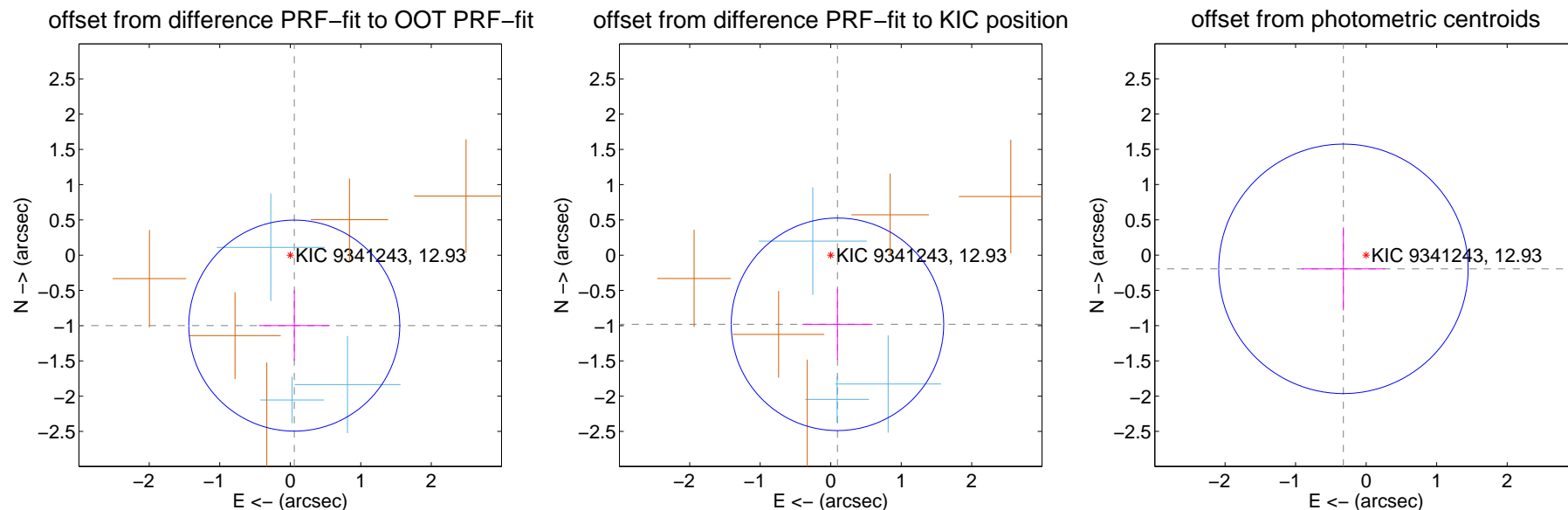
DV Centroid Data

Supplemental centroid analysis for 009341243-02. Kepler magnitude: 12.93. Transit SNR 12.43

