

KIC 010341755

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})
010341755-01	OBS	No	0.933685	131.565507	75.4	5.177	12.4	11.8	0.74	4940	0.65	958.46
010341755-02	OBS	No	86.230230	162.461811	251.1	2.428	12.6	2.0	0.74	4940	1.32	2.30
010341755-03	OBS	No	269.710759	376.233984	1418.4	26.808	9.5	7.4	0.74	4940	5.60	0.50
010341755-04	OBS	No	48.664751	176.109181	642.9	3.592	7.7	5.7	0.74	4940	2.26	4.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341755-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
010341755-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010341755-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
010341755-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST

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.

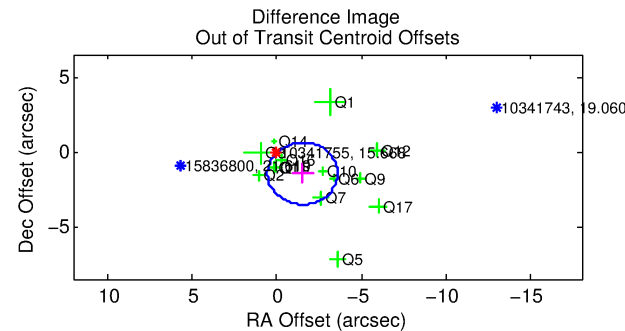
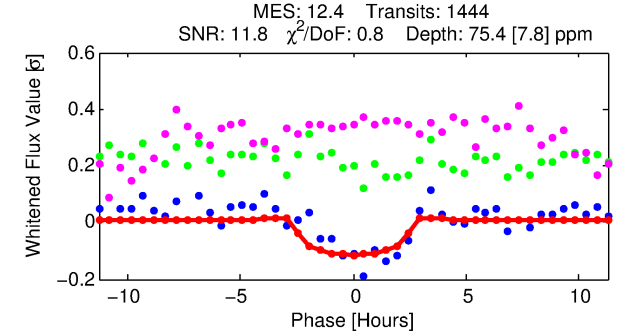
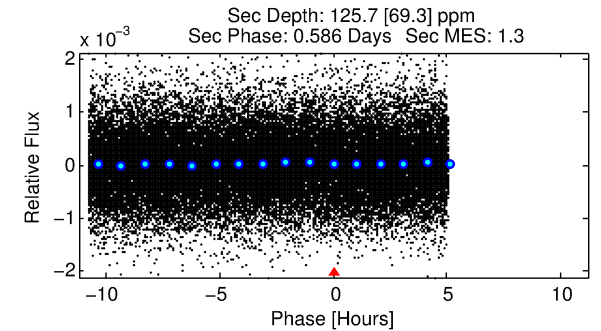
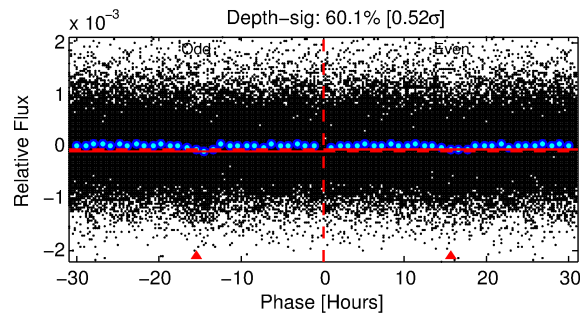
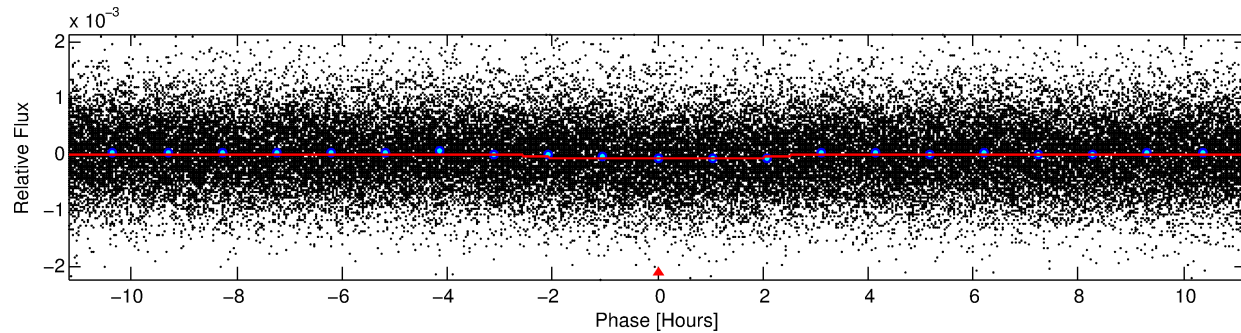
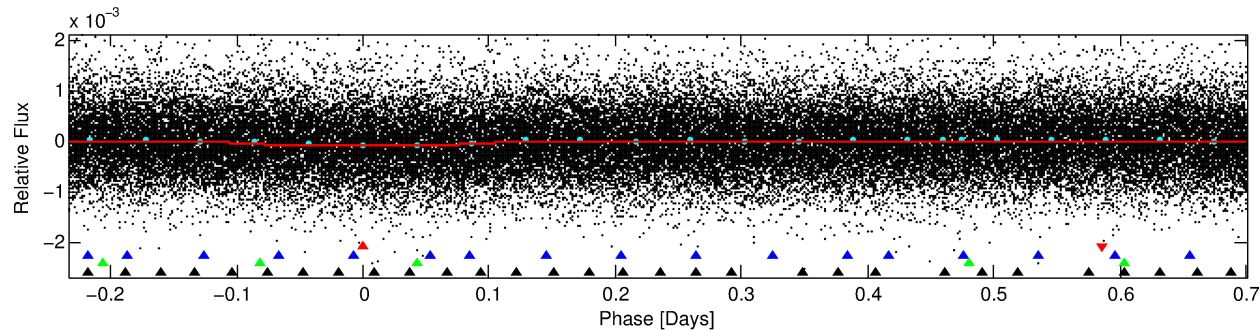
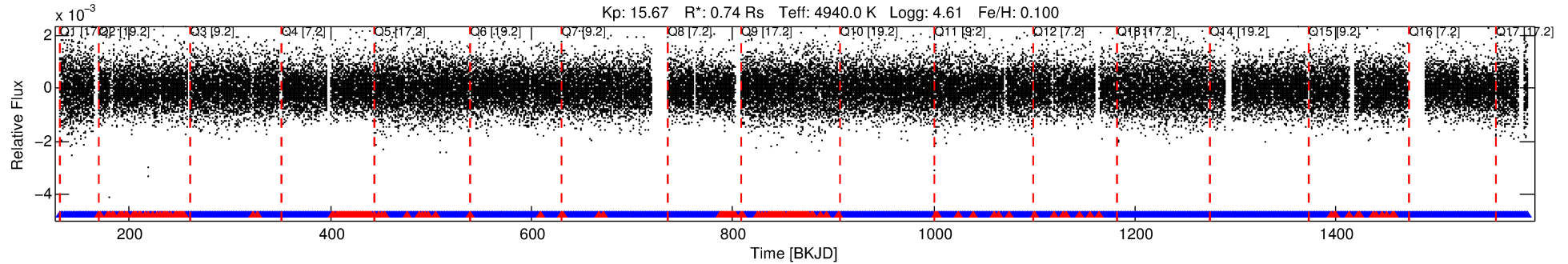
Ephemeris Match Information For 010341755-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
010341755-01	10341755	V2083-Cyg-pri	10342012	1:2	267.2	24	-63	6.90	15.67	2644.30	Direct-PRF	0	2.45	3.20

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10341755 Candidate: 1 of 4 Period: 0.934 d



DV Fit Results:

Period = 0.93369 [0.00001] d
Epoch = 131.5655 [0.0049] BKJD
Rp/R* = 0.0080 [0.0064]
a/R* = 1.40 [1.80]
b = 0.52 [3.79]
Seff = 958.46 [178.96]
Teq = 1419 [66] K
Rp = 0.65 [0.52] Re
a = 0.0174 [0.0016] AU
Ag = 49.93 [84.25] [0.58 σ]
Teffp = 5831 [2460] K [1.79 σ]

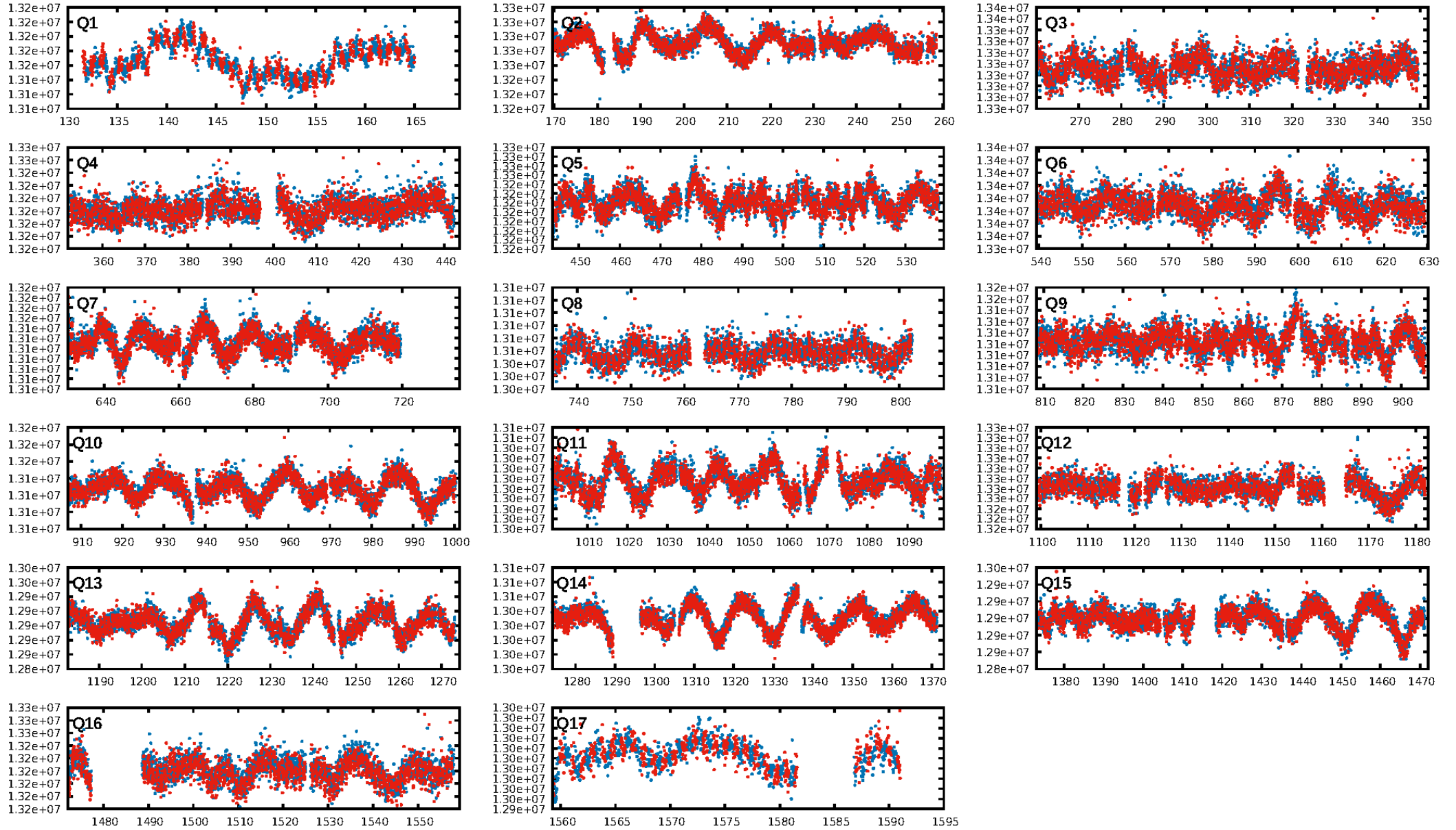
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [181.81 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.96e-29
RollingBand-fgt: 0.86 [1187/1378]
GhostDiagnostic-chr: 0.1763
Centroid-sig: 0.0%
Centroid-so: 3.674 arcsec [2.81 σ]
OotOffset-rm: 2.115 arcsec [3.07 σ]
KicOffset-rm: 1.729 arcsec [2.46 σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.07 [1/14]
DiffImageOverlap-fno: 1.00 [17/17]

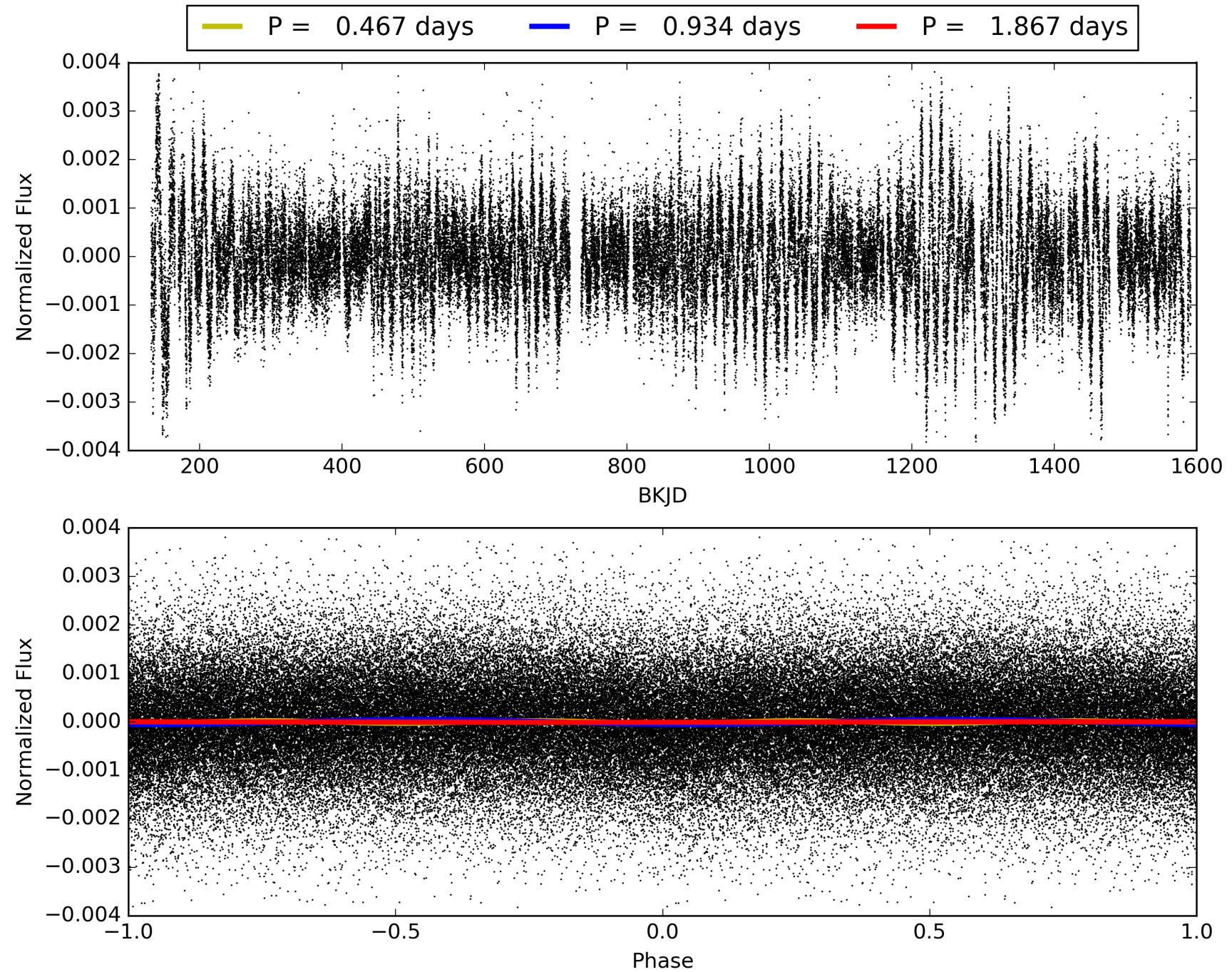
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:35:47 Z