There are 3 quarters with good PRF difference image offsets

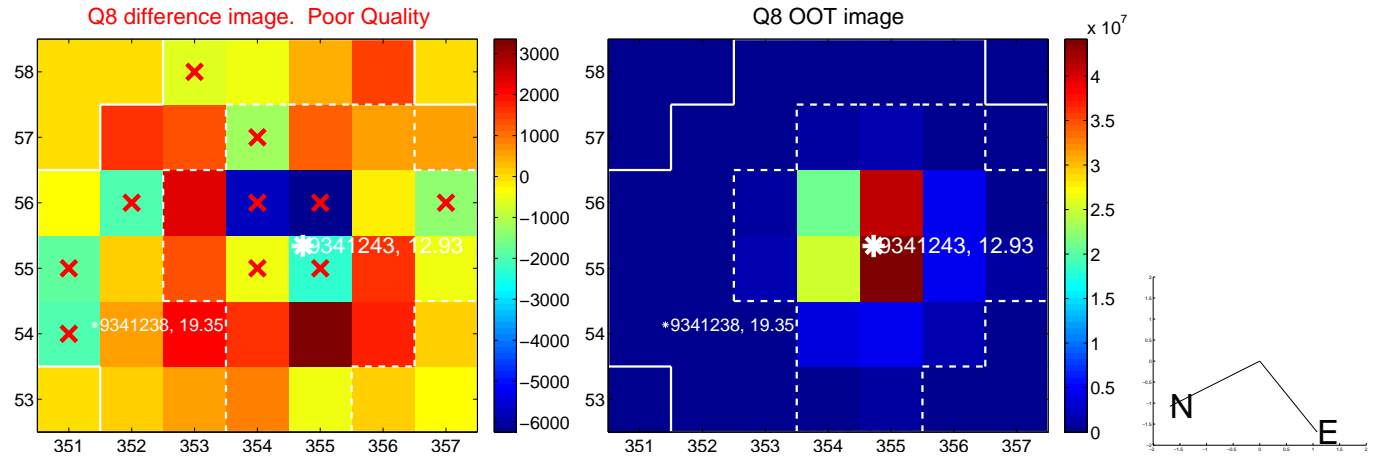
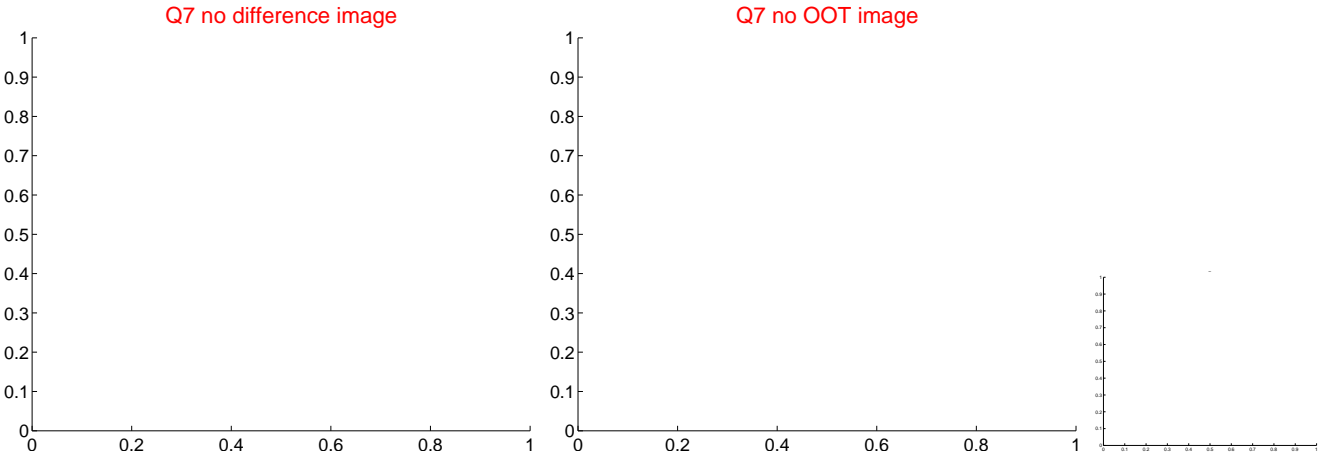
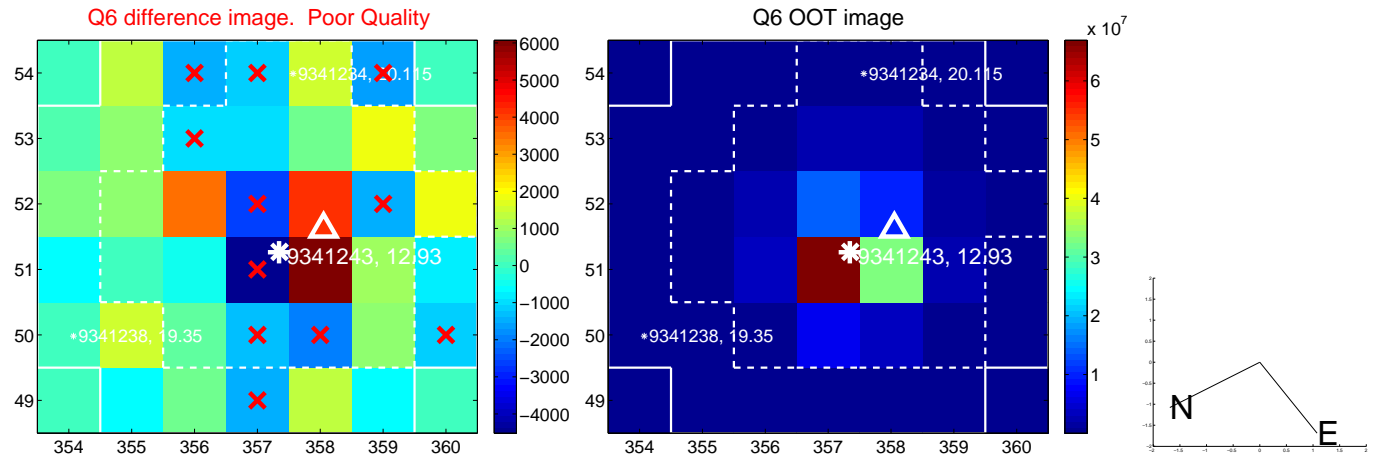
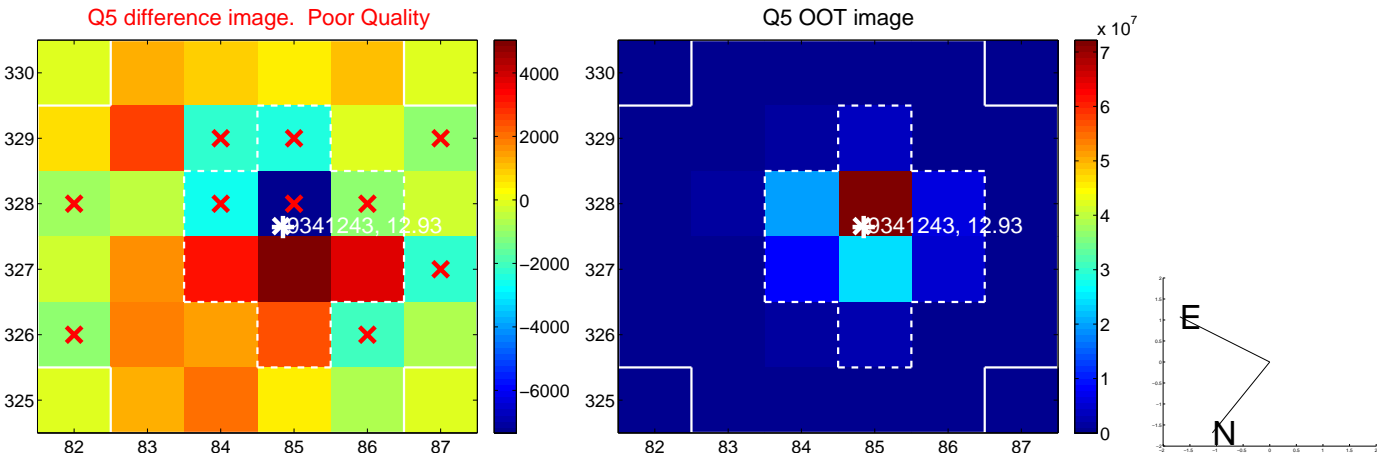
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.001 ± 0.499	2.01	-0.057 ± 0.503	-1.000 ± 0.499
PRF-fit source offset from KIC position	0.986 ± 0.502	1.96	-0.096 ± 0.498	-0.981 ± 0.502
photometric centroid source offset	0.38 ± 0.59	0.64	0.32 ± 0.59	-0.20 ± 0.59

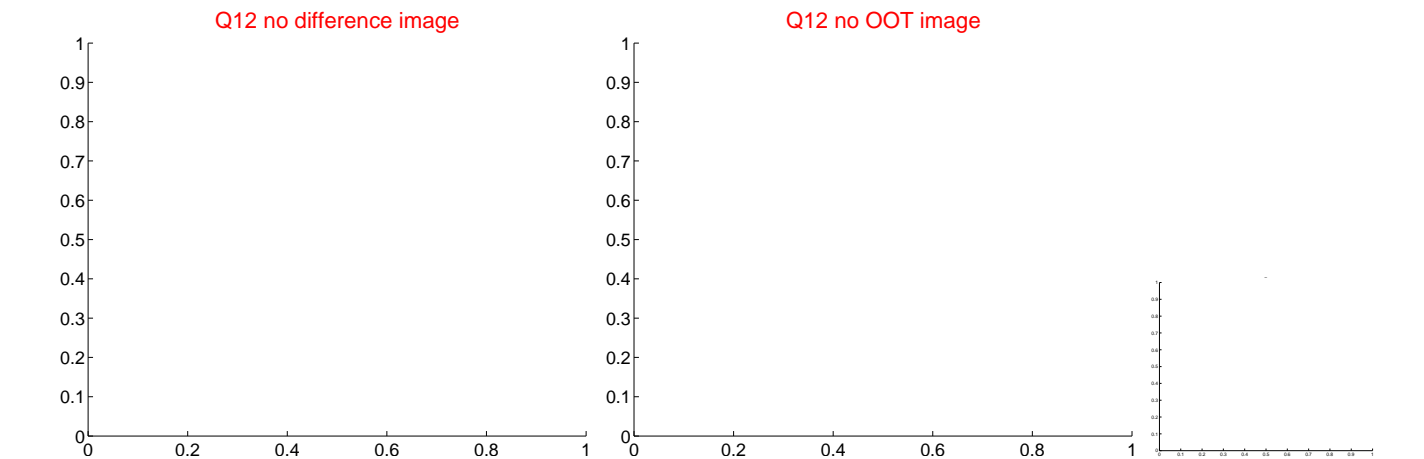
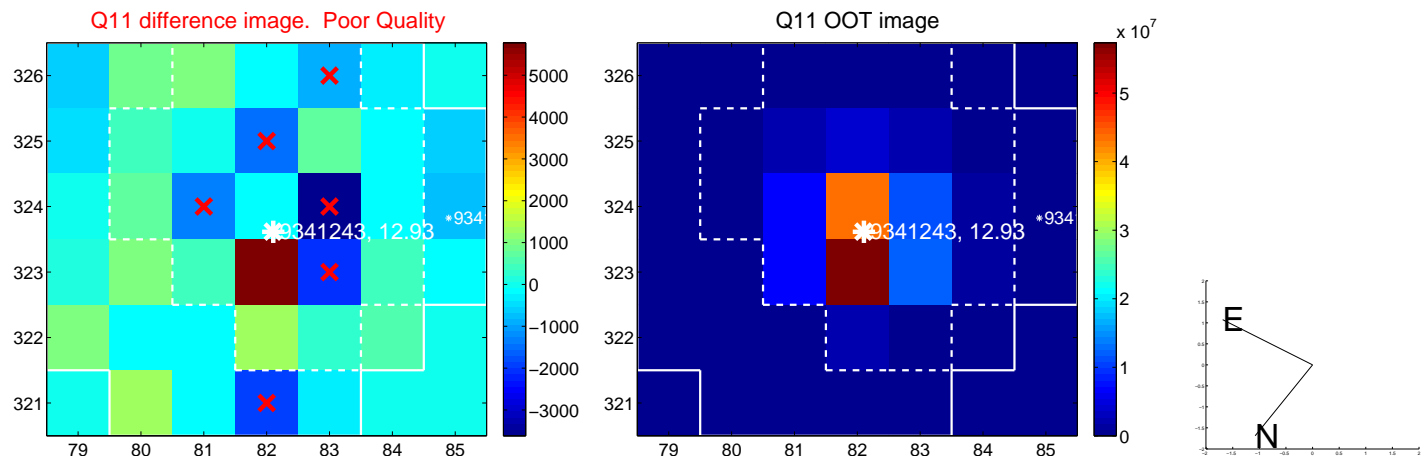
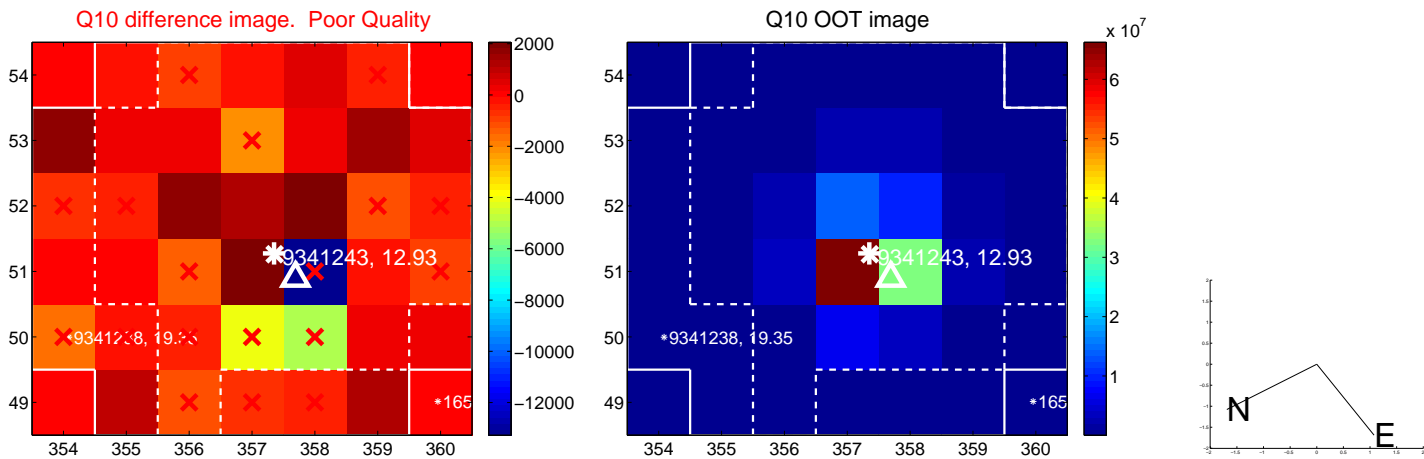