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

TCE 010341755-01, PDC Light Curves

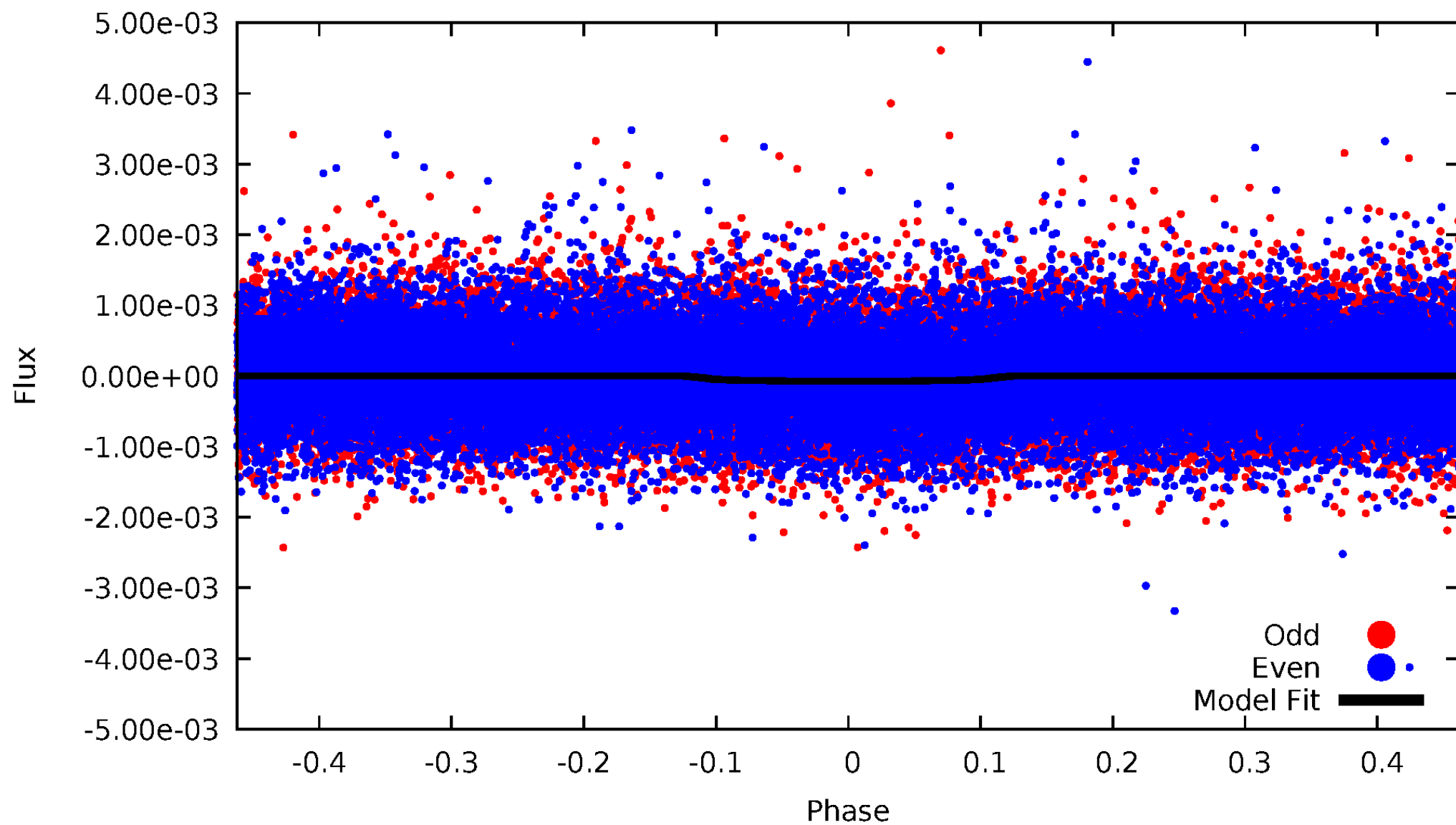


TCE 010341755-01



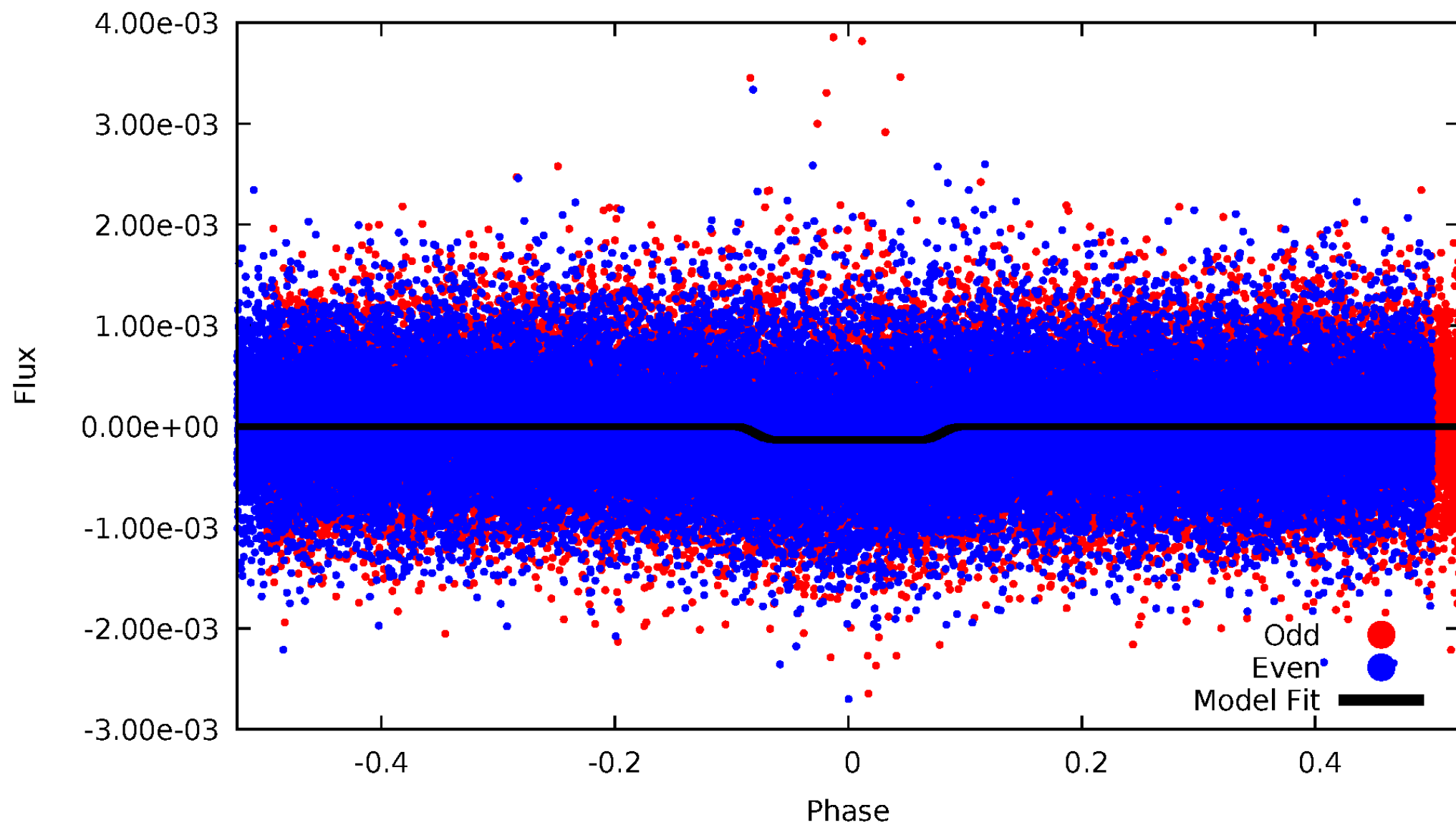
DV Odd/Even

TCE 010341755-01



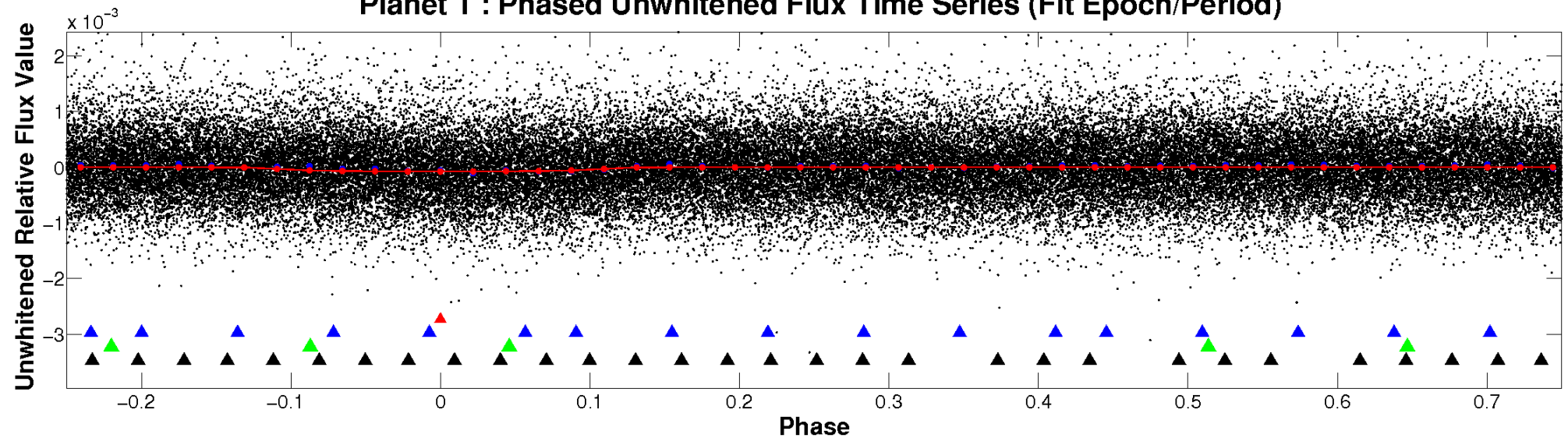
ALT Odd/Even

TCE 010341755-01

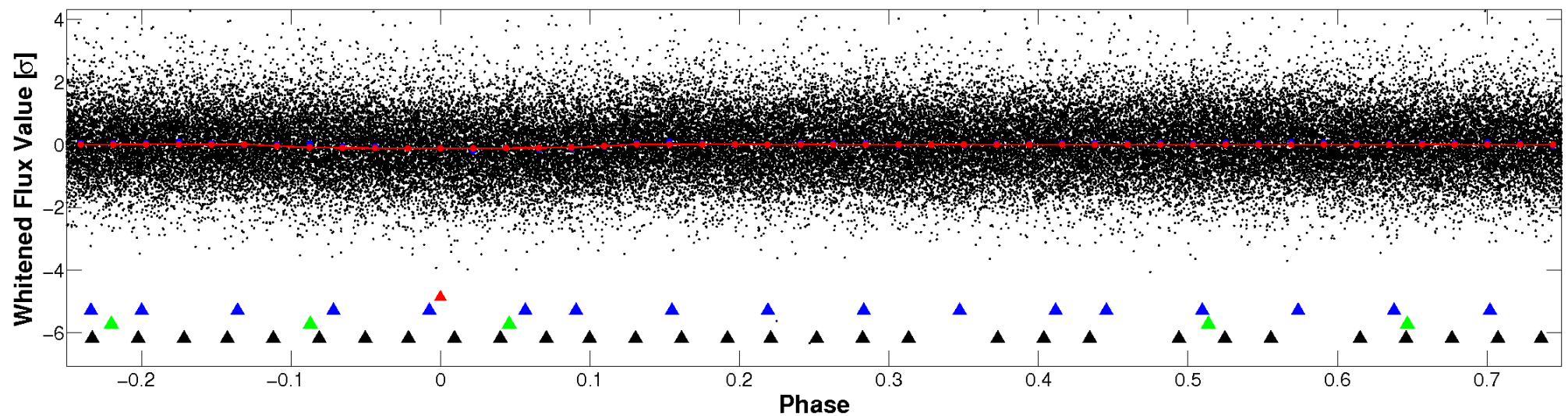


Non-Whitened Vs. Whitened Light Curve

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

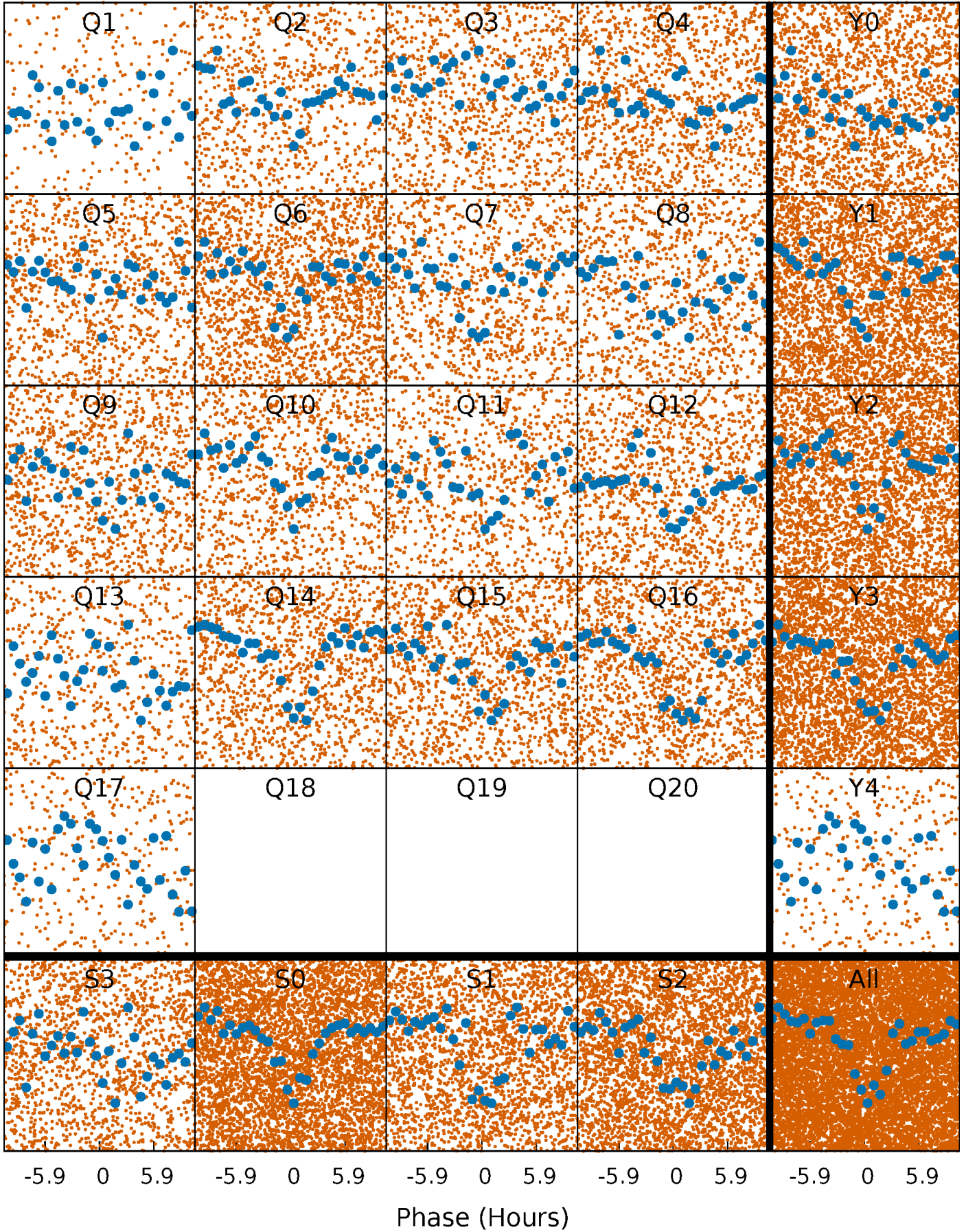


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



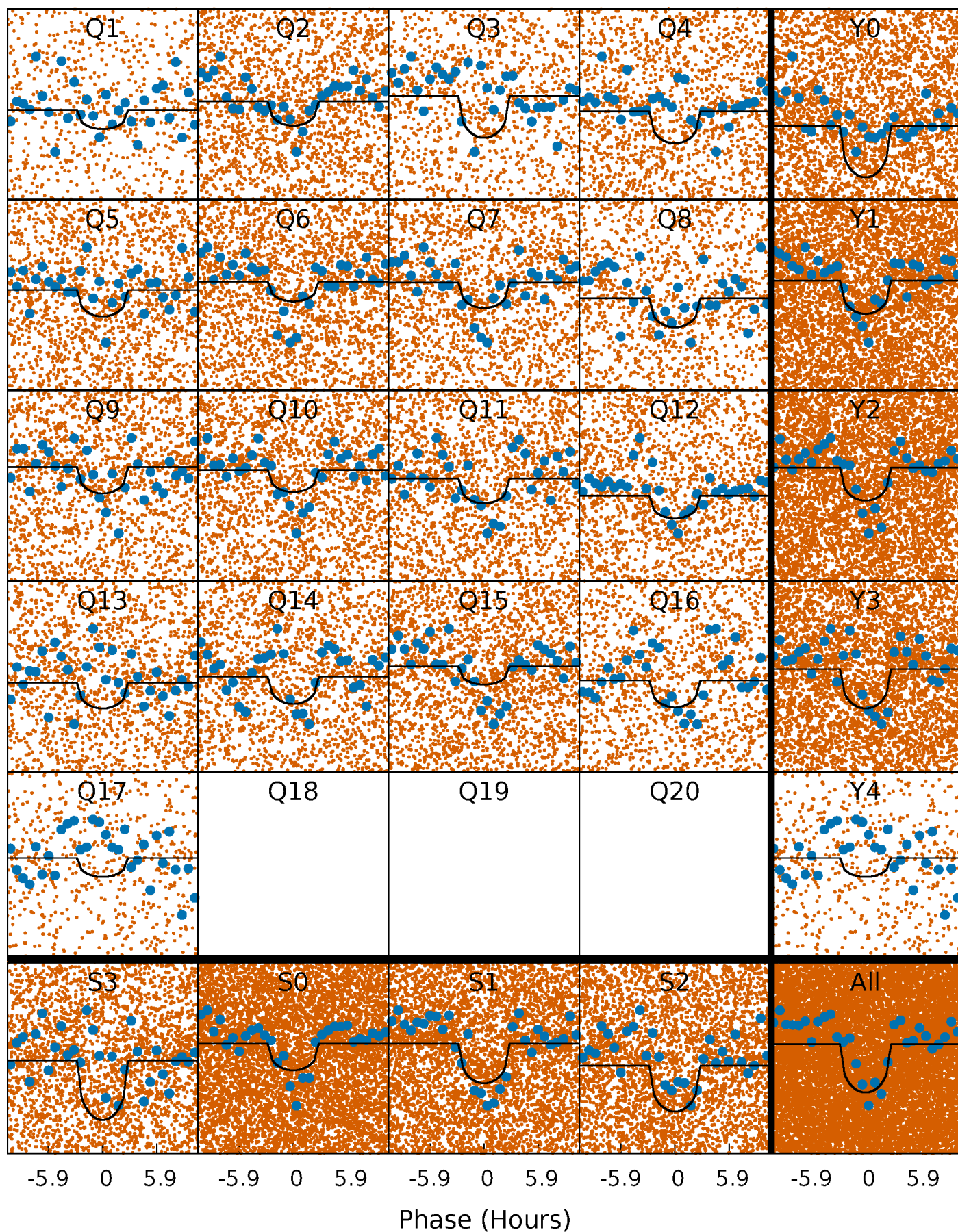
PDC Quarter-Phased Transit Curves

TCE 010341755-01 P= 0.933685 Days $T_0=131.565507$ (BKJD)



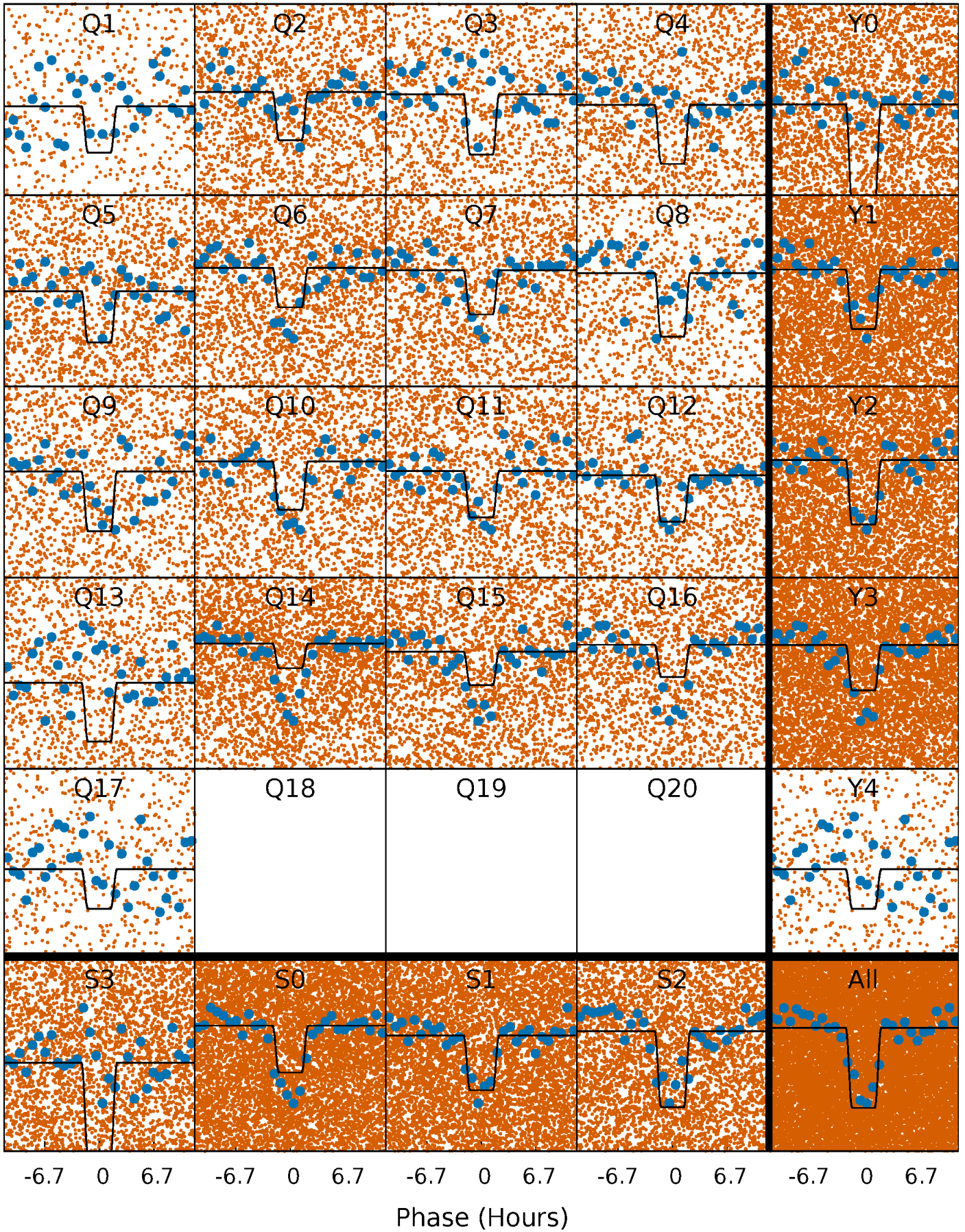
DV Quarter-Phased Transit Curves

TCE 010341755-01 P= 0.933685 Days $T_0=131.565507$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

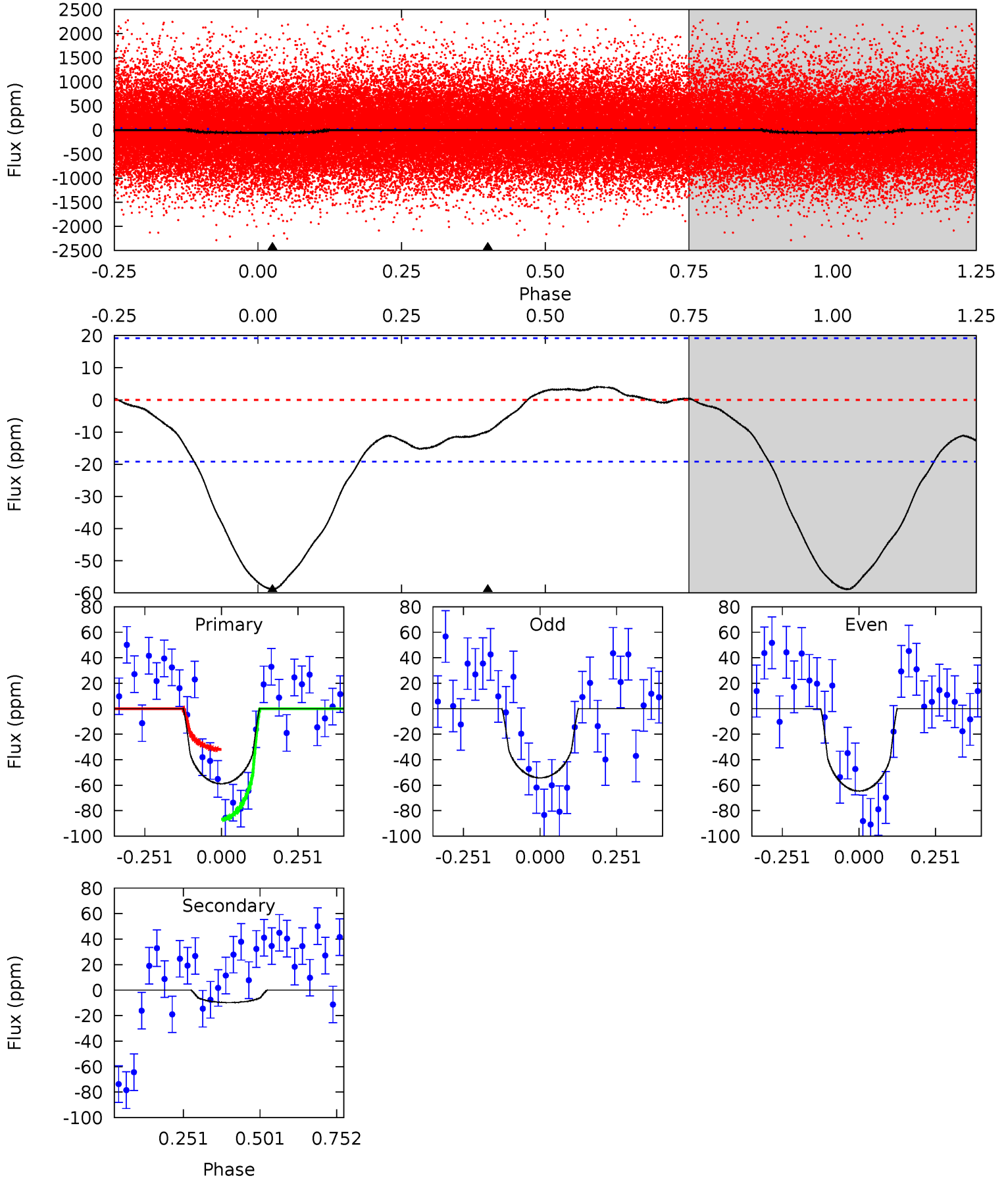
TCE 010341755-01 P= 0.933740 Days $T_0=131.533475$ (BKJD)



DV Model-Shift Uniqueness Test

010341755-01, P = 0.933685 Days, E = 130.631822 Days

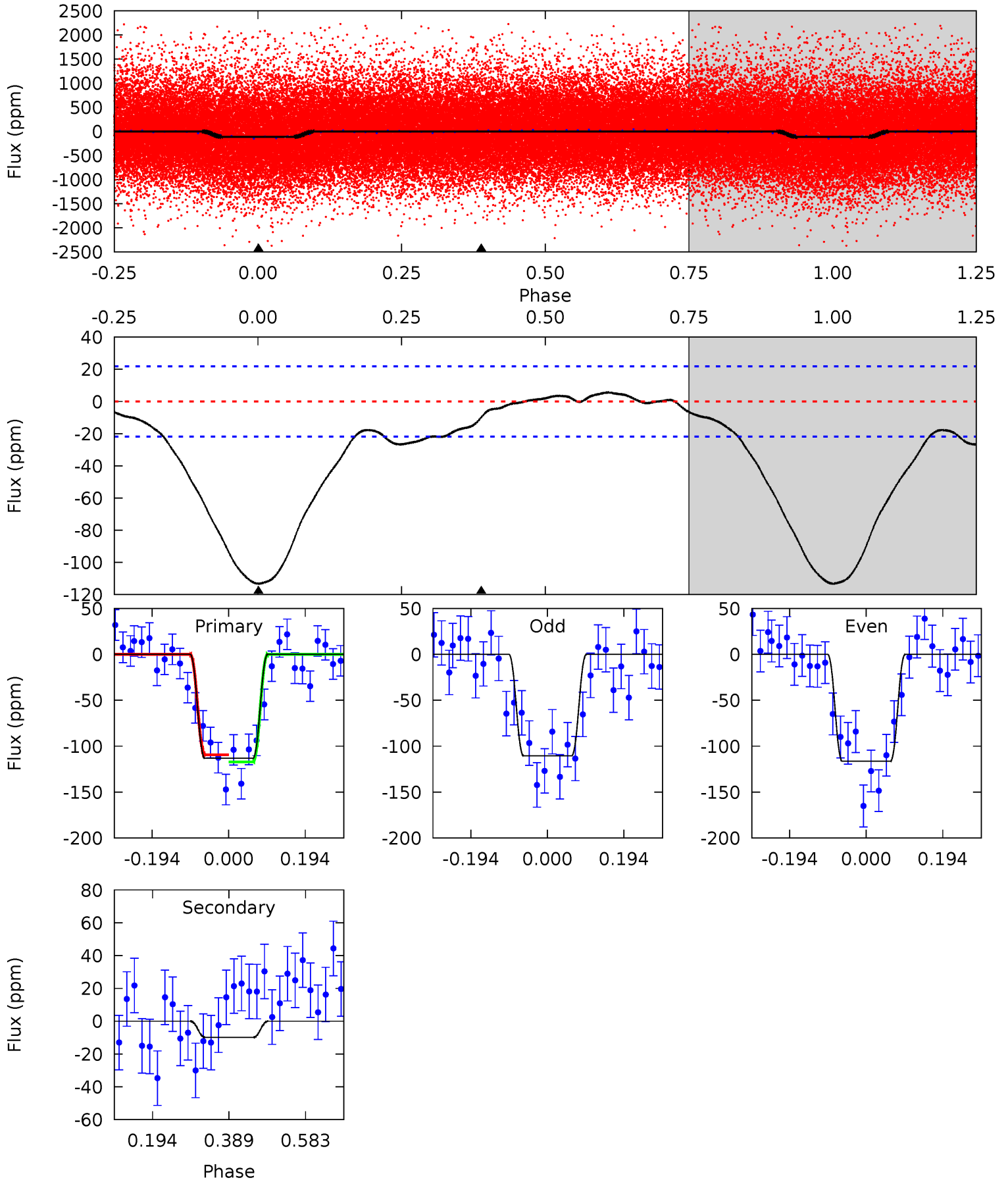
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	2.23	0	0	4.37	1.15	0.14	13.4	13.4	2.23	2.23	1.18	0.78	0.06	6.21



Alt Model-Shift Uniqueness Test

010341755-01, P = 0.933740 Days, E = 130.599735 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.0	2.01	0	0	4.42	1.30	1.15	23.0	23.0	2.01	2.01	0.61	0.91	0.05	0.79



Stellar Parameters For KIC 010341755

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4940^{+163}_{-148}	$4.609^{+0.025}_{-0.070}$	$0.100^{+0.250}_{-0.300}$	$0.738^{+0.085}_{-0.052}$	$0.829^{+0.049}_{-0.083}$	$2.900^{+0.361}_{-0.695}$
	+3%/-3%	+1%/-2%	+250%/-300%	+12%/-7%	+6%/-10%	+12%/-24%
Source	PHO1	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 010341755-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 4	$0.74^{+0.51}_{-0.41}$	2005^{+80}_{-74}	3283^{+1282}_{-664}	$2.686^{+13.715}_{-1.897}$
Alt.	-10 ± 5	$0.98^{+0.56}_{-0.51}$	2003^{+84}_{-71}	2992^{+887}_{-581}	$1.585^{+5.435}_{-1.036}$

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

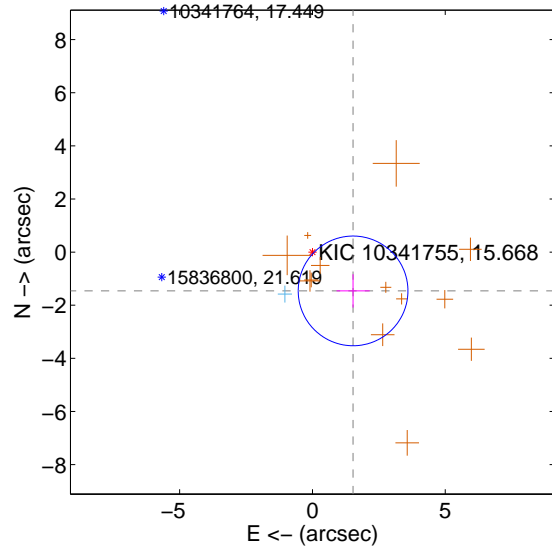
Supplemental centroid analysis for 010341755-01. Kepler magnitude: 15.67. Transit SNR 11.80

There are 1 quarters with good PRF difference image offsets

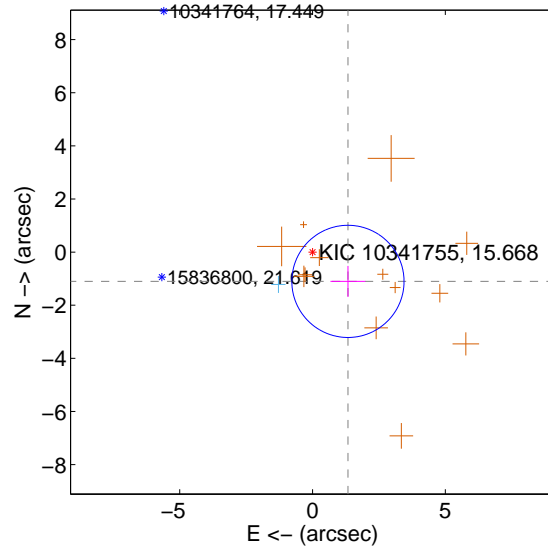
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.115 ± 0.688	3.07	-1.529 ± 0.623	-1.460 ± 0.627
PRF-fit source offset from KIC position	1.729 ± 0.704	2.46	-1.333 ± 0.657	-1.102 ± 0.584
photometric centroid source offset	3.67 ± 1.31	2.81	-1.25 ± 1.29	-3.45 ± 1.31

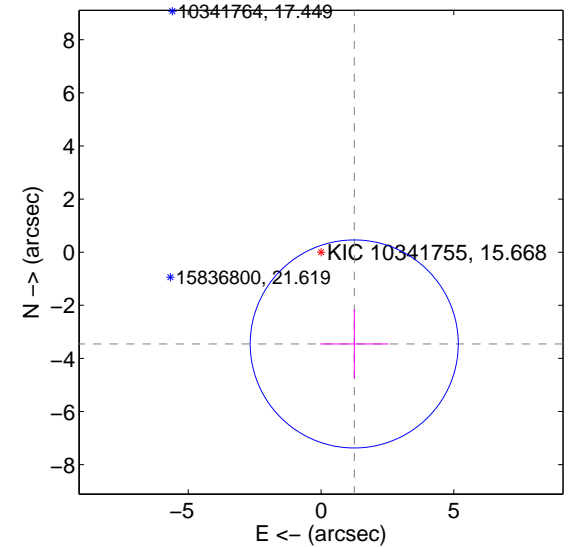
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

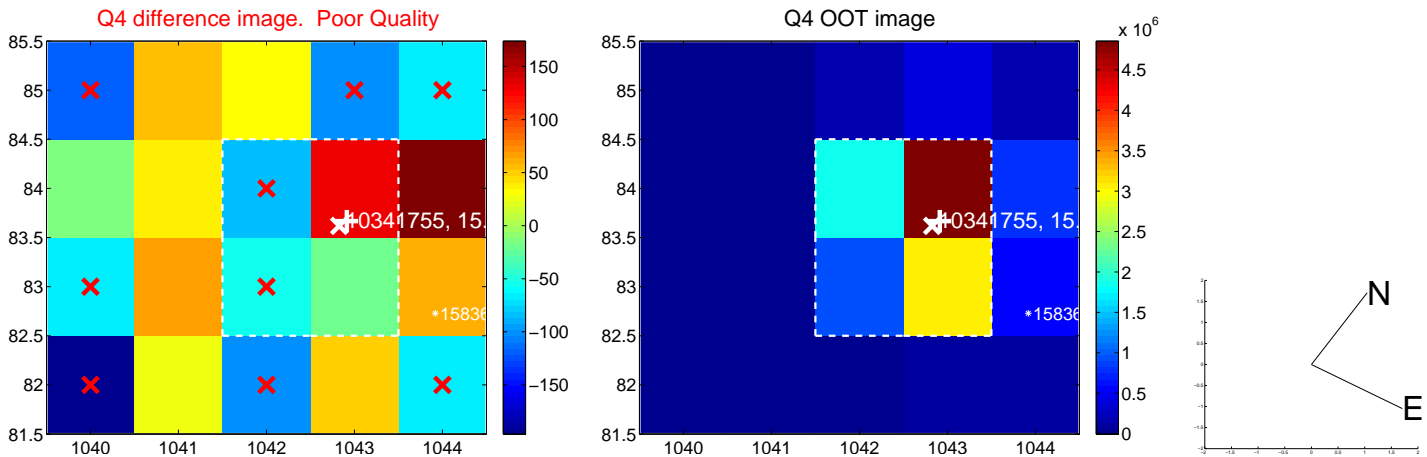
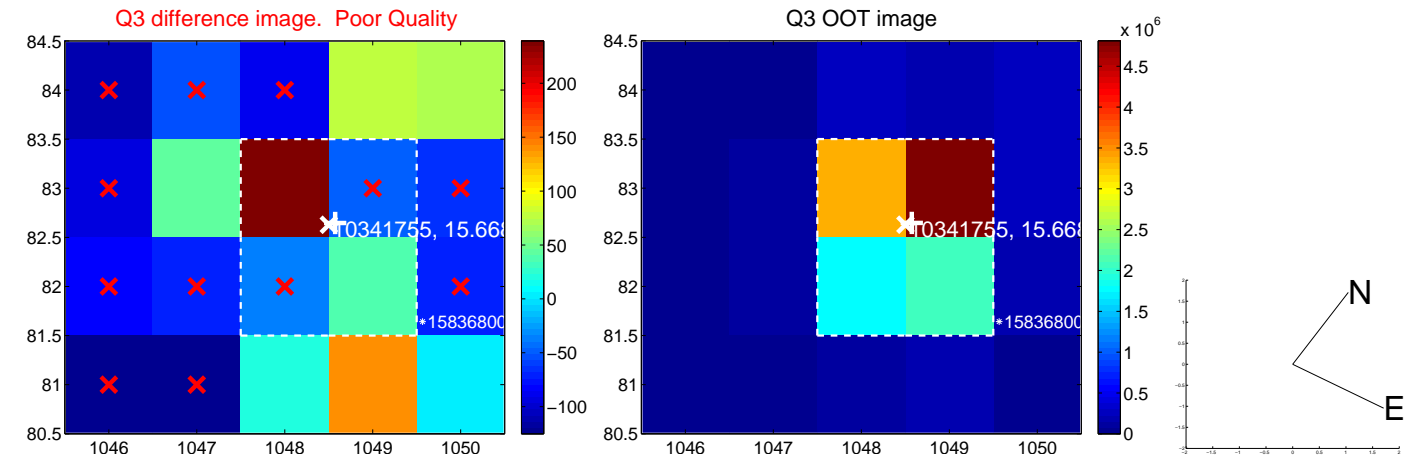
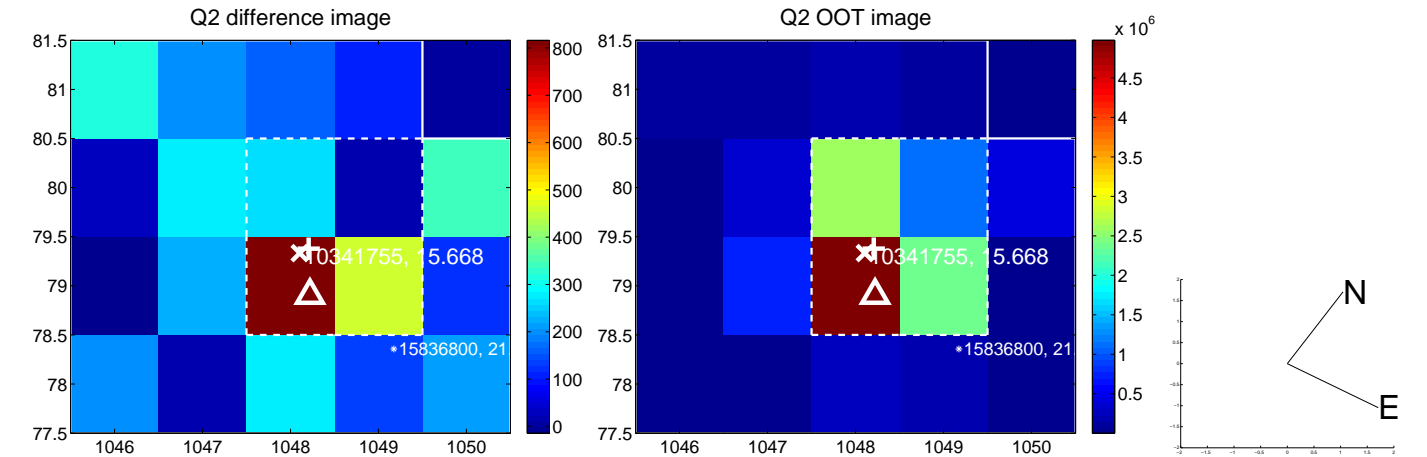
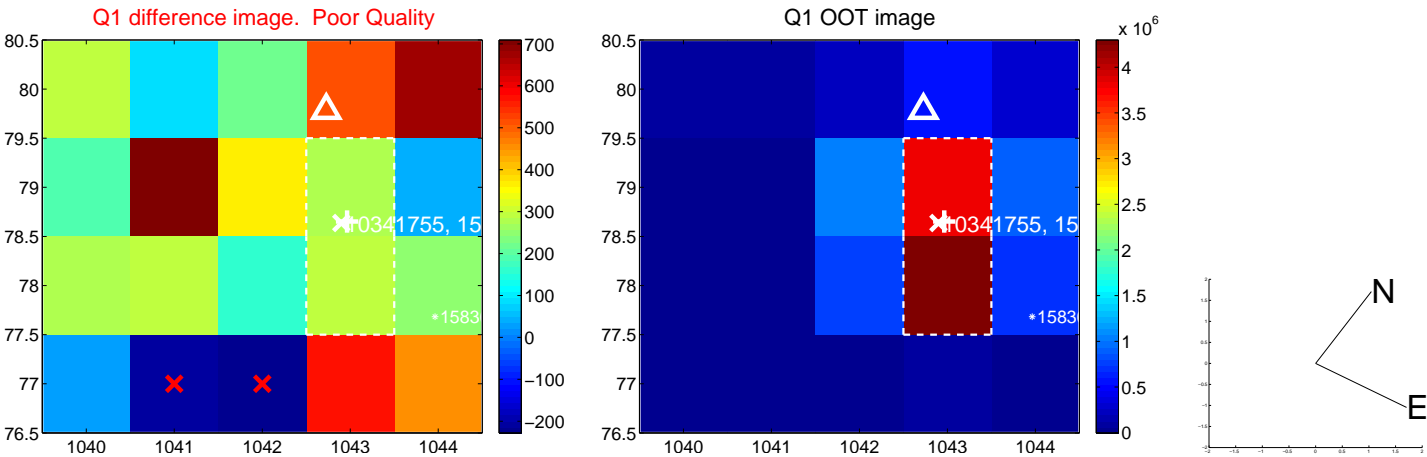


offset from photometric centroids

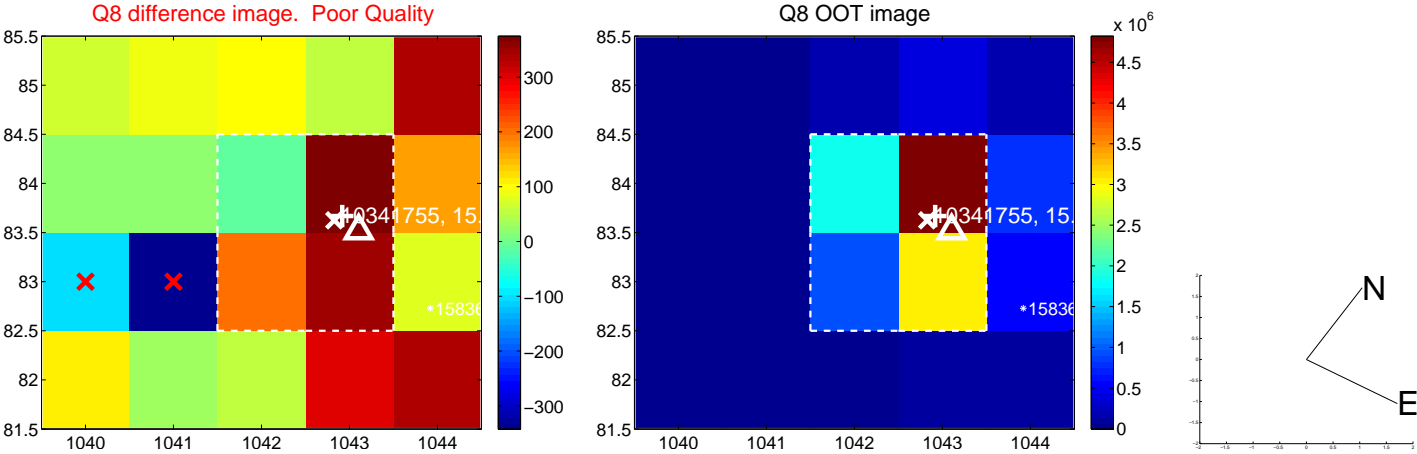
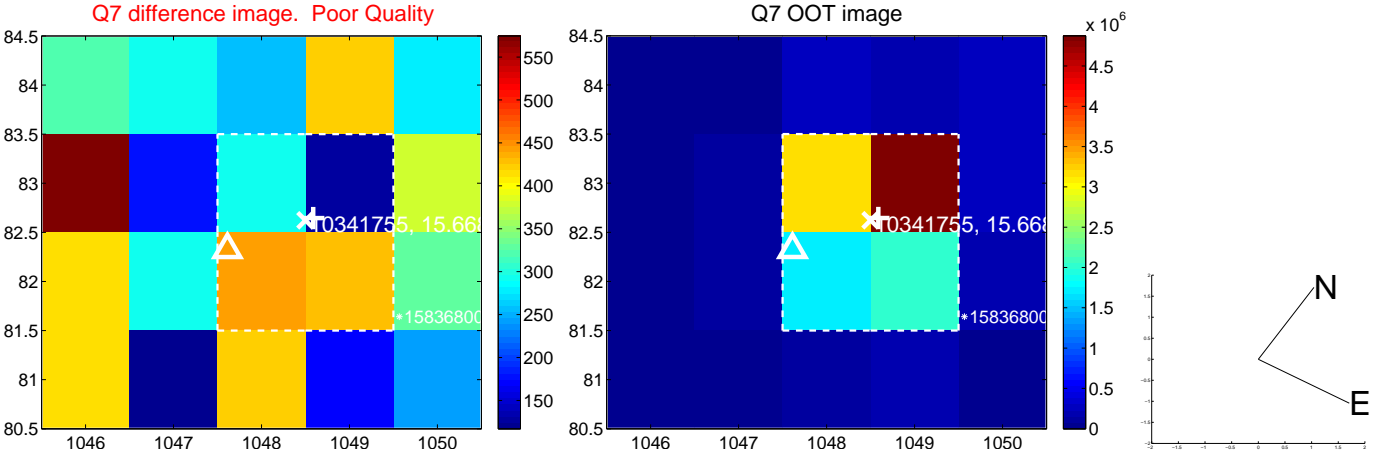
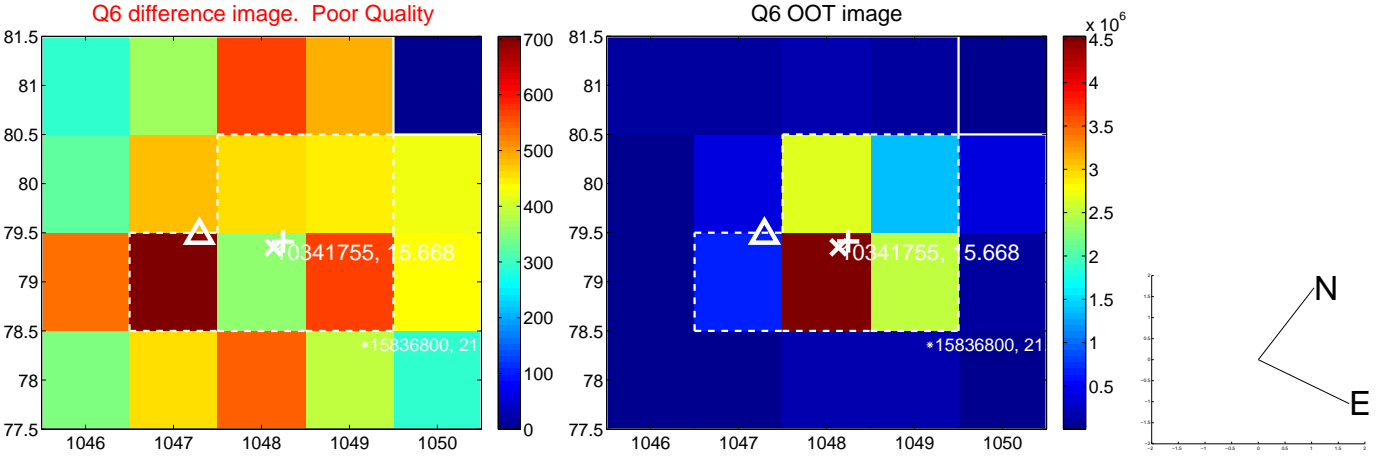
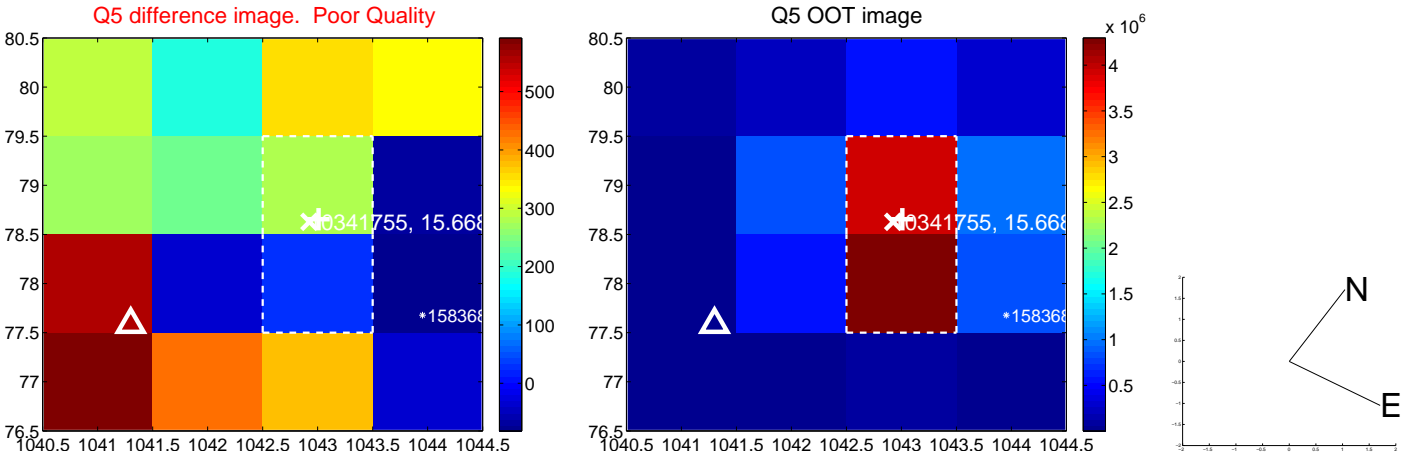


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

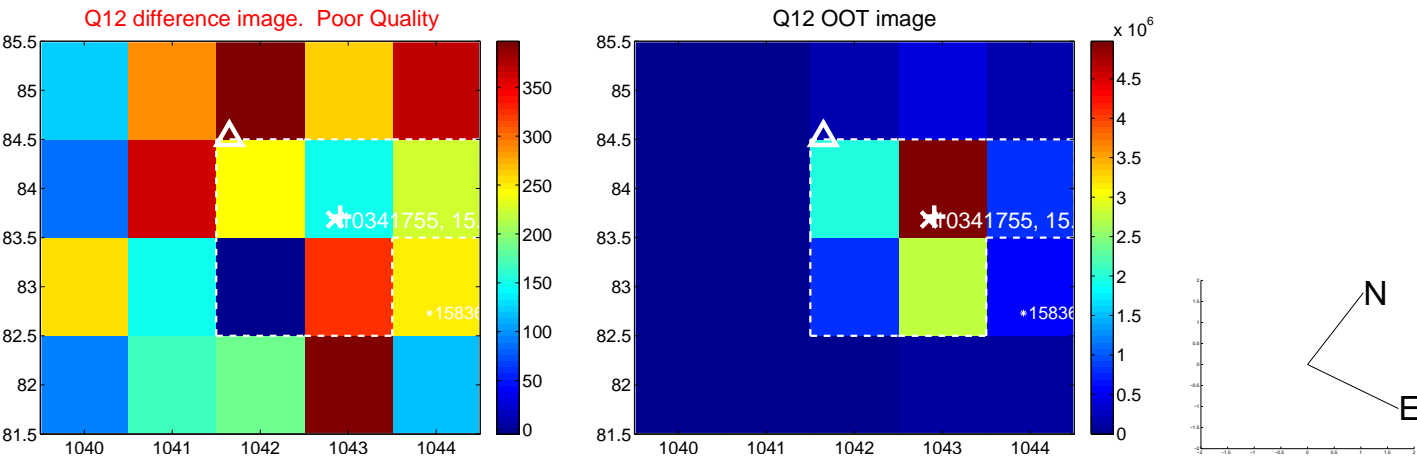
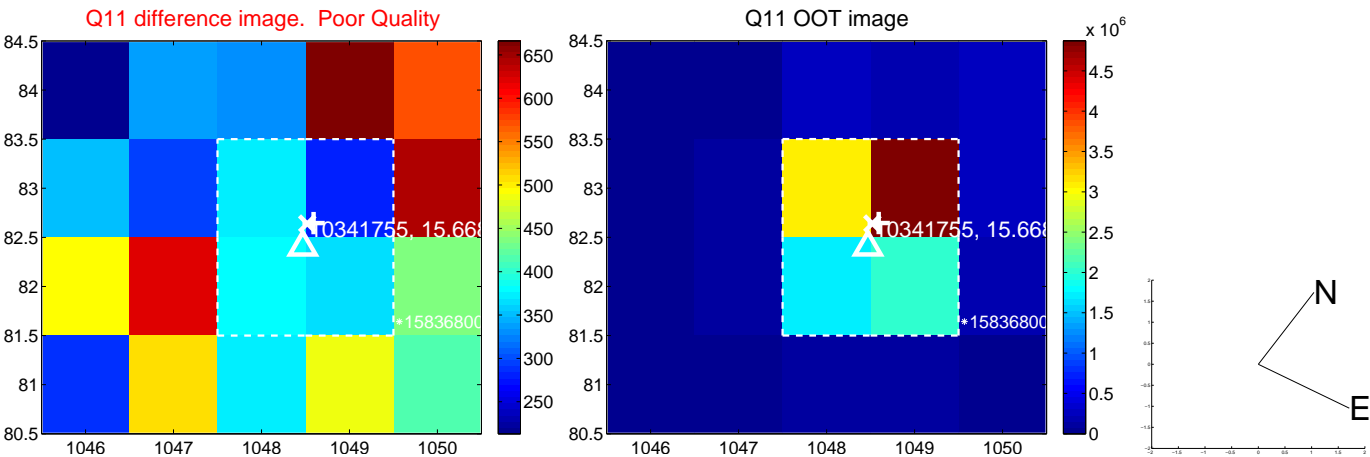
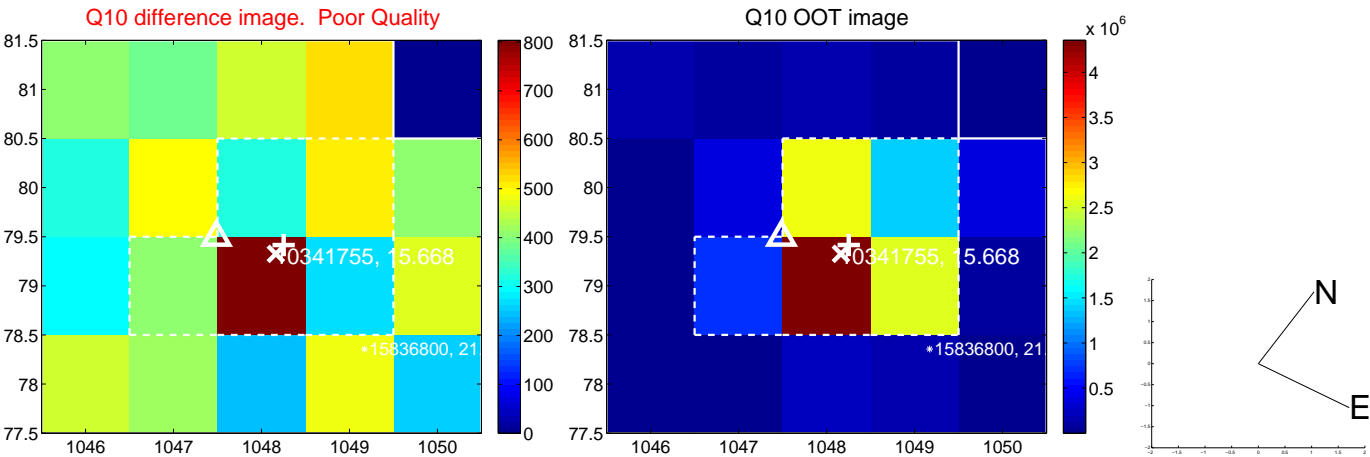
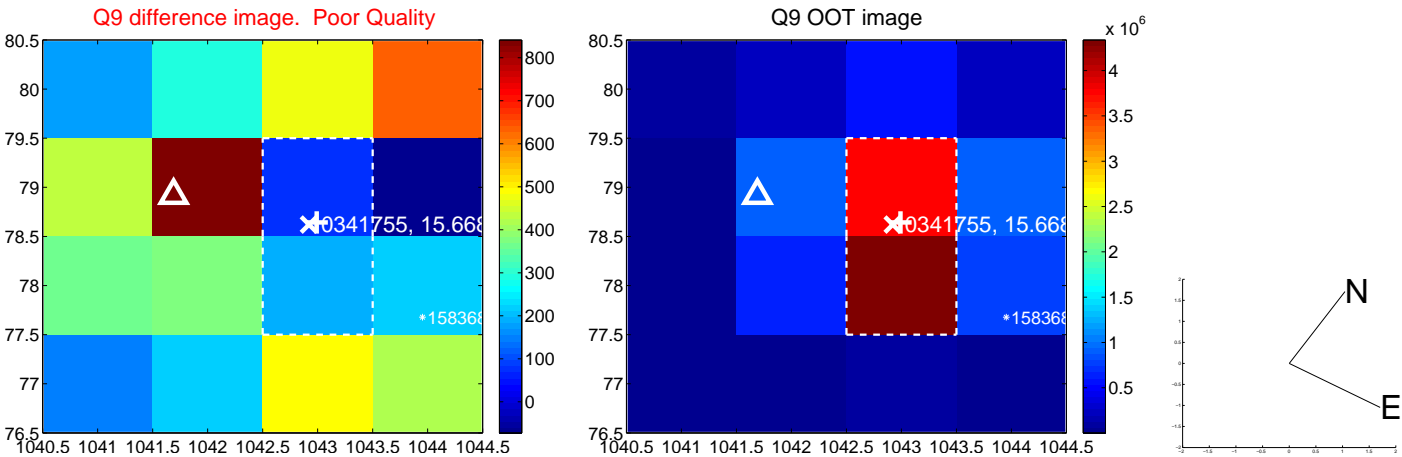
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



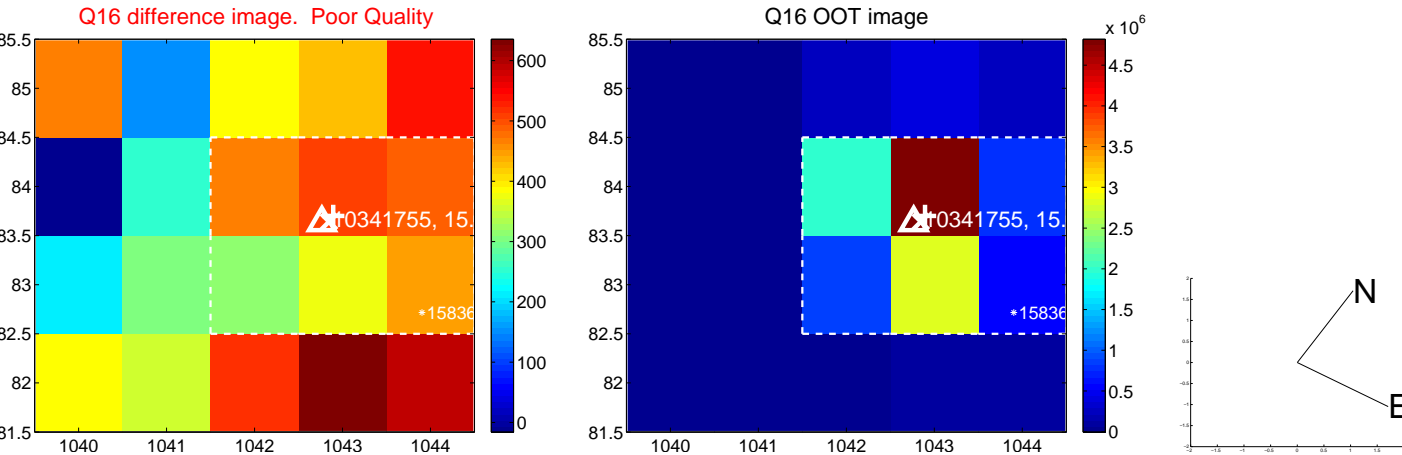
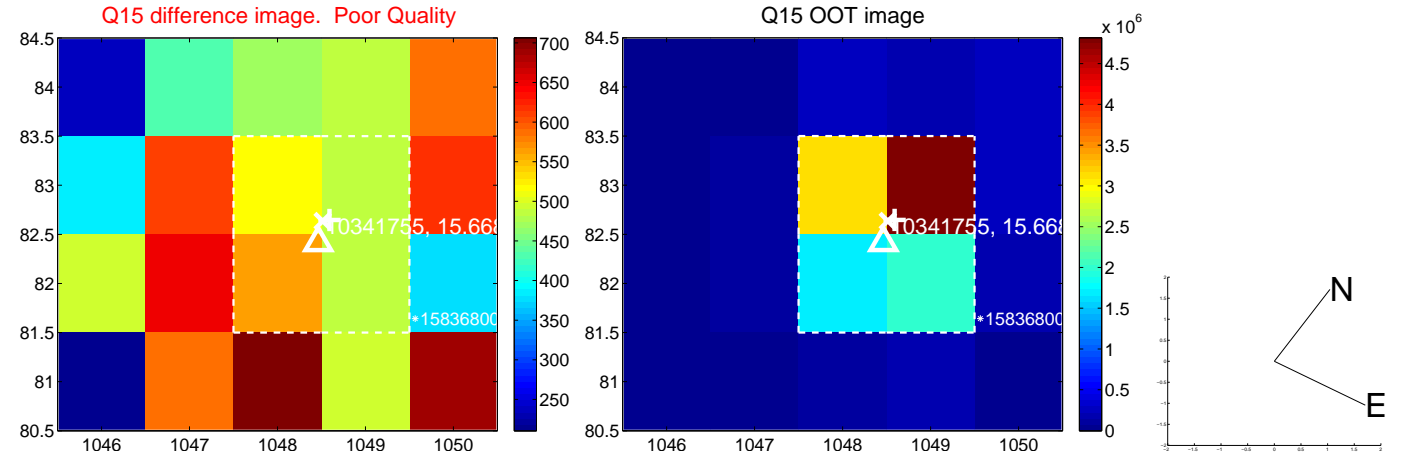
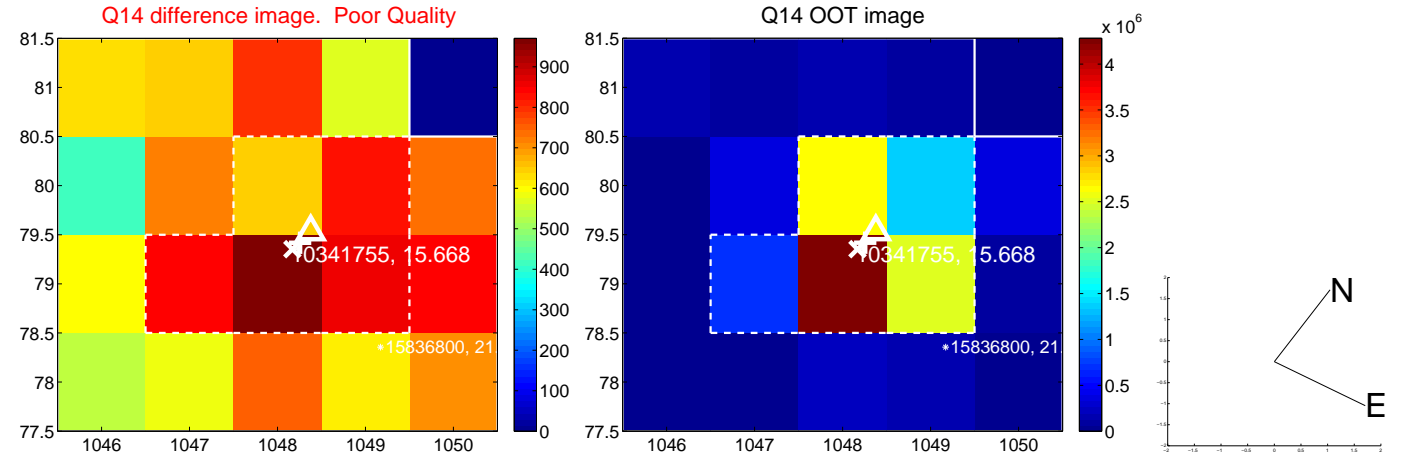
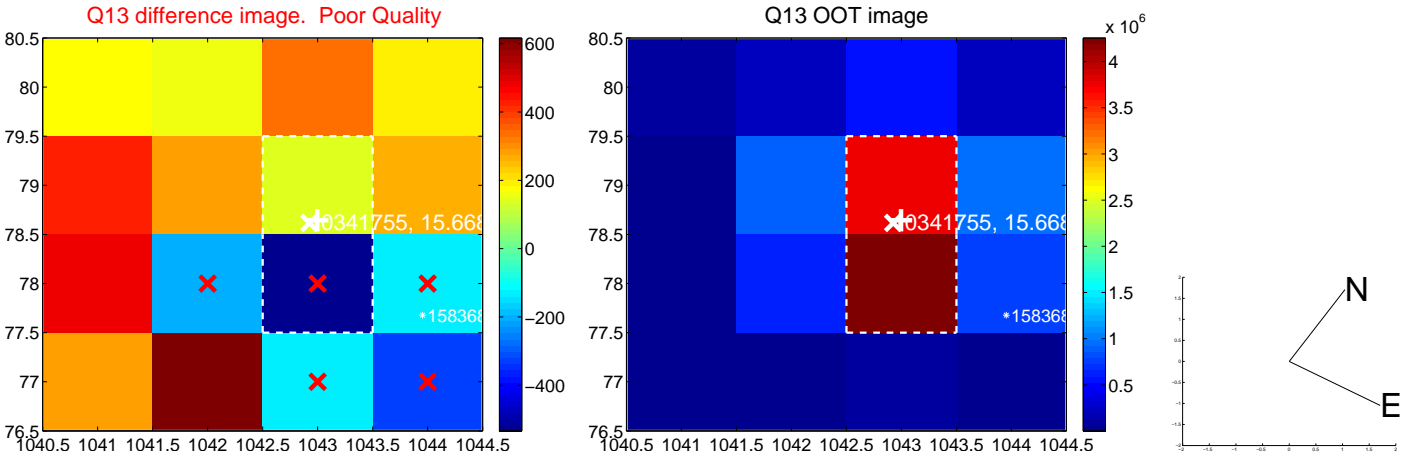
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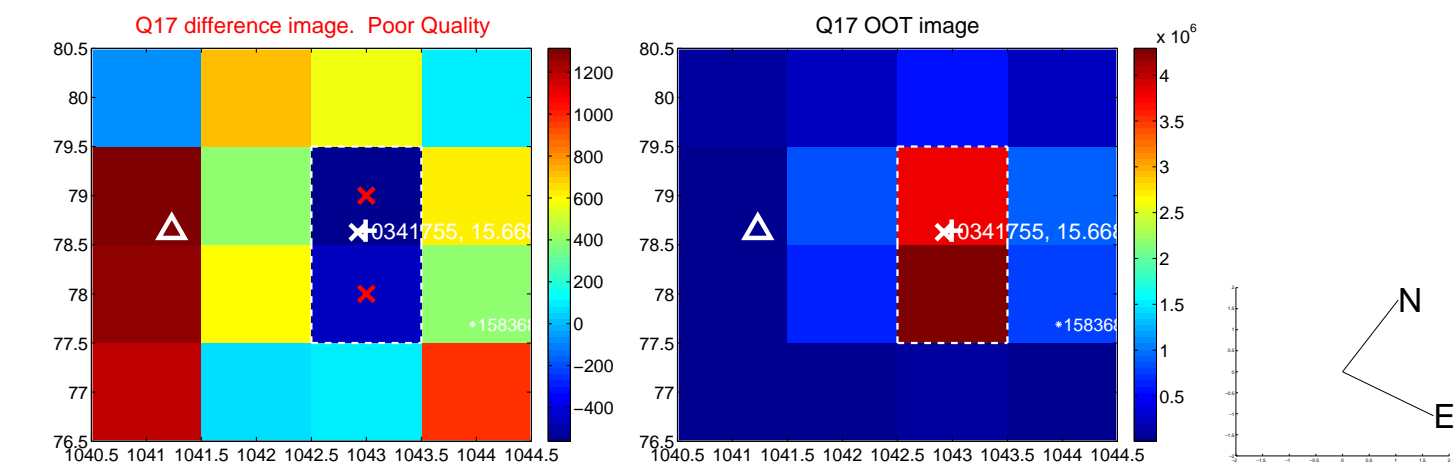
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