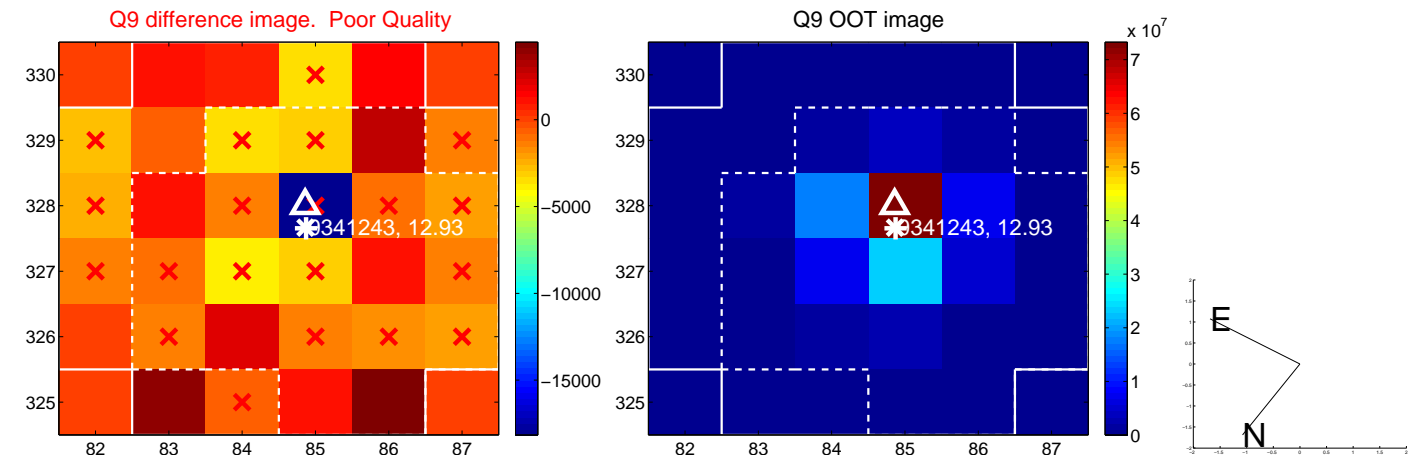


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

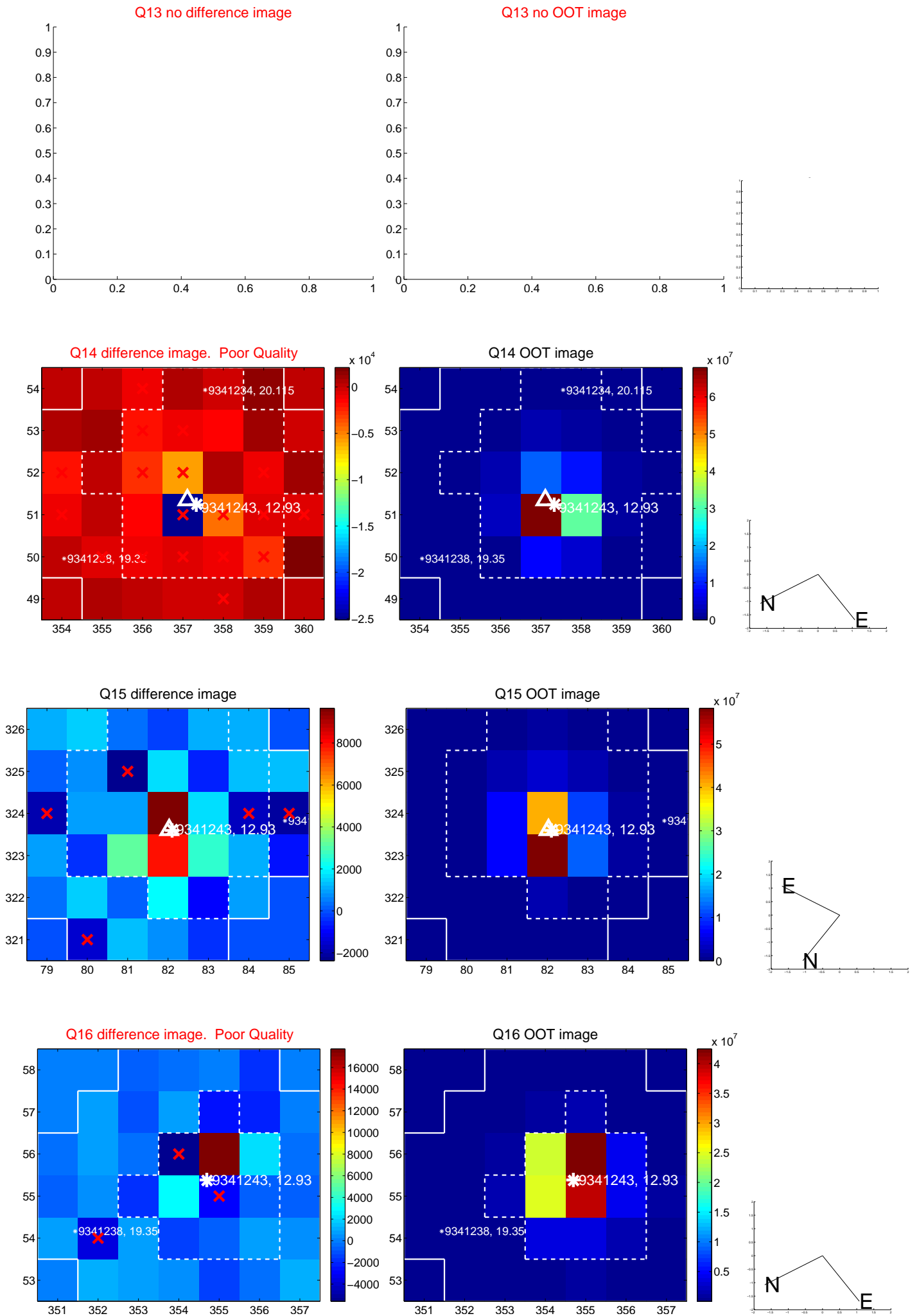