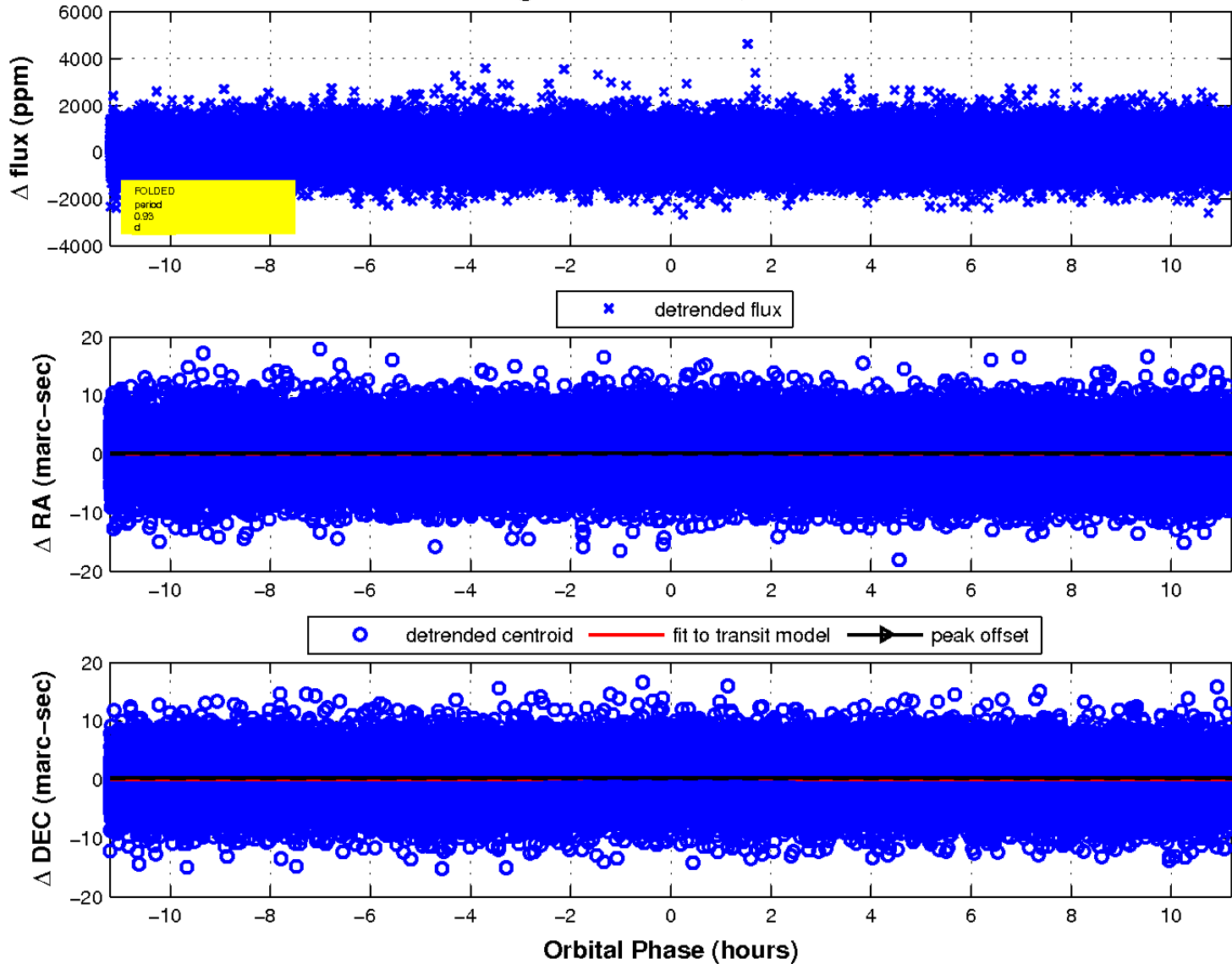
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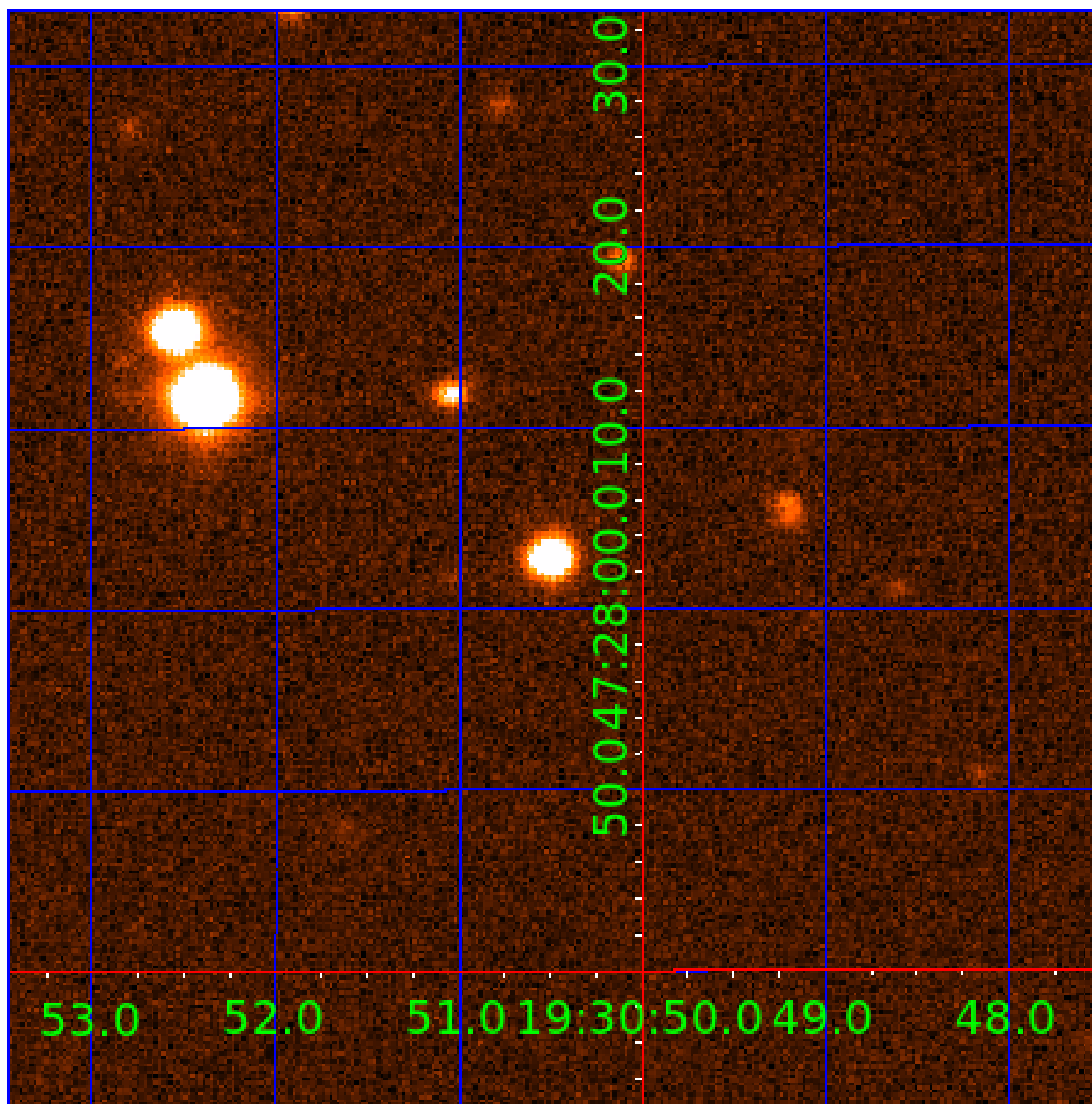


fluxWeightedCentroids, Planet 1 of 4



UKIRT Image

Declination



KIC 010341755

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010341755-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
010341755-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST

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

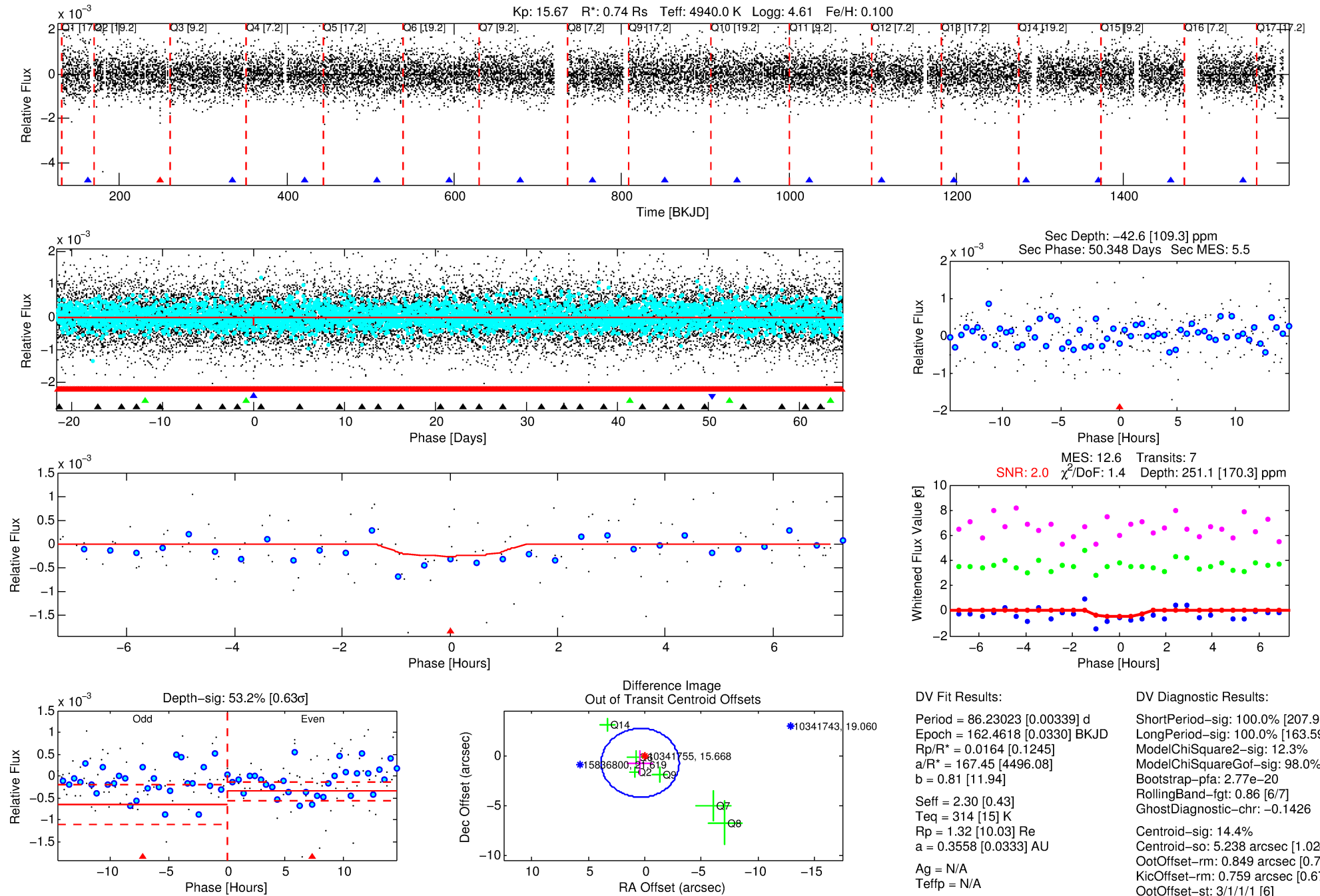
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010341755-02

No Significant Match Found

DV One-Page Summary

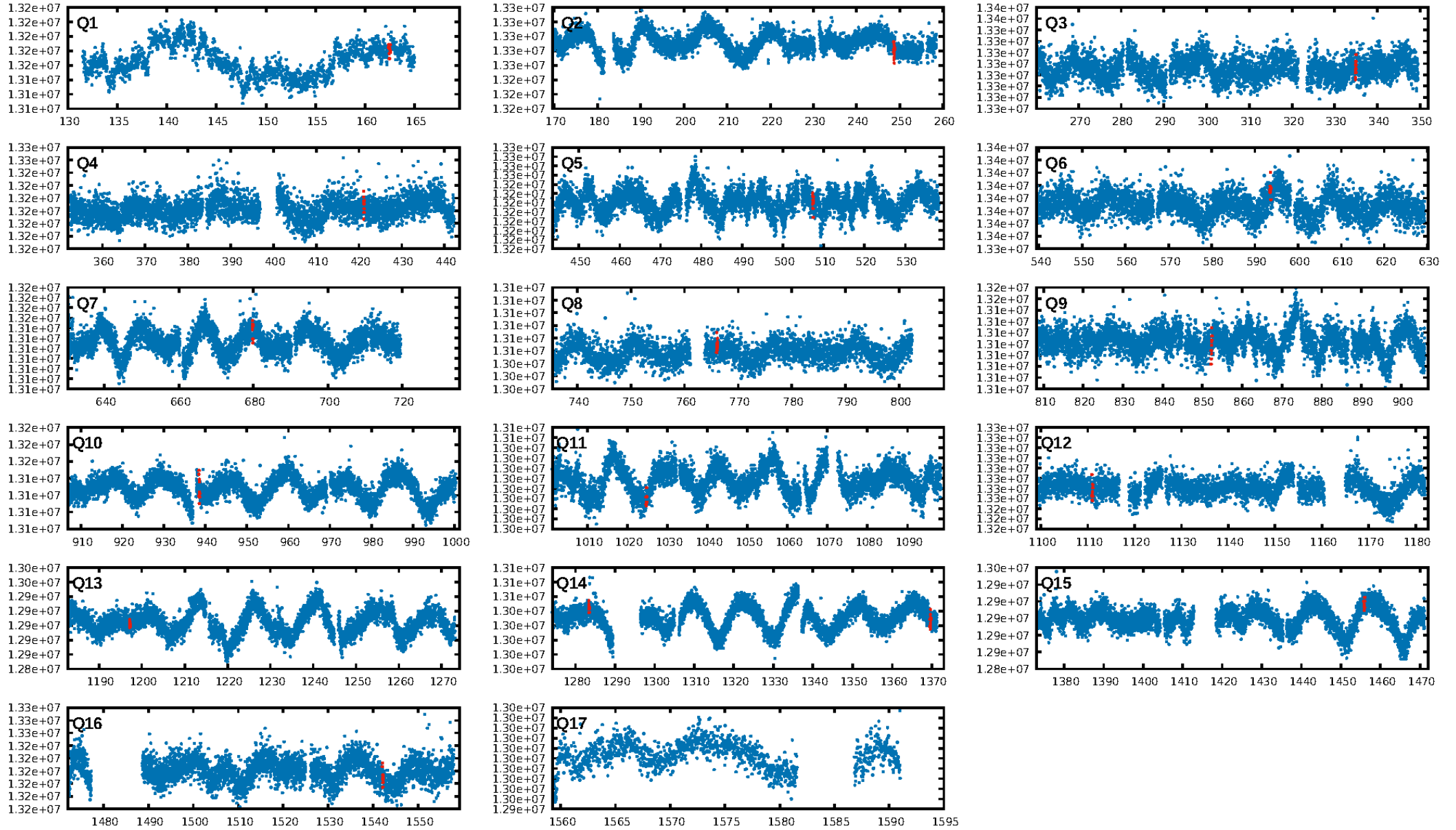
KIC: 10341755 Candidate: 2 of 4 Period: 86.230 d



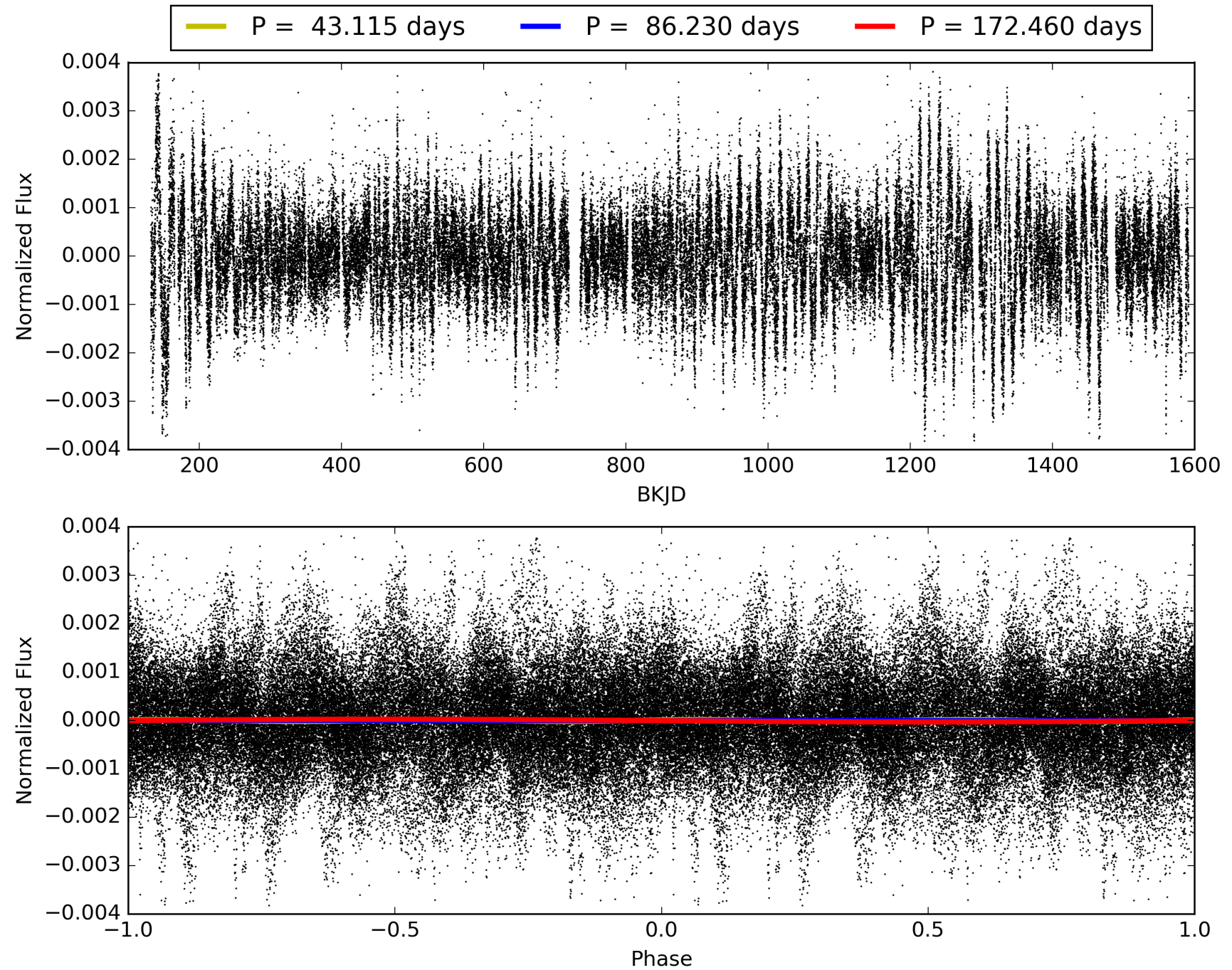
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:35:58 Z

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TCE 010341755-02, PDC Light Curves

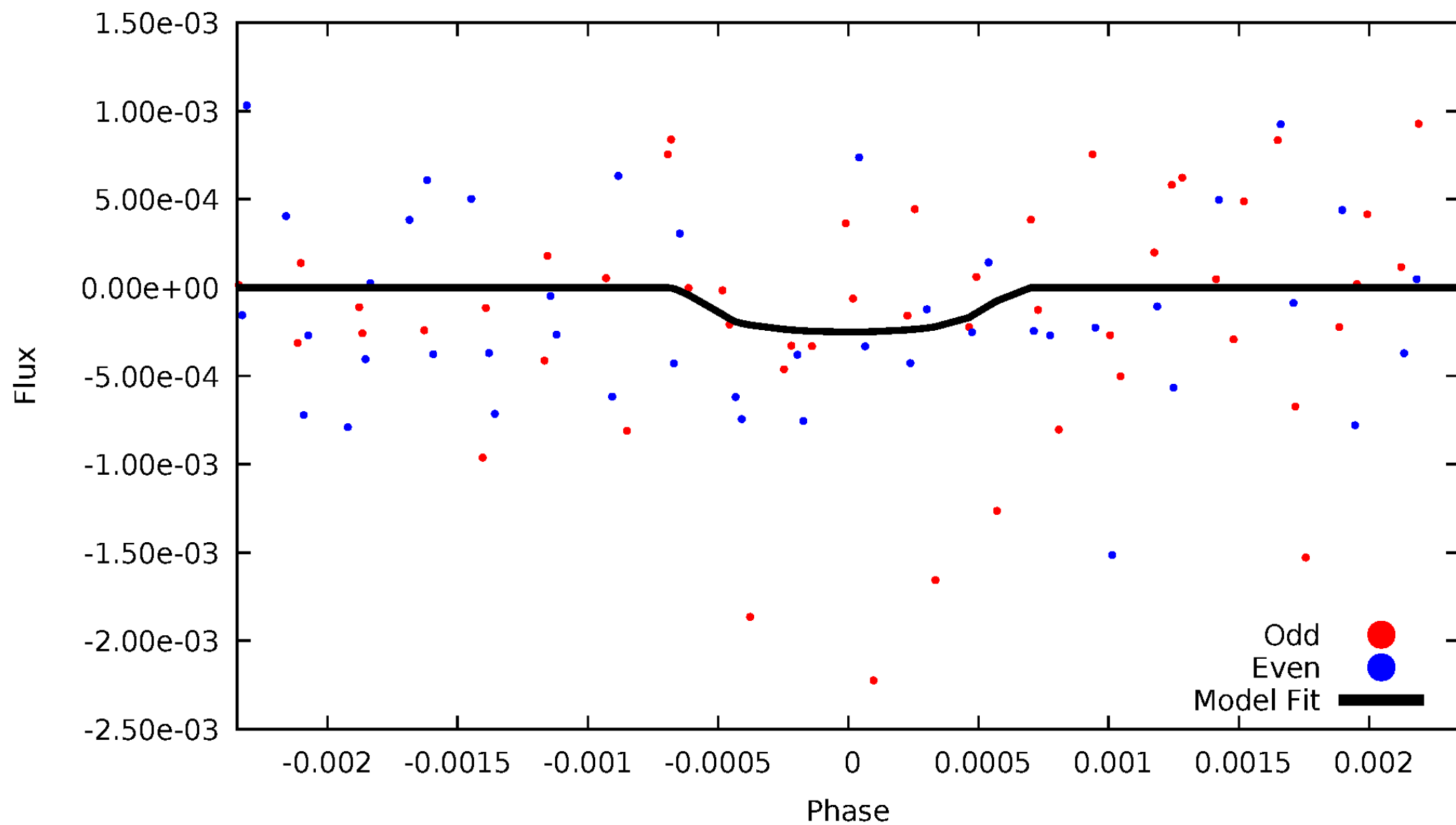


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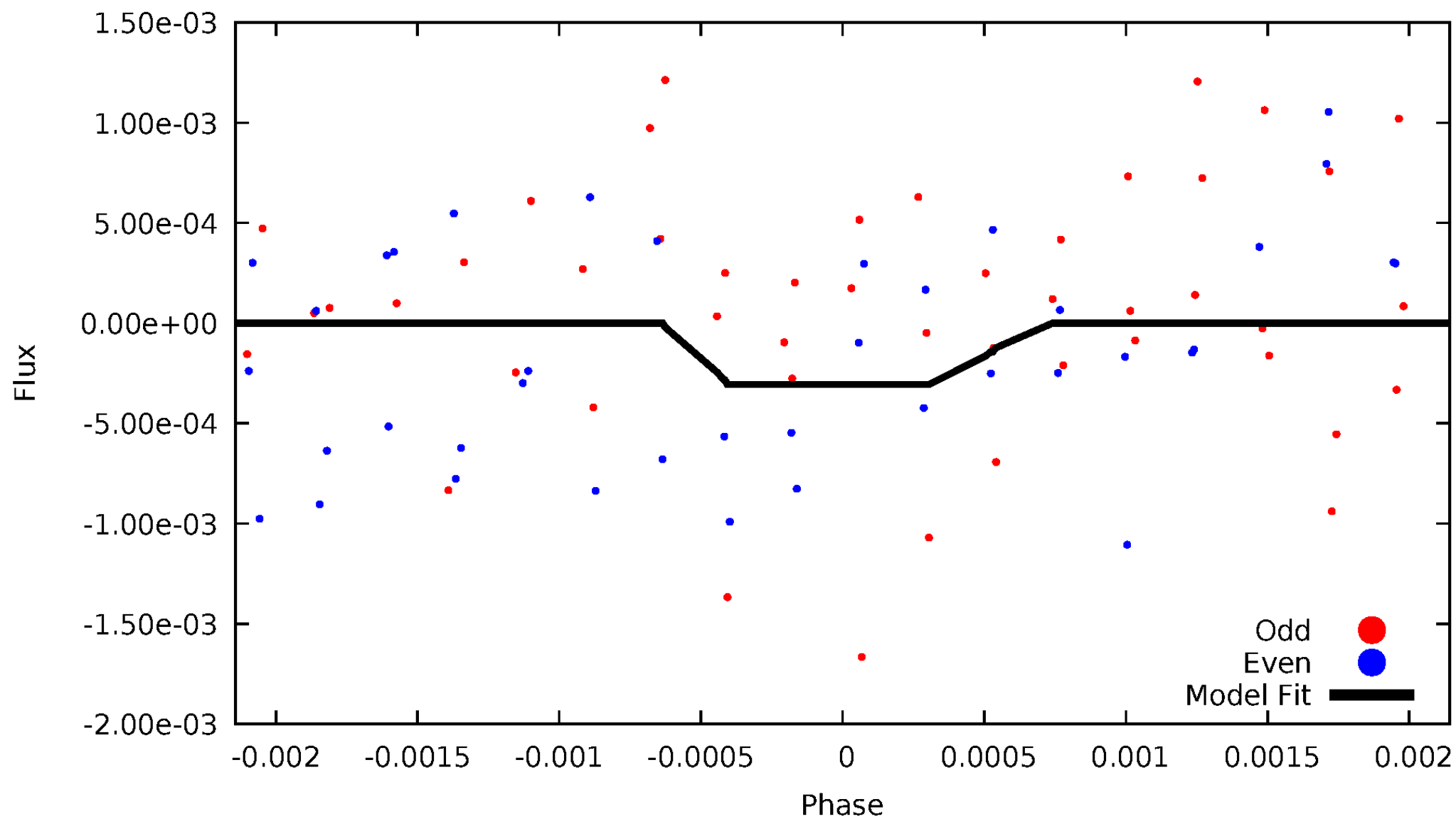
DV Odd/Even

TCE 010341755-02



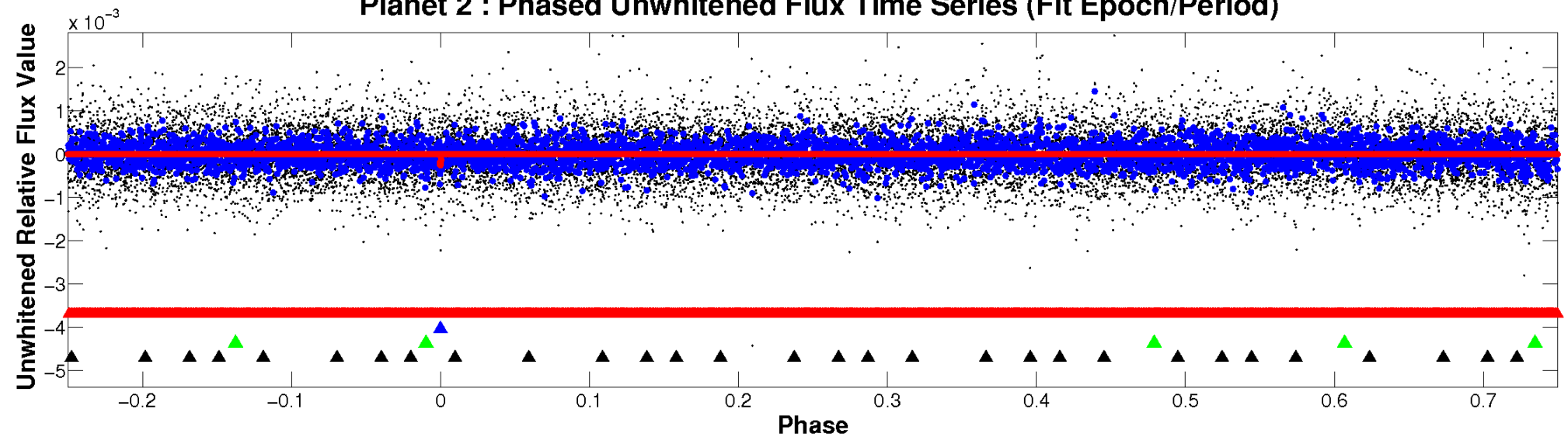
ALT Odd/Even

TCE 010341755-02

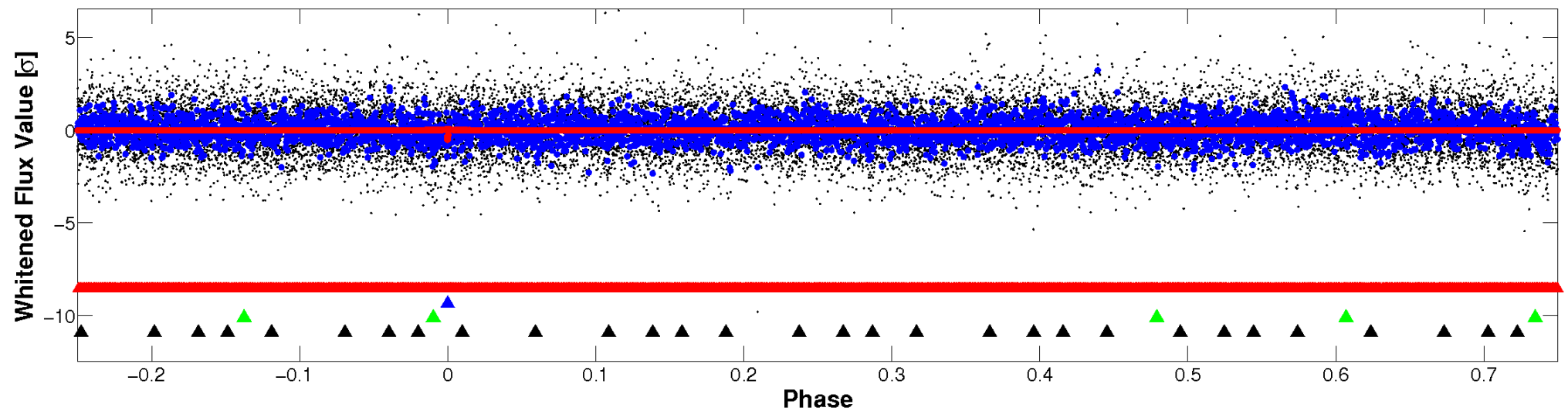


Non-Whitened Vs. Whitened Light Curve

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

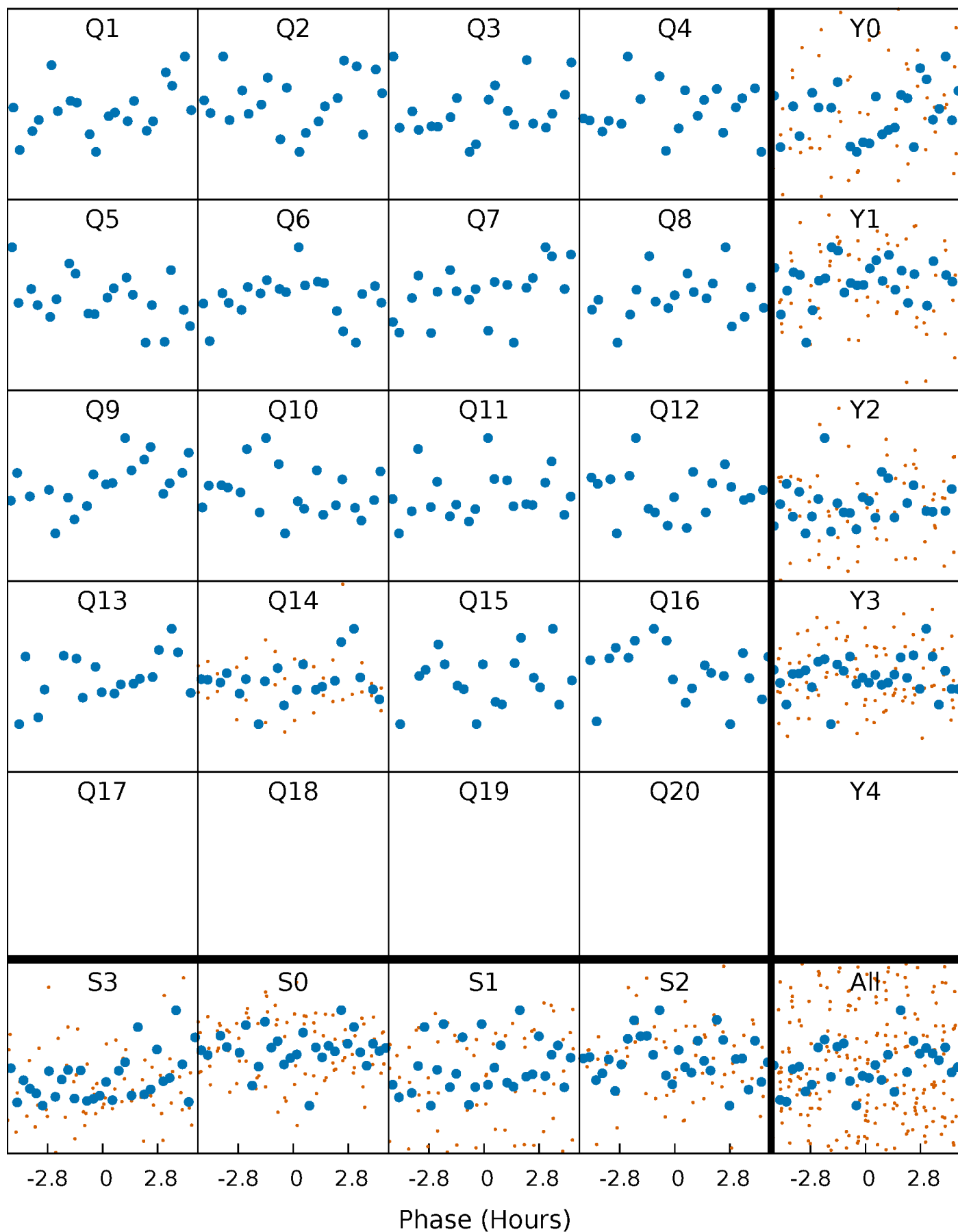


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



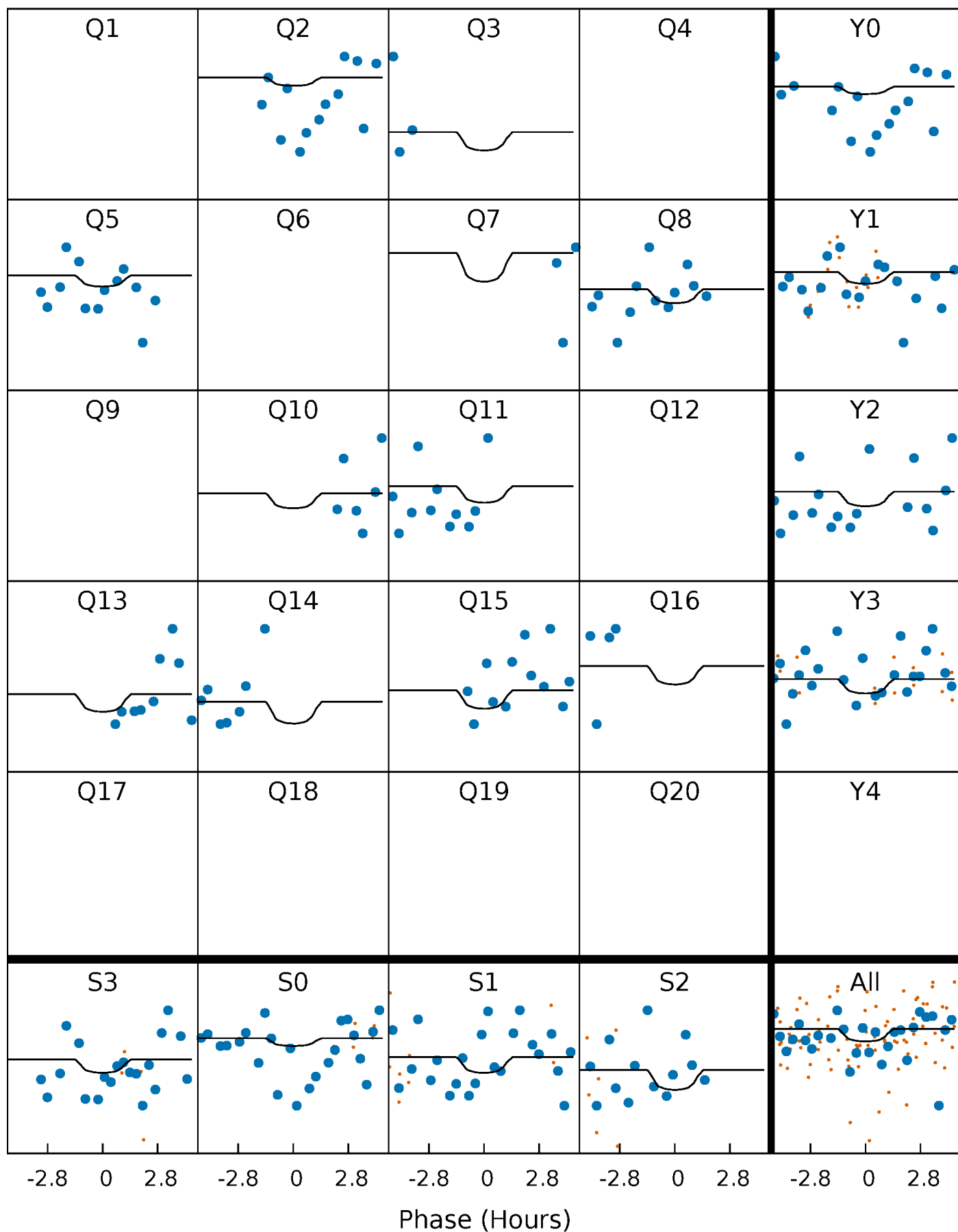
PDC Quarter-Phased Transit Curves

TCE 010341755-02 P= 86.230230 Days $T_0=162.461811$ (BKJD)



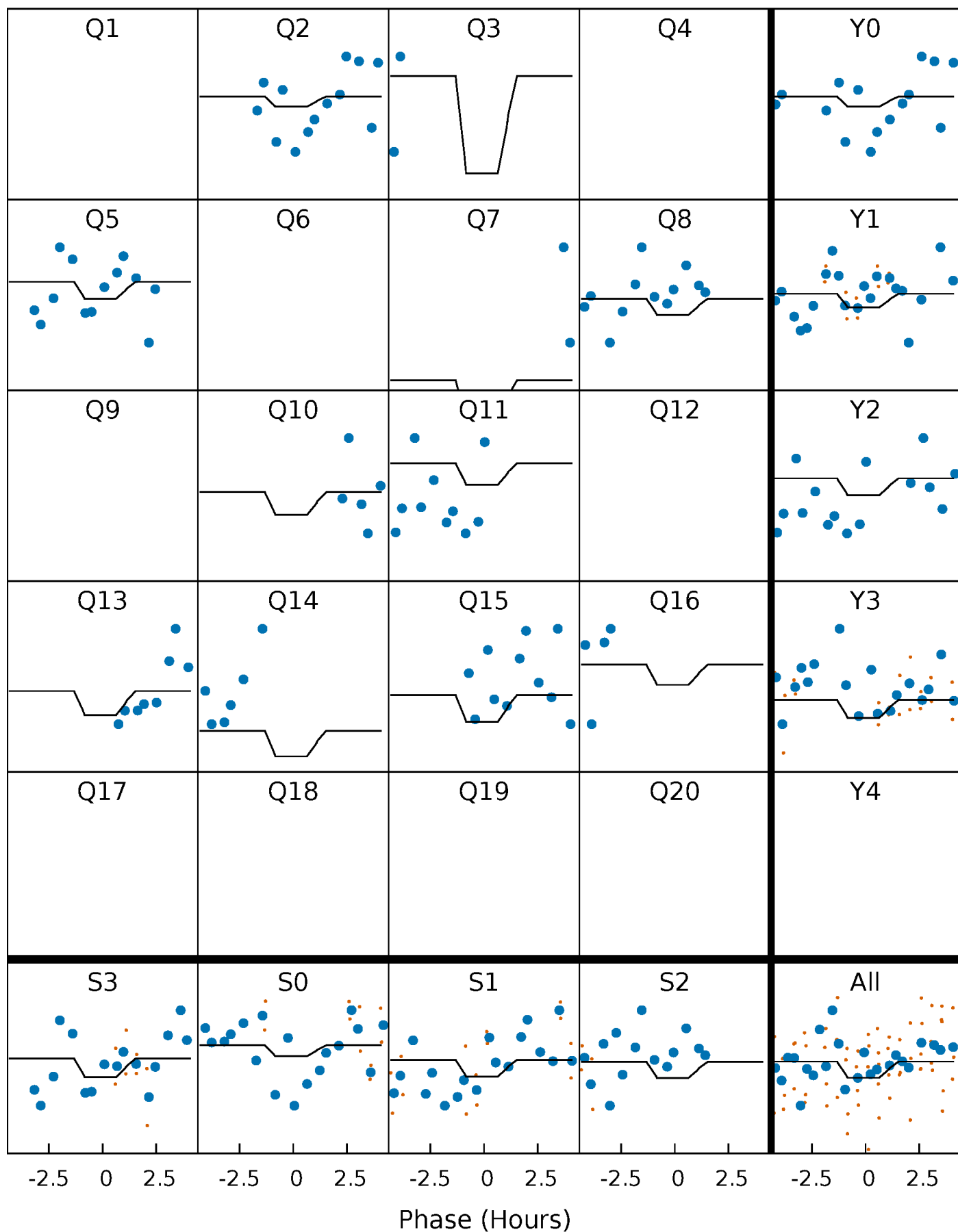
DV Quarter-Phased Transit Curves

TCE 010341755-02 P= 86.230230 Days $T_0=162.461811$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

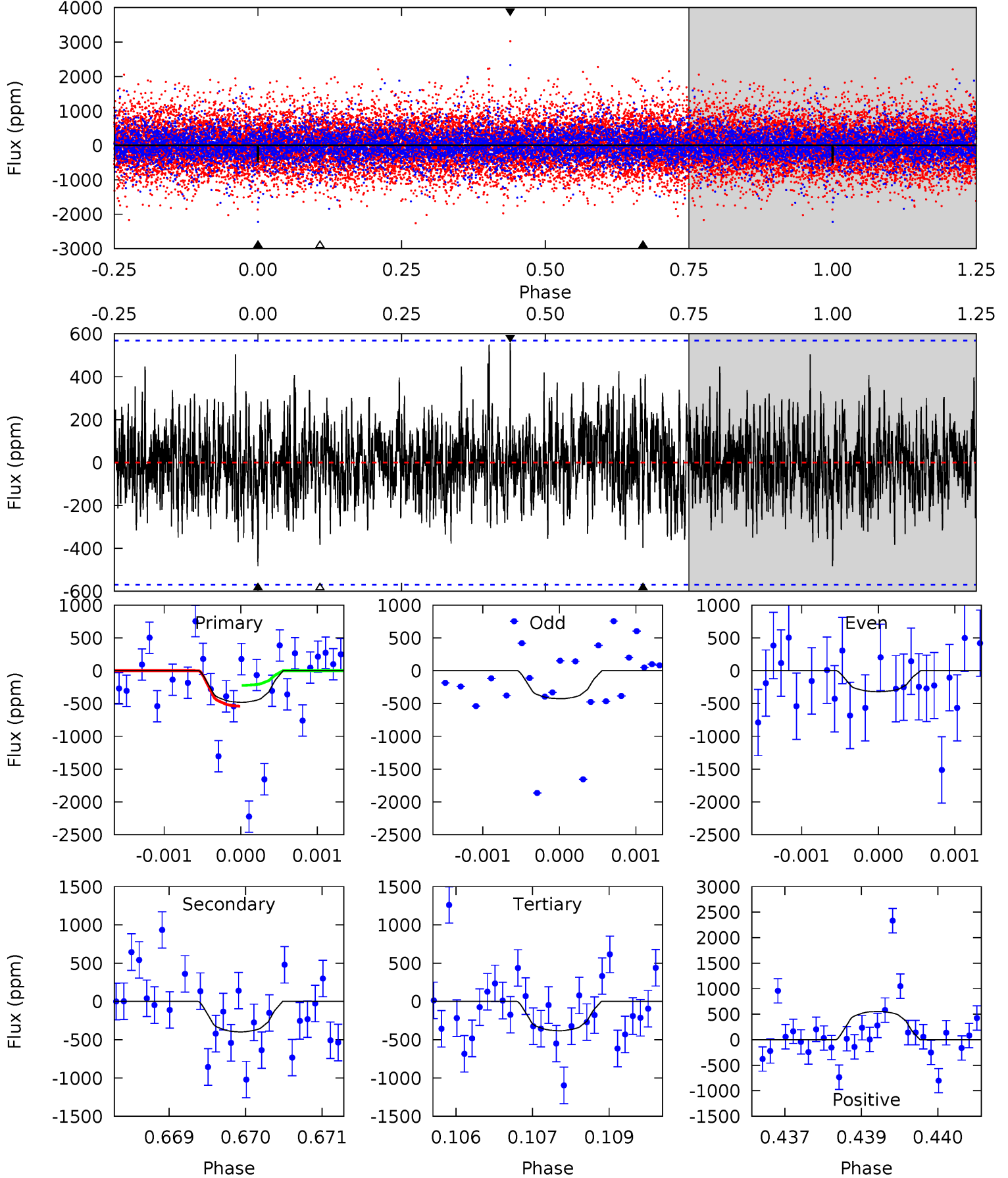
TCE 010341755-02 P= 86.229623 Days $T_0=162.464926$ (BKJD)



DV Model-Shift Uniqueness Test

010341755-02, P = 86.230230 Days, E = 76.231581 Days

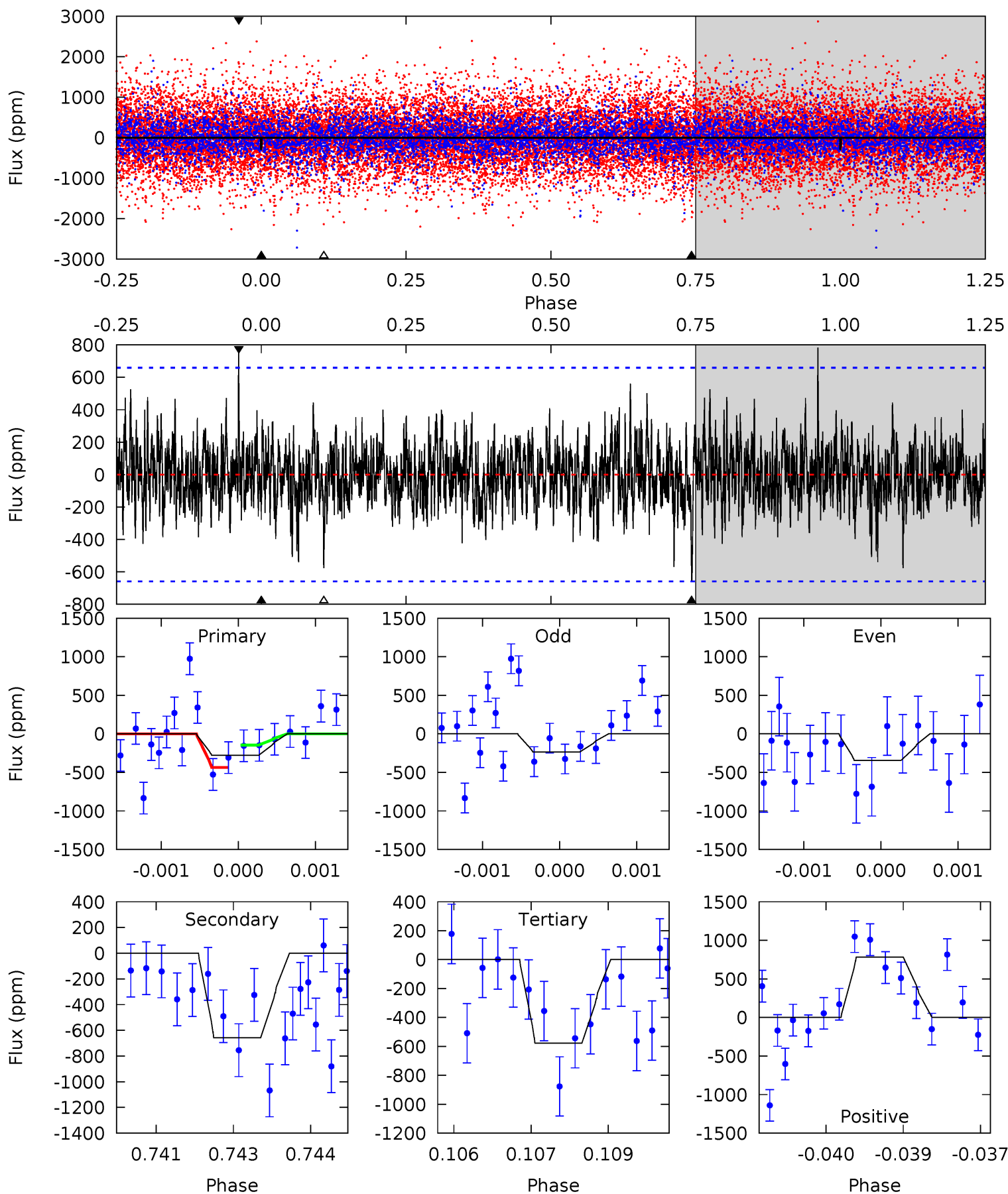
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.59	3.78	3.64	5.29	5.41	3.22	1.30	0.95	-0.70	0.15	-1.50	0.50	1.69	0.54	1.48