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



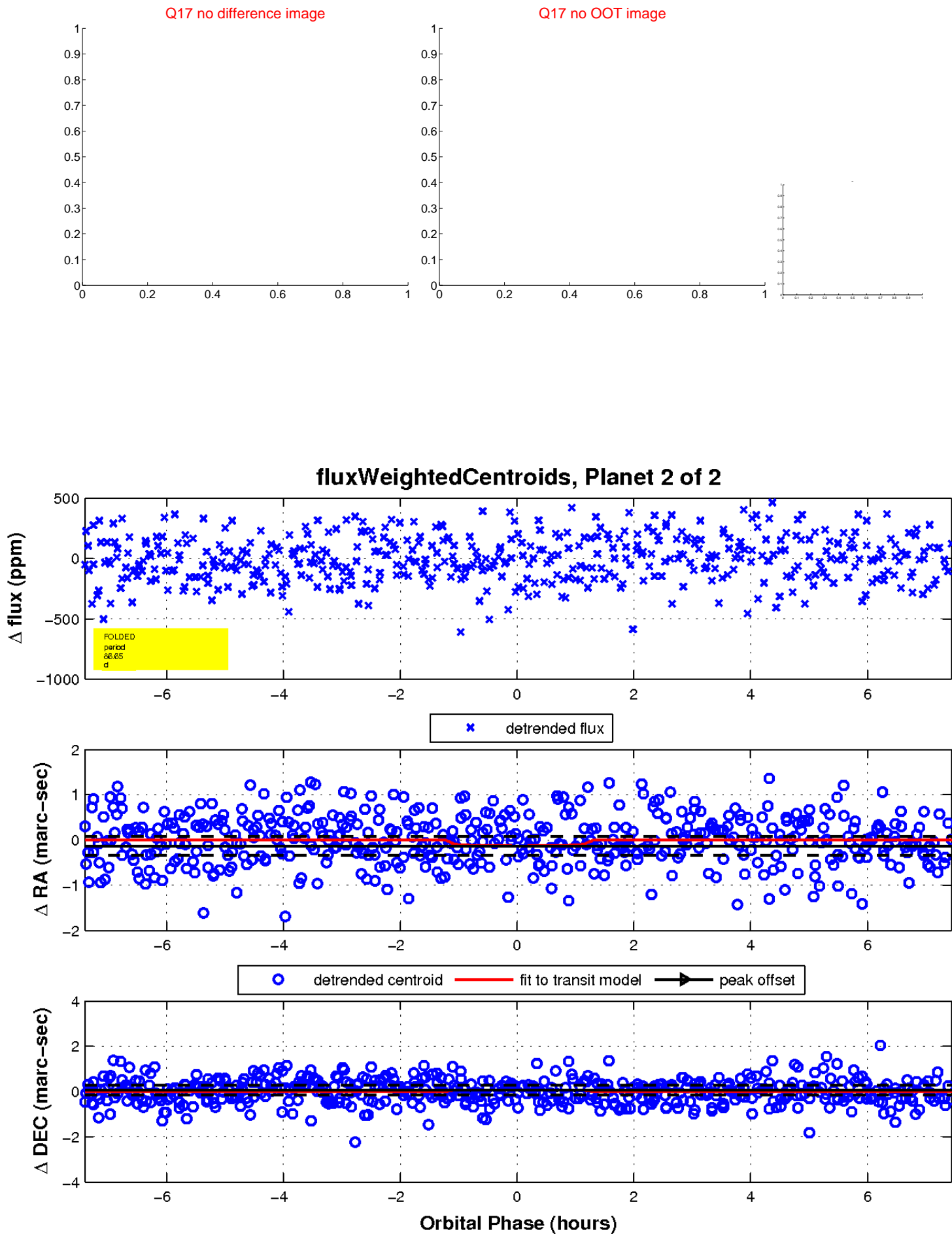
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