Alt Model-Shift Uniqueness Test

010341755-02, P = 86.229623 Days, E = 76.235303 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.29	5.41	4.75	6.44	5.42	3.25	1.29	-2.45	-4.15	0.66	-1.04	0.44	0.96	0.54	1.17



Stellar Parameters For KIC 010341755

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4940^{+163}_{-148}	$4.609^{+0.025}_{-0.070}$	$0.100^{+0.250}_{-0.300}$	$0.738^{+0.085}_{-0.052}$	$0.829^{+0.049}_{-0.083}$	$2.900^{+0.361}_{-0.695}$
	+3%/-3%	+1%/-2%	+250%/-300%	+12%/-7%	+6%/-10%	+12%/-24%
Source	PHO1	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 010341755-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-398 ± 105	$7.40^{+8.36}_{-5.12}$	444^{+17}_{-15}	2956^{+1428}_{-528}	497^{+4742}_{-392}
Alt.	-657 ± 122	$7.91^{+7.71}_{-5.57}$	444^{+17}_{-16}	3126^{+1579}_{-521}	718^{+7252}_{-530}

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 $A_{obs} \gg 1.0$

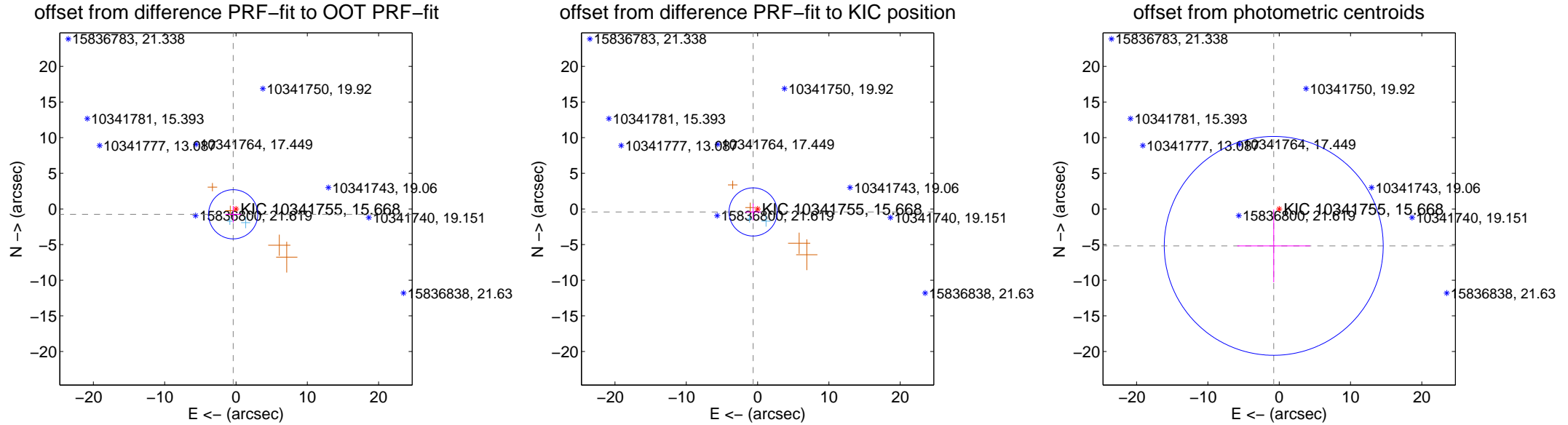
DV Centroid Data

Supplemental centroid analysis for 010341755-02. Kepler magnitude: 15.67. Transit SNR 2.03

There are 2 quarters with good PRF difference image offsets

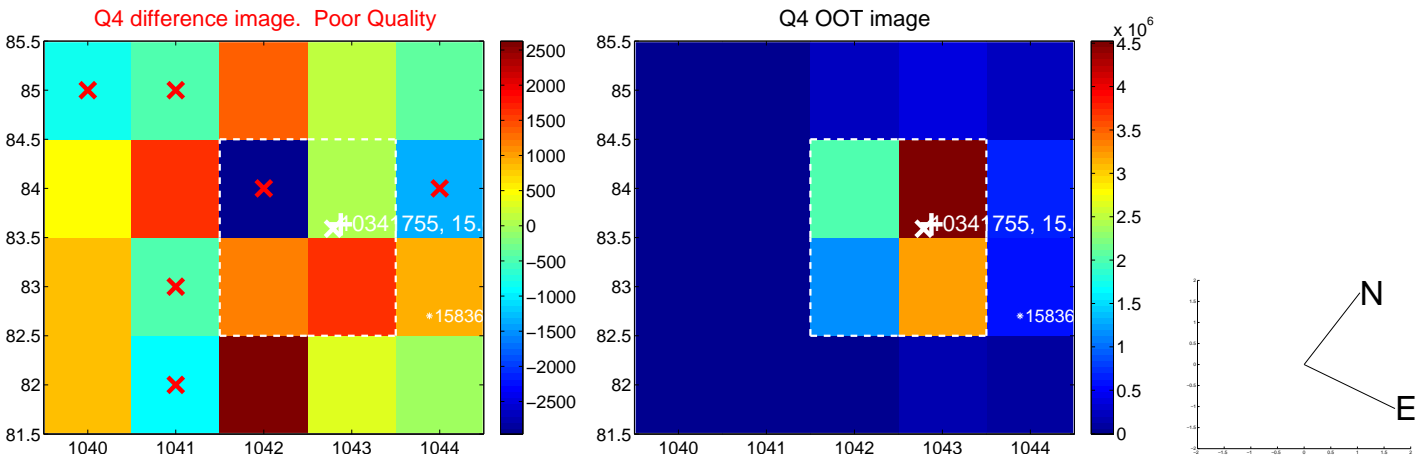
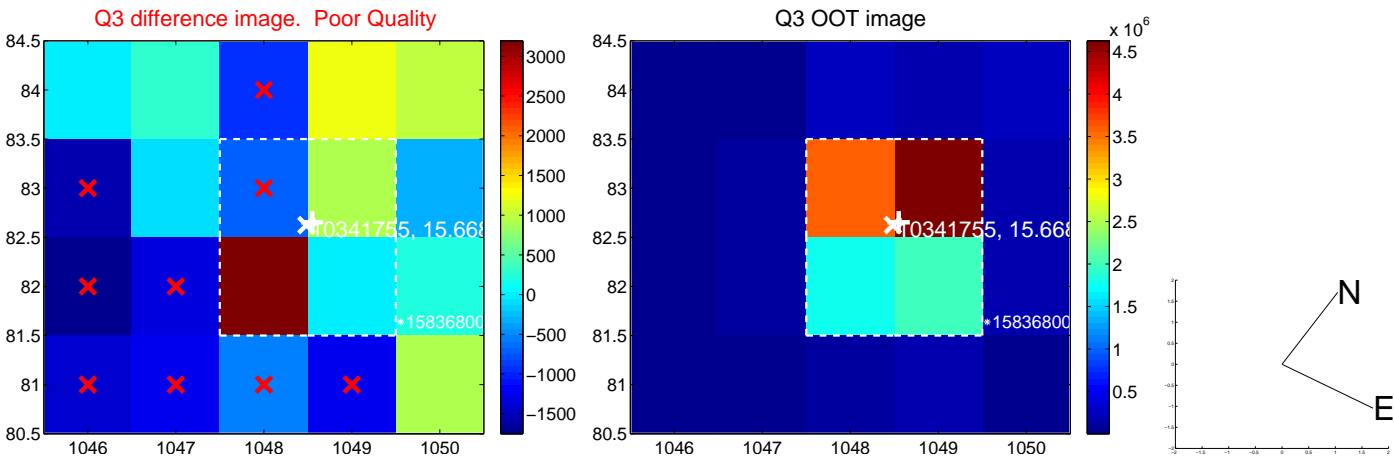
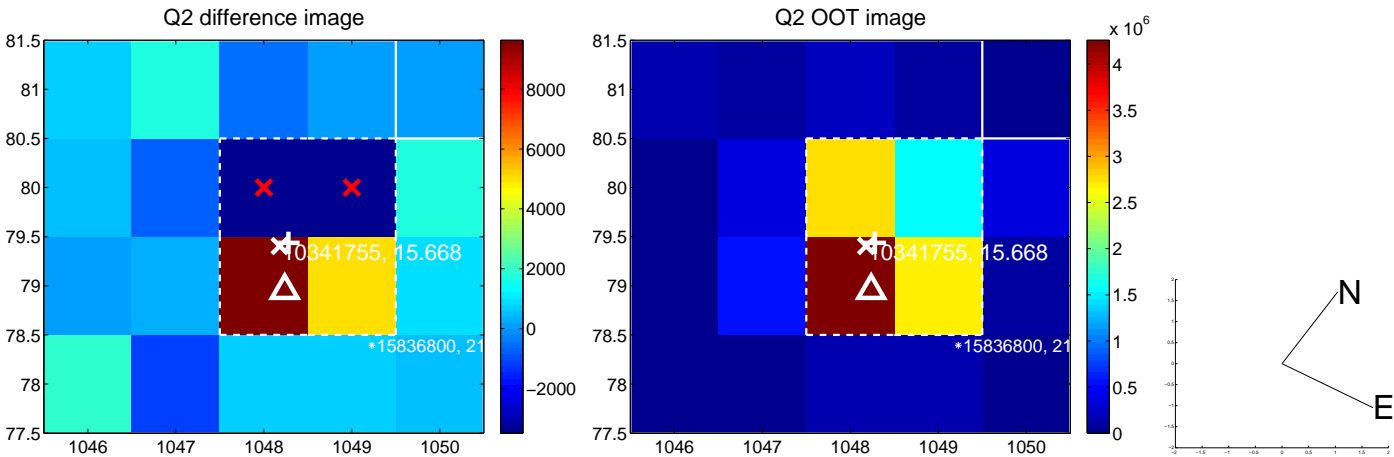
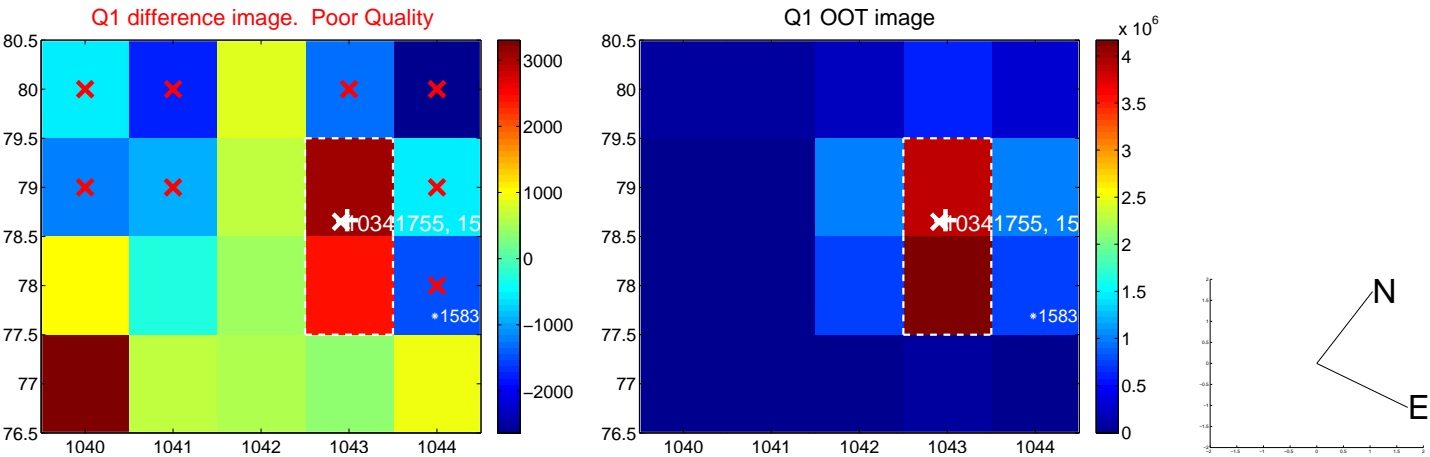
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.849 ± 1.150	0.74	0.397 ± 1.103	-0.750 ± 1.163
PRF-fit source offset from KIC position	0.759 ± 1.126	0.67	0.631 ± 1.103	-0.422 ± 1.178
photometric centroid source offset	5.24 ± 5.12	1.02	0.77 ± 5.12	-5.18 ± 5.12

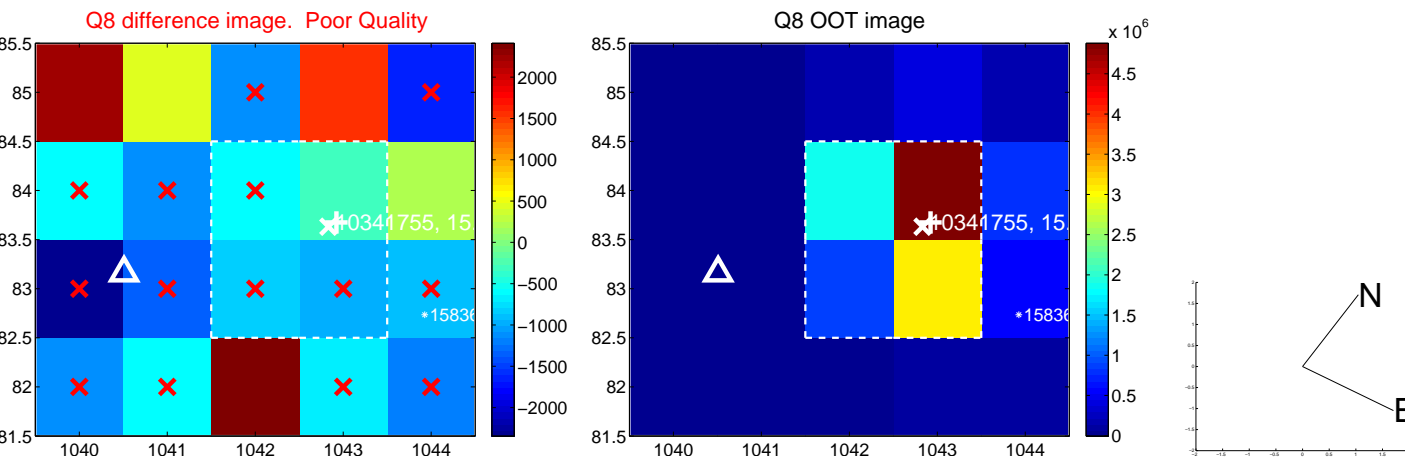
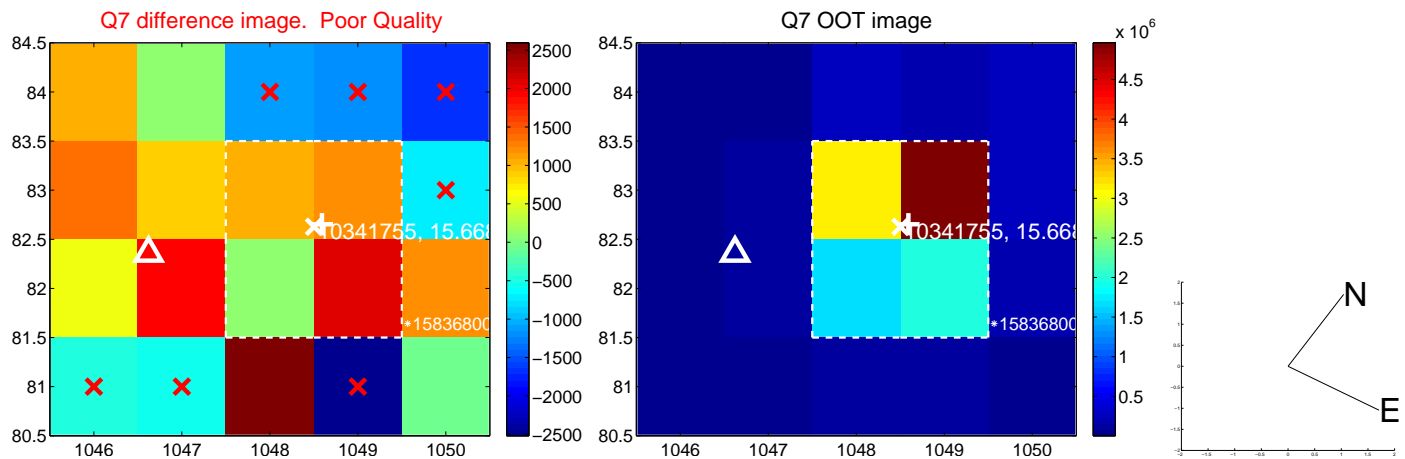
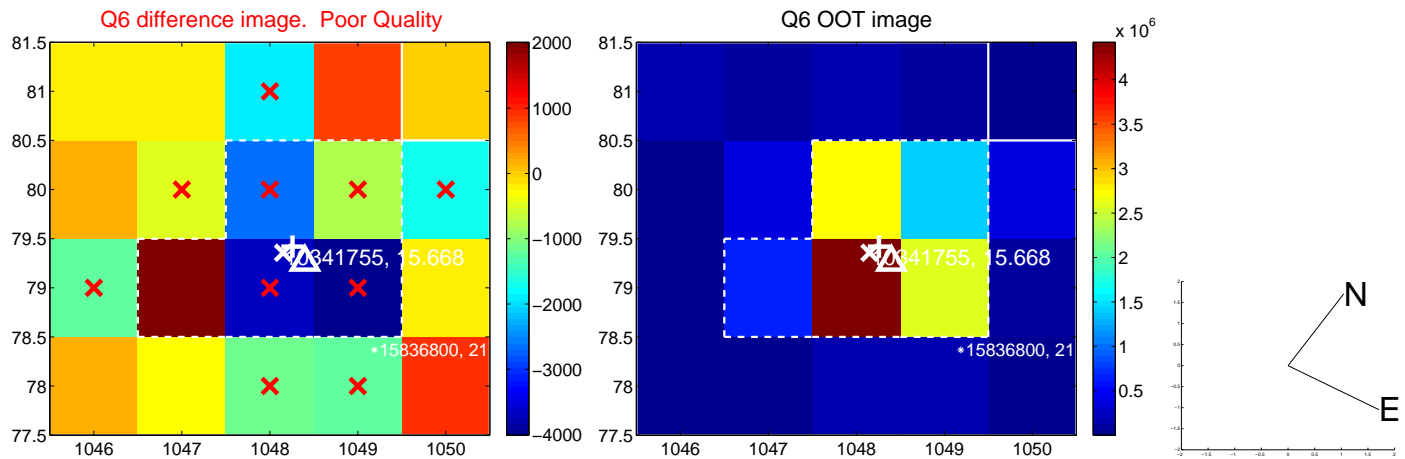
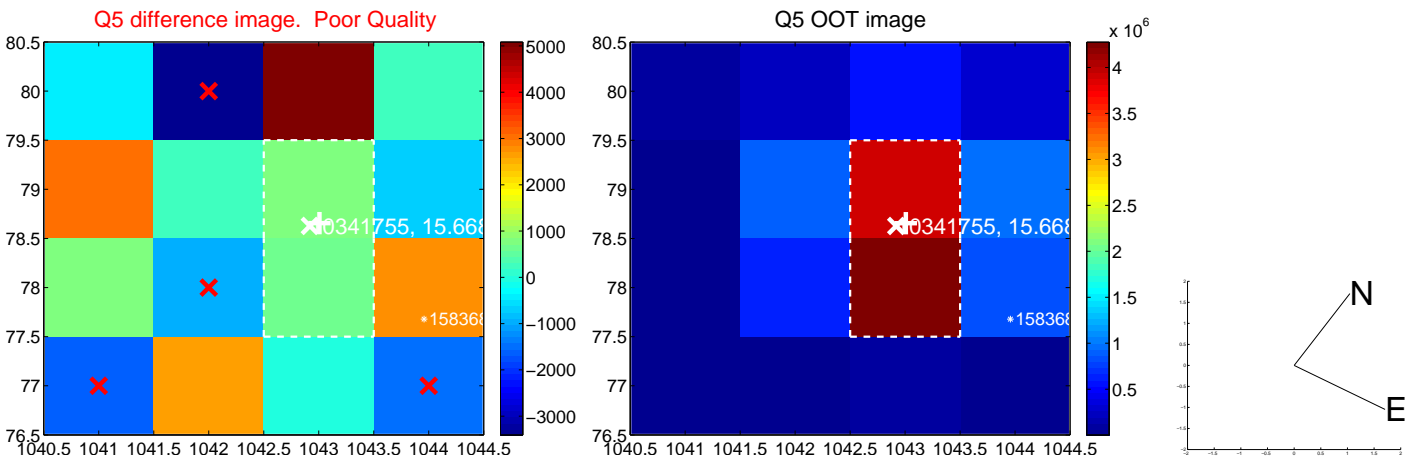


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

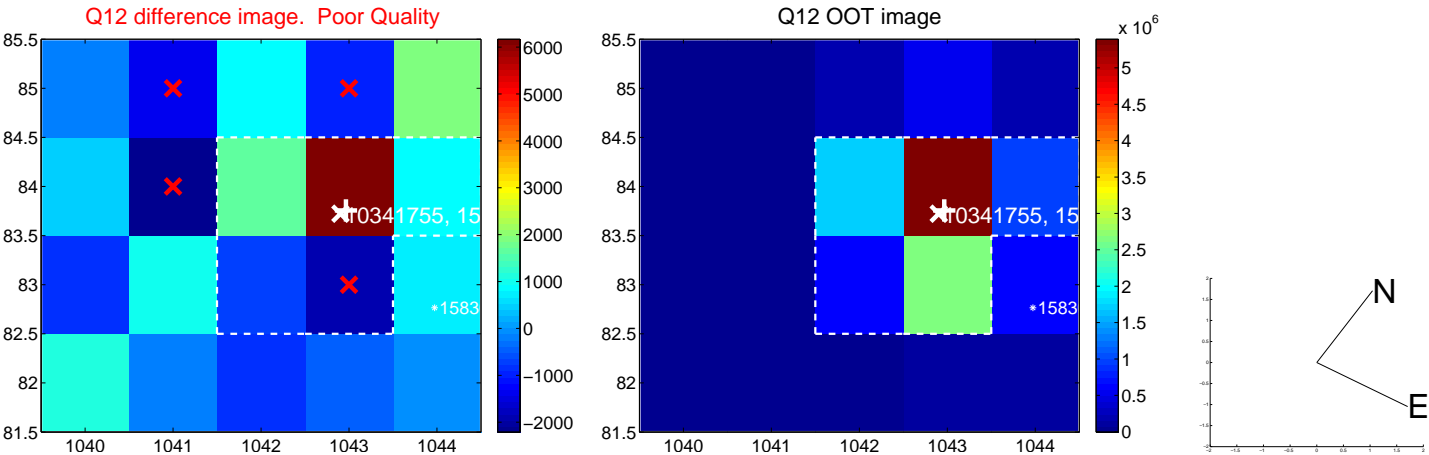
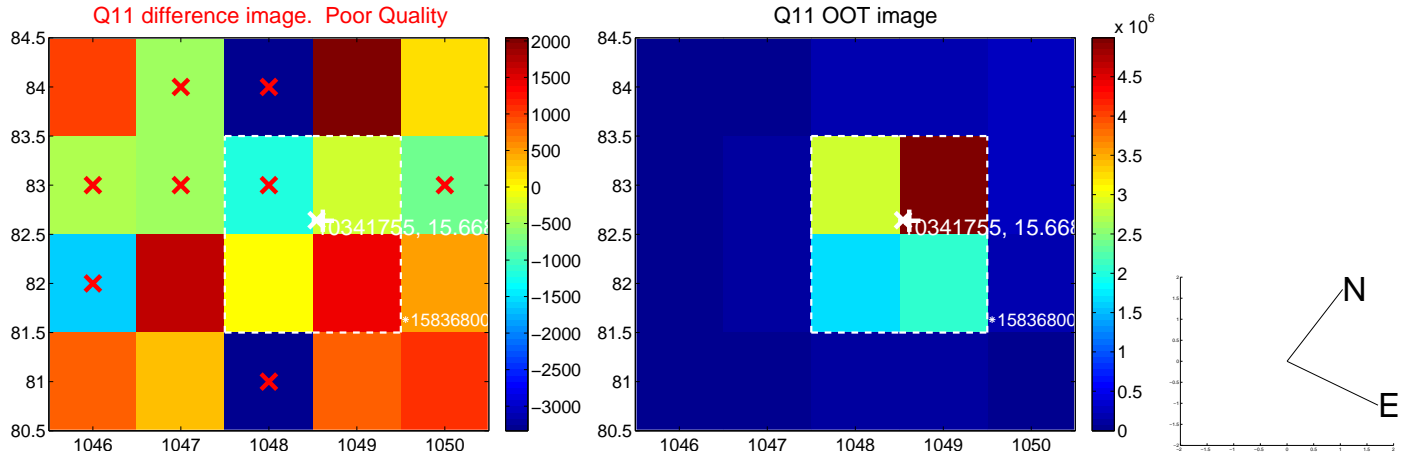
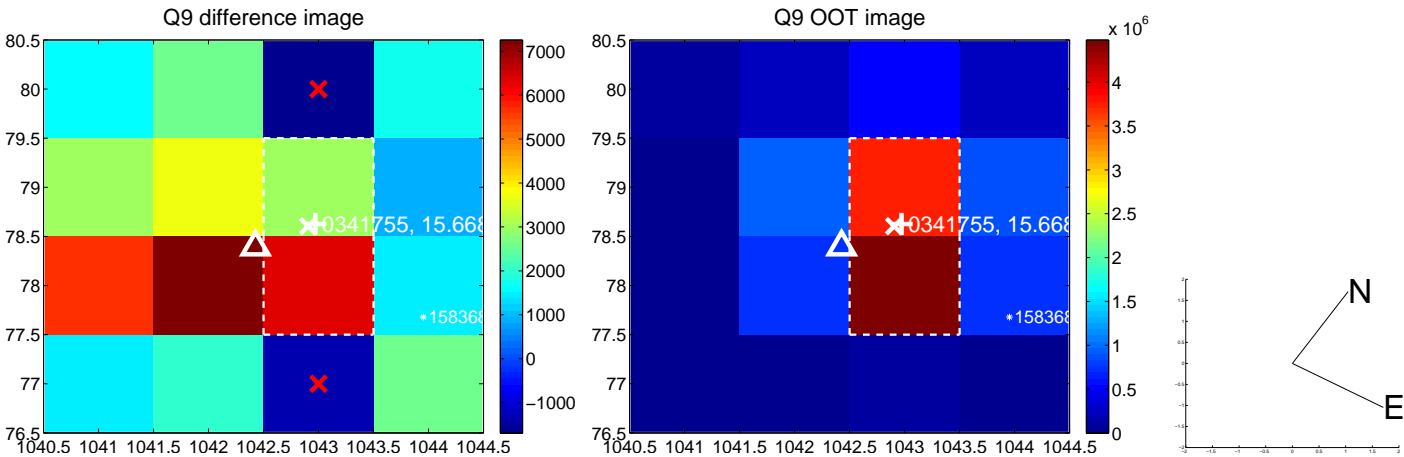
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



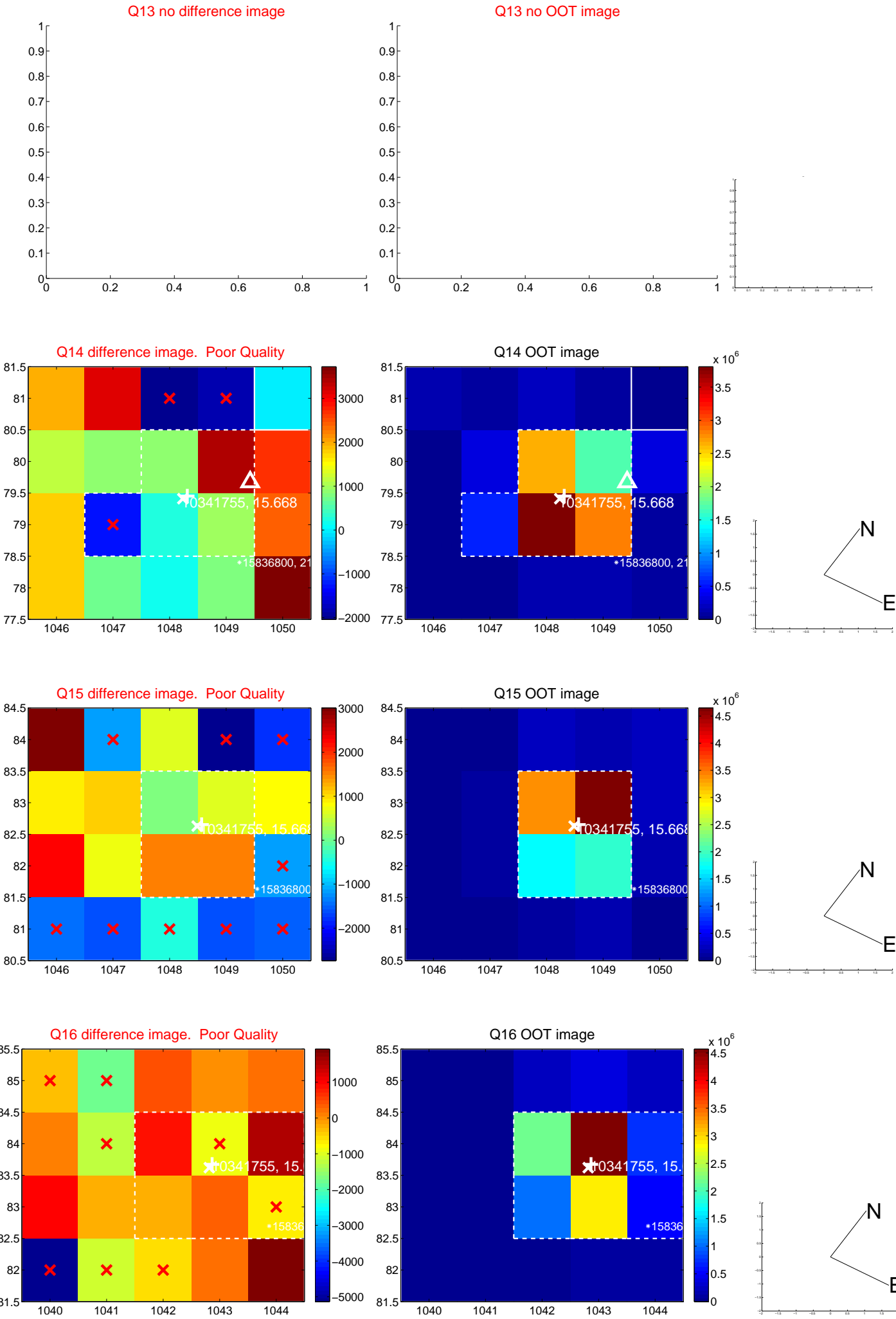
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



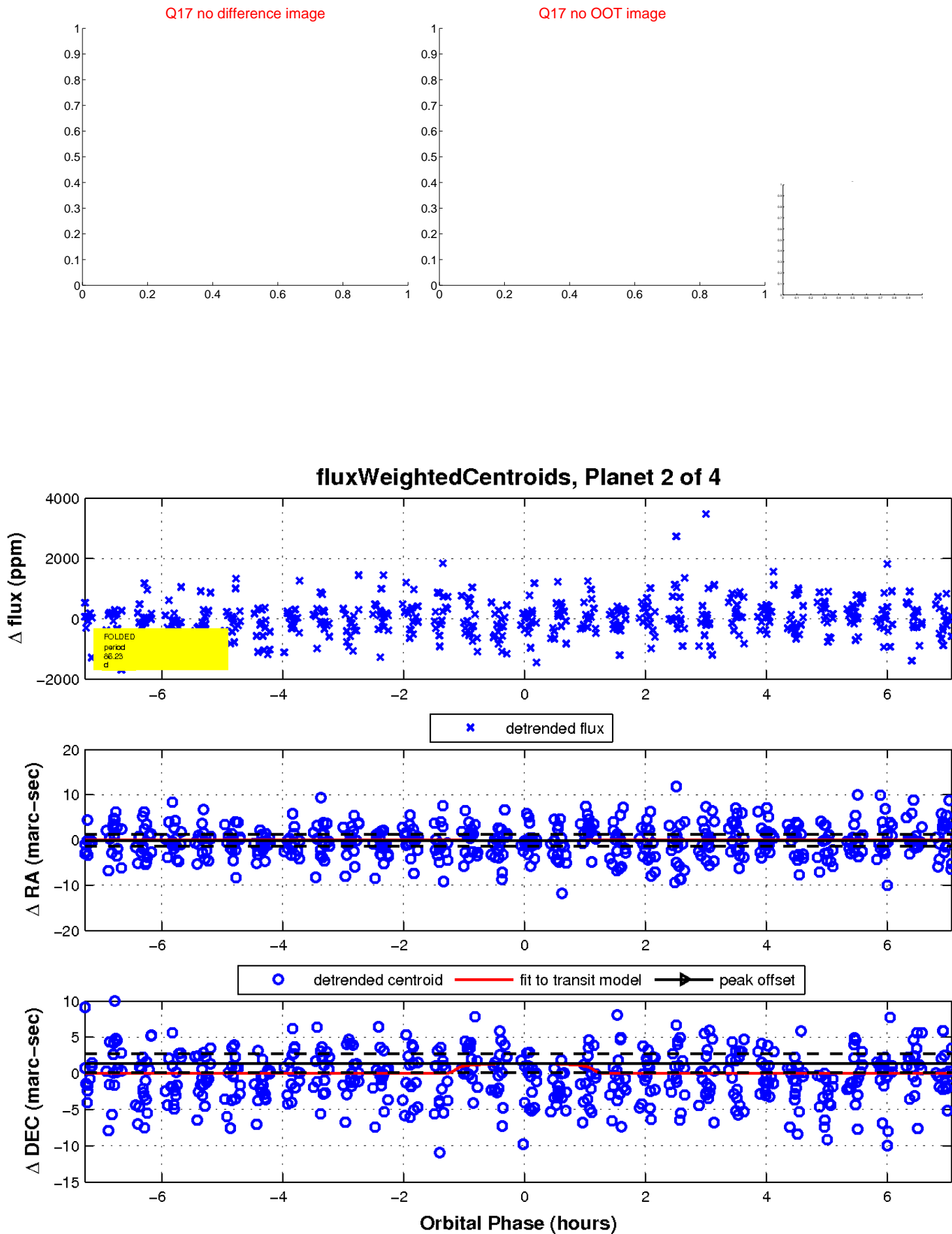
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

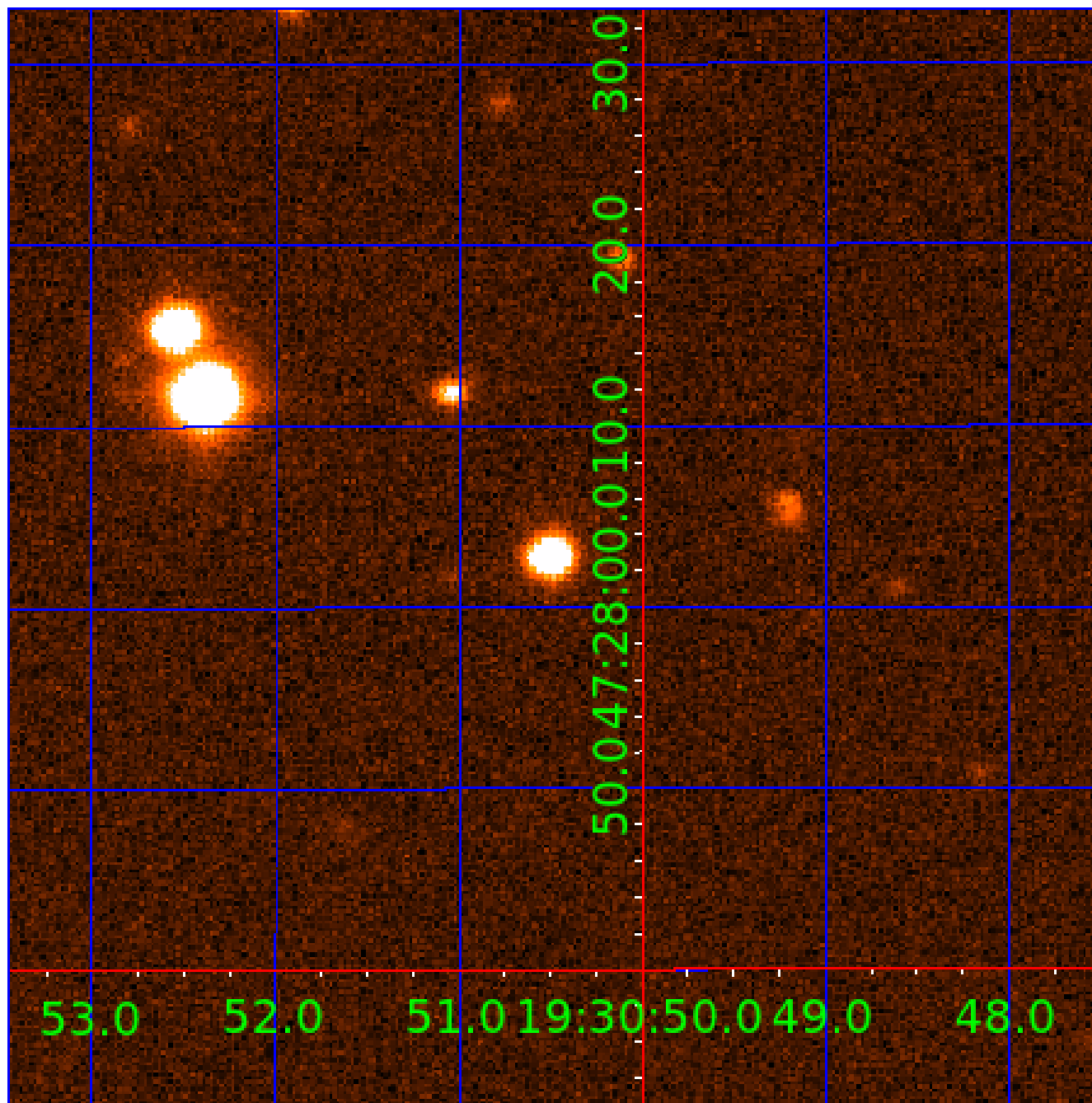


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010341755

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})
010341755-01	OBS	No	0.933685	131.565507	75.4	5.177	12.4	11.8	0.74	4940	0.65	958.46
010341755-02	OBS	No	86.230230	162.461811	251.1	2.428	12.6	2.0	0.74	4940	1.32	2.30
010341755-03	OBS	No	269.710759	376.233984	1418.4	26.808	9.5	7.4	0.74	4940	5.60	0.50
010341755-04	OBS	No	48.664751	176.109181	642.9	3.592	7.7	5.7	0.74	4940	2.26	4.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341755-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
010341755-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010341755-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
010341755-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST

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

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

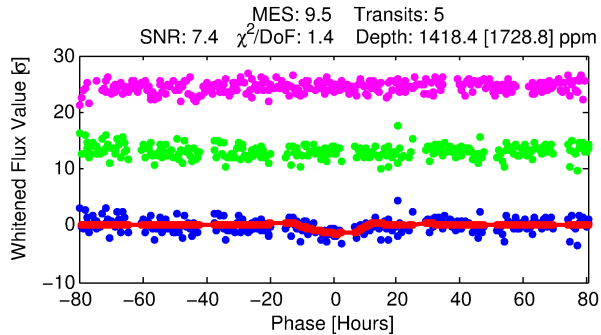
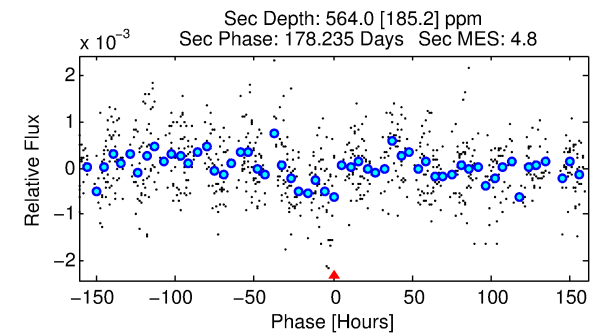
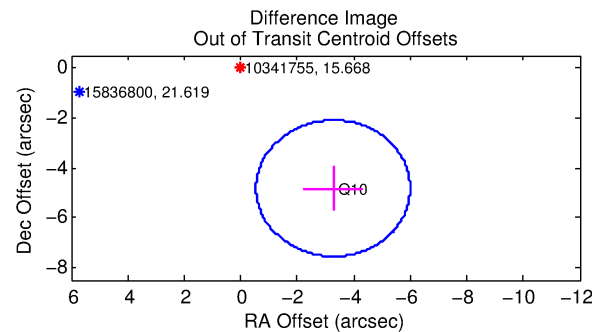
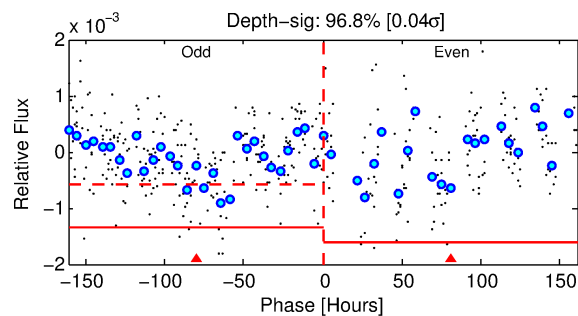
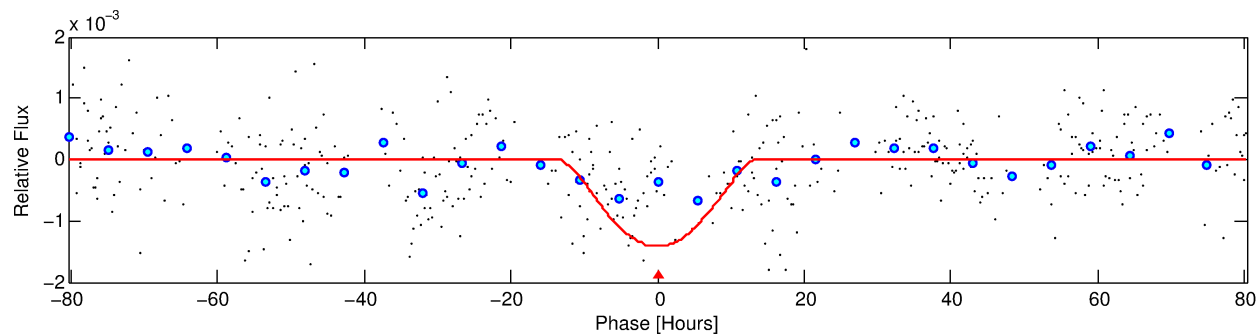
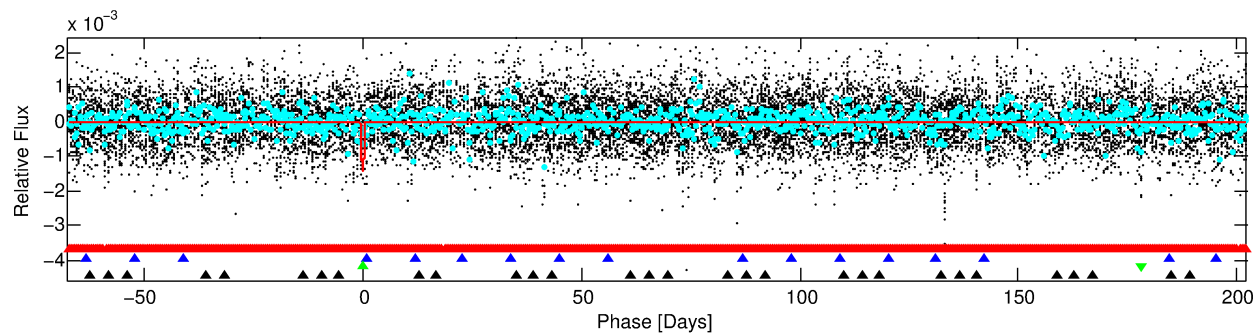
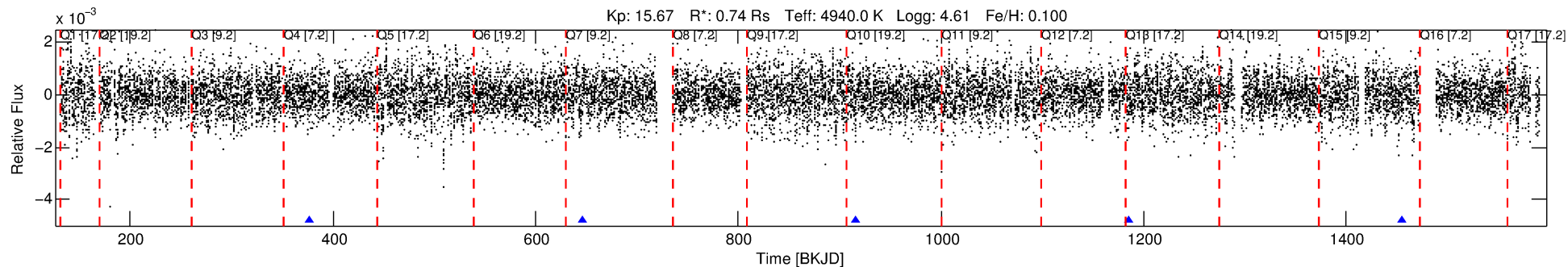
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010341755-03

No Significant Match Found

DV One-Page Summary

KIC: 10341755 Candidate: 3 of 4 Period: 269.711 d



DV Fit Results:

Period = 269.71076 [0.03818] d
Epoch = 376.2340 [0.0414] BKJD
Rp/R* = 0.0695 [0.2474]
a/R* = 29.17 [22.09]
b = 1.00 [0.40]
Seff = 0.50 [0.09]
Teq = 215 [10] K
Rp = 5.60 [19.94] Re
a = 0.7609 [0.0713] AU
Ag = 5734.56 [40880.62] [0.14σ]
Teffp = 2888 [5146] K [0.52σ]

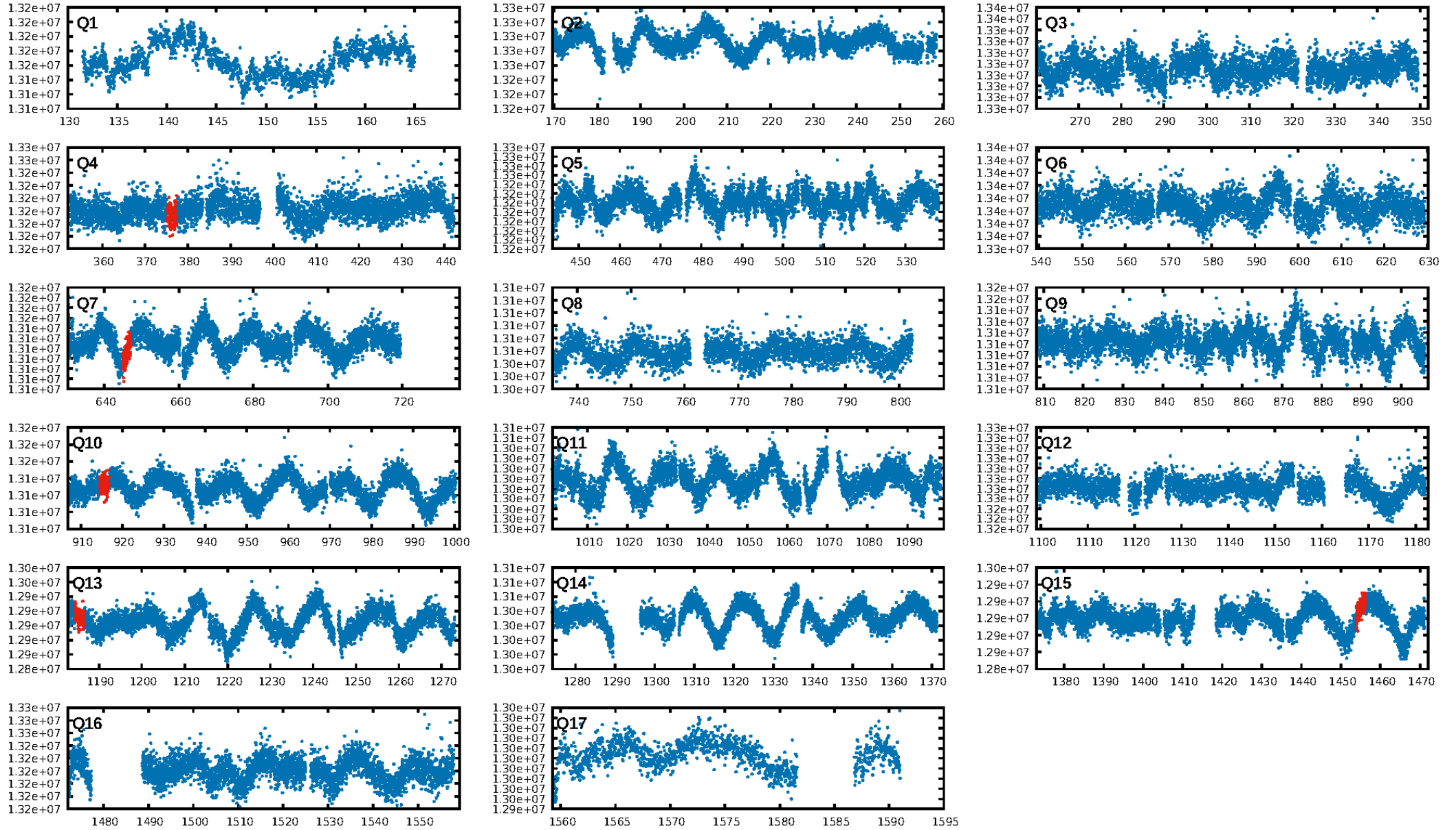
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [163.59σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.37e-12
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.006723
Centroid-sig: 44.4%
Centroid-so: 0.461 arcsec [0.58σ]
OotOffset-rm: 5.829 arcsec [6.41σ]
KicOffset-rm: 5.353 arcsec [5.84σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/3]

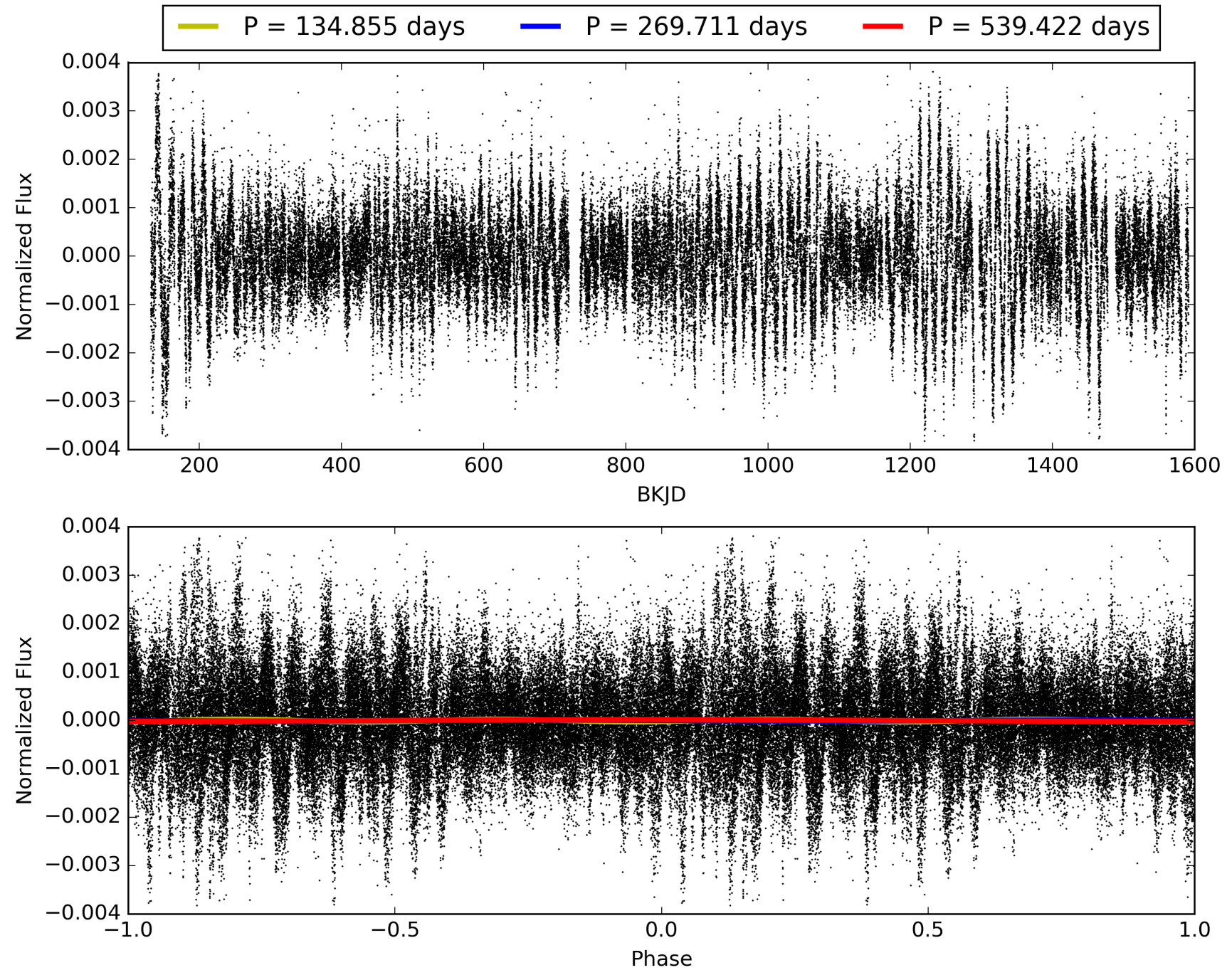
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:36:04 Z

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

TCE 010341755-03, PDC Light Curves

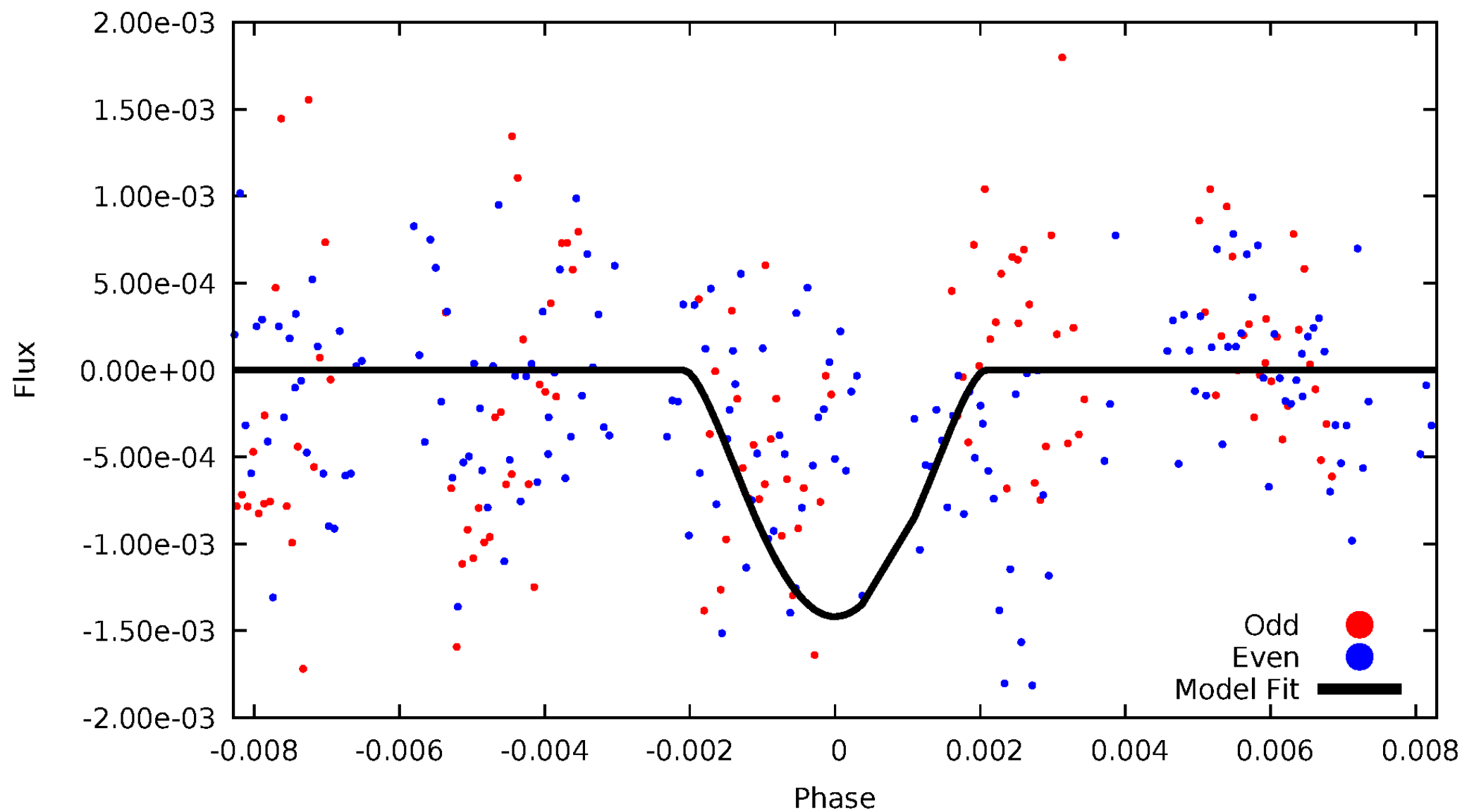


TCE 010341755-03



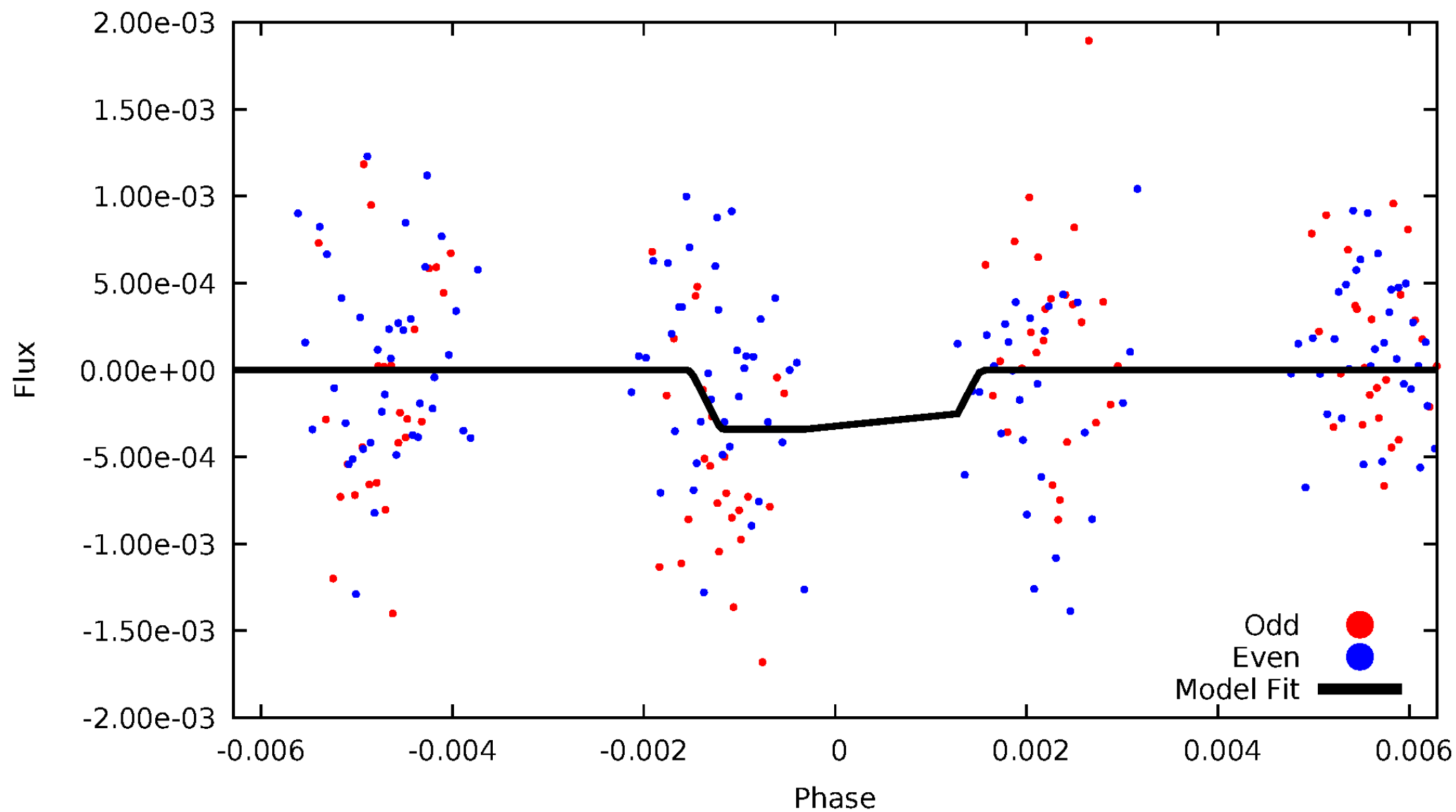
DV Odd/Even

TCE 010341755-03



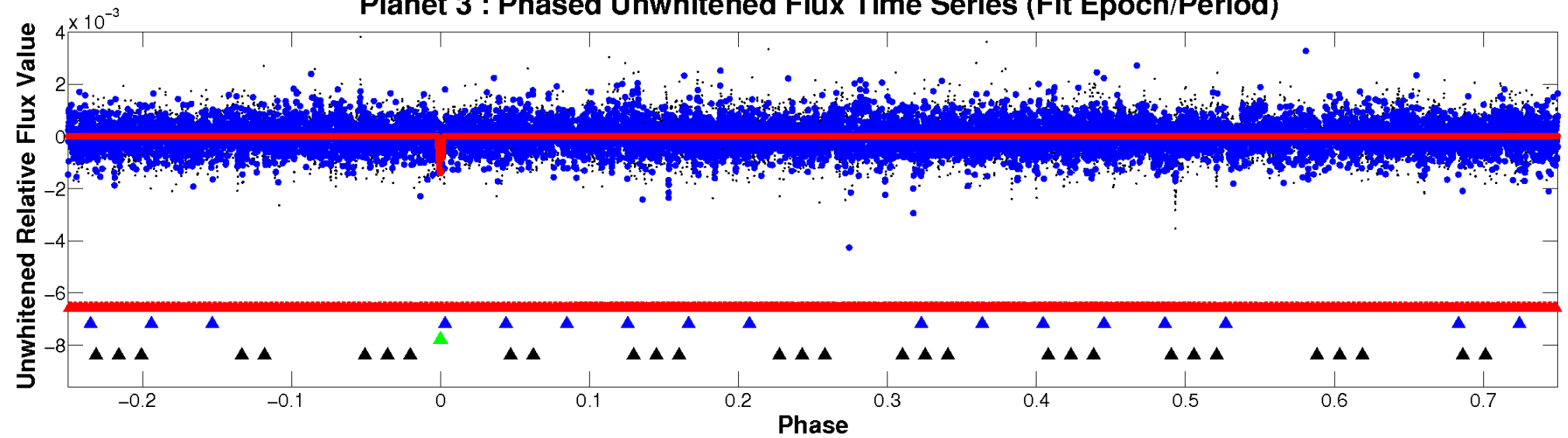
ALT Odd/Even

TCE 010341755-03

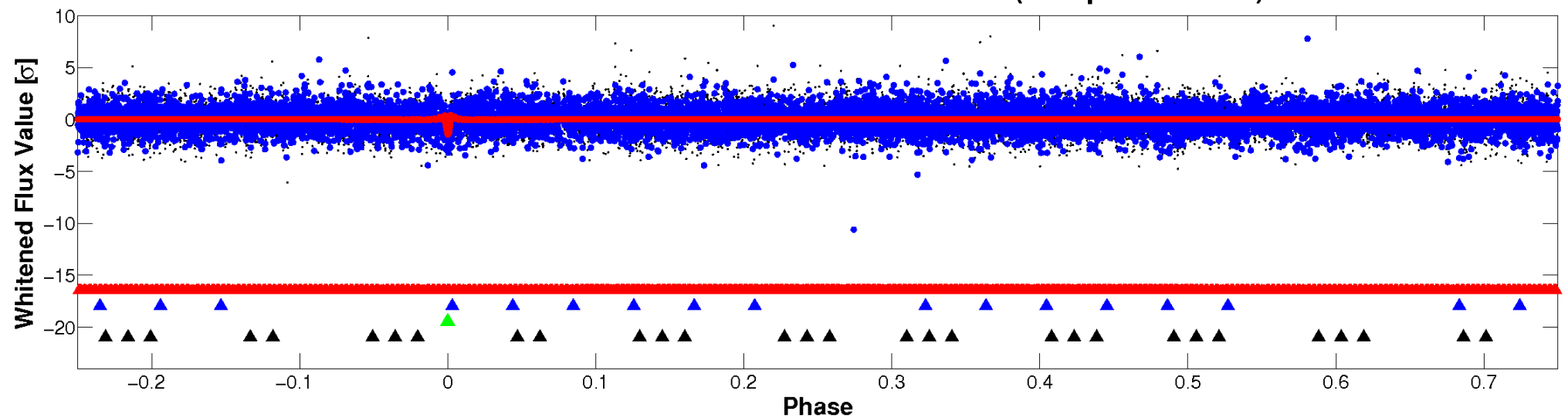


Non-Whitened Vs. Whitened Light Curve

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



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



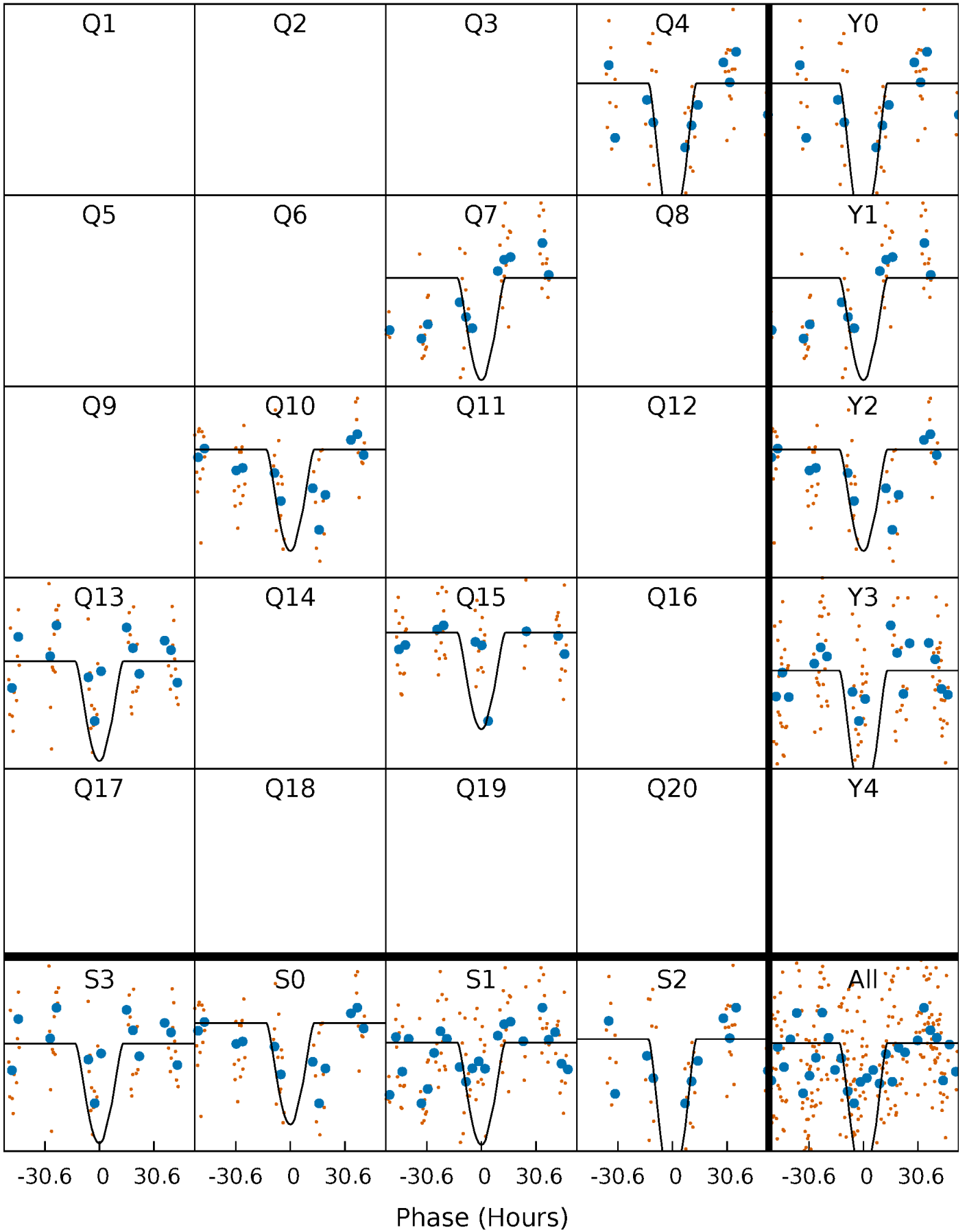
PDC Quarter-Phased Transit Curves

TCE 010341755-03 $P=269.710759$ Days $T_0=376.233984$ (BKJD)



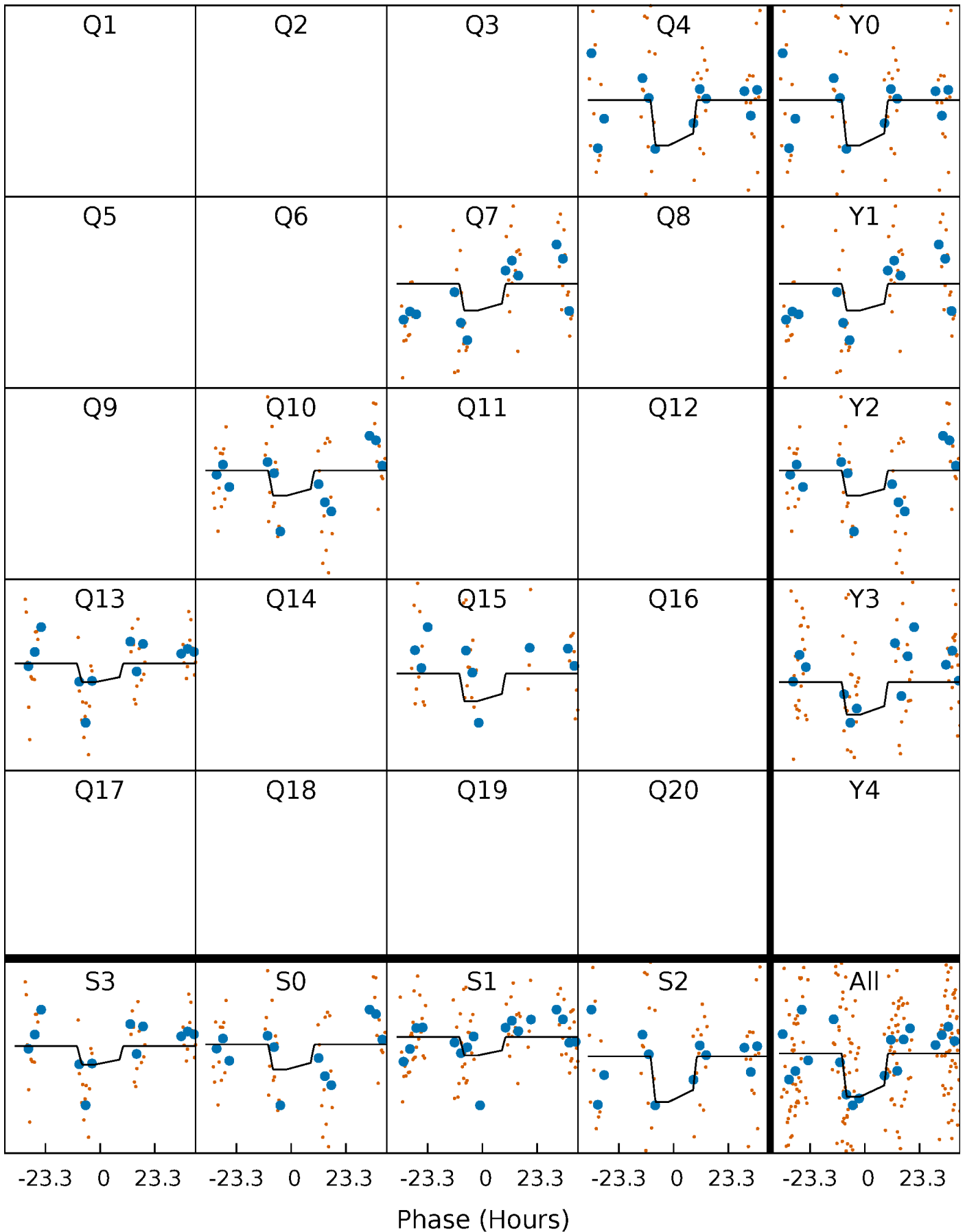
DV Quarter-Phased Transit Curves

TCE 010341755-03 $P=269.710759$ Days $T_0=376.233984$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

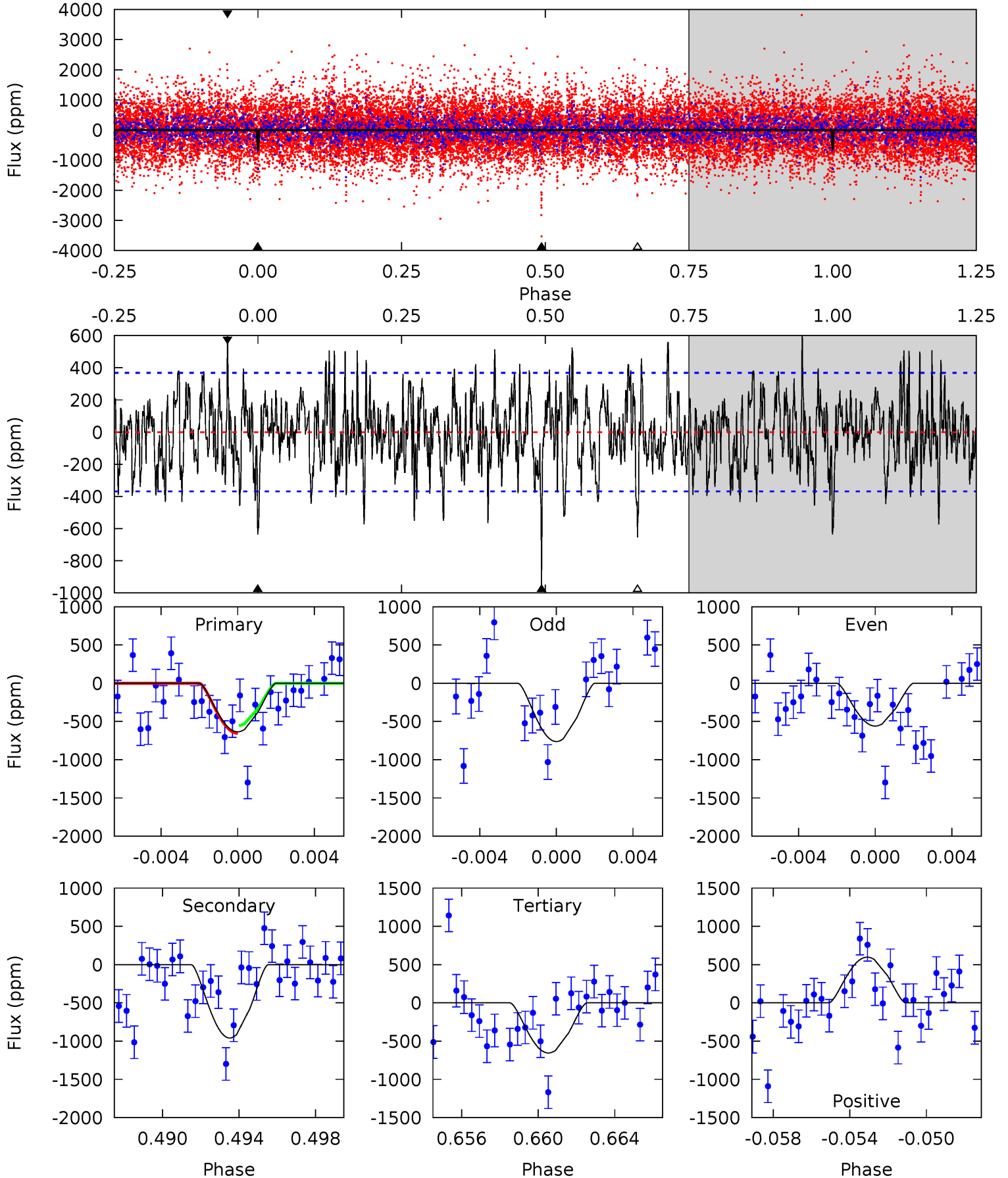
TCE 010341755-03 $P=269.770670$ Days $T_0=376.183872$ (BKJD)



DV Model-Shift Uniqueness Test

010341755-03, P = 269.710759 Days, E = 106.523225 Days

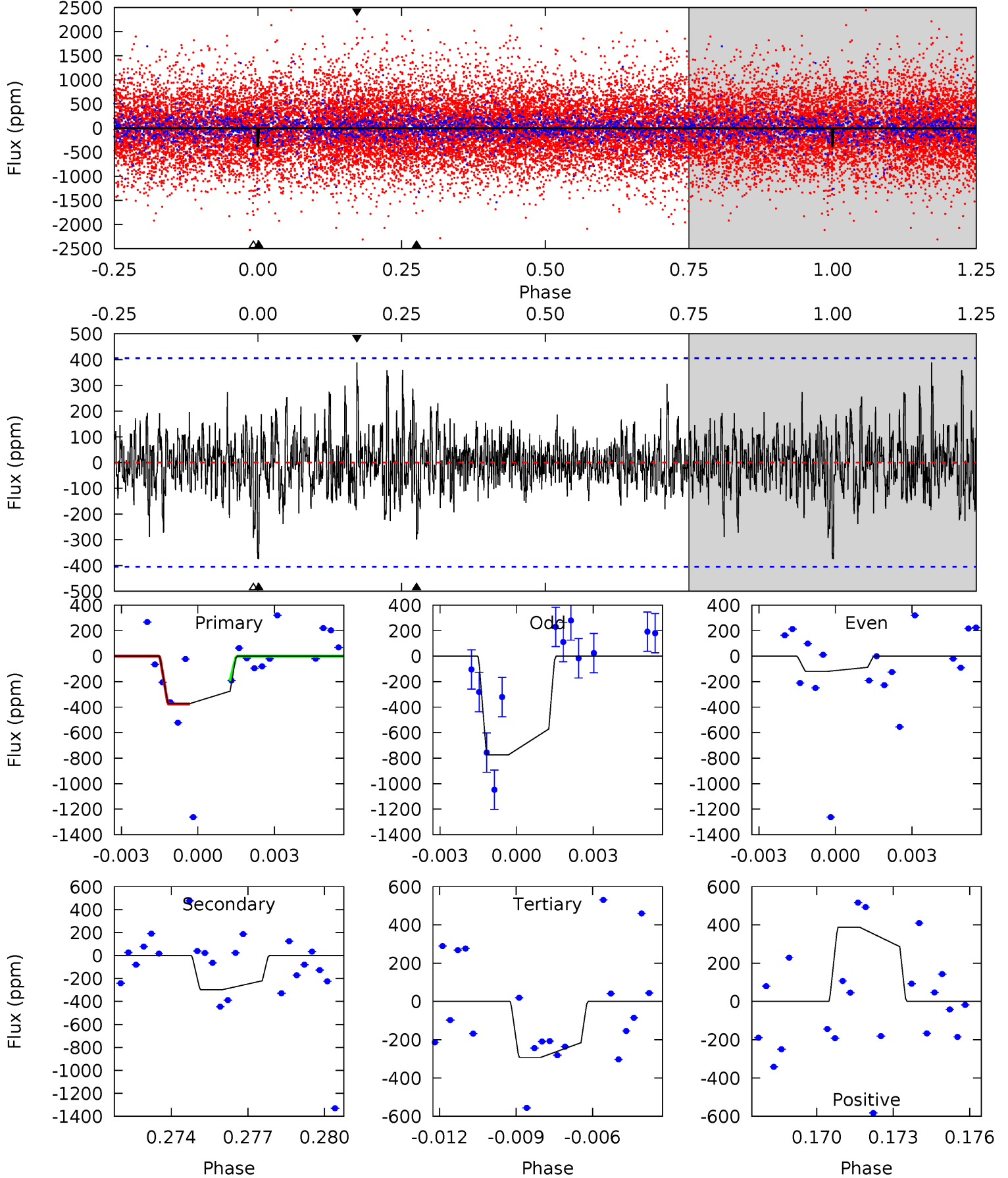
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.94	13.5	9.22	8.41	5.19	2.87	2.67	-0.28	0.53	4.29	5.10	1.39	0.90	0.38	0.65



Alt Model-Shift Uniqueness Test

010341755-03, P = 269.770670 Days, E = 106.413202 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.83	3.87	3.79	5.04	5.25	2.96	1.06	1.04	-0.20	0.08	-1.17	4.13	1.39	0.51	0.56



Stellar Parameters For KIC 010341755

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4940^{+163}_{-148}	$4.609^{+0.025}_{-0.070}$	$0.100^{+0.250}_{-0.300}$	$0.738^{+0.085}_{-0.052}$	$0.829^{+0.049}_{-0.083}$	$2.900^{+0.361}_{-0.695}$
	+3%/-3%	+1%/-2%	+250%/-300%	+12%/-7%	+6%/-10%	+12%/-24%
Source	PHO1	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 010341755-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-960 ± 71	$16.82^{+15.68}_{-11.06}$	303^{+13}_{-11}	2684^{+994}_{-405}	1065^{+8057}_{-777}
Alt.	-298 ± 77	$13.68^{+15.34}_{-9.83}$	303^{+12}_{-11}	2427^{+1017}_{-380}	467^{+6263}_{-360}

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

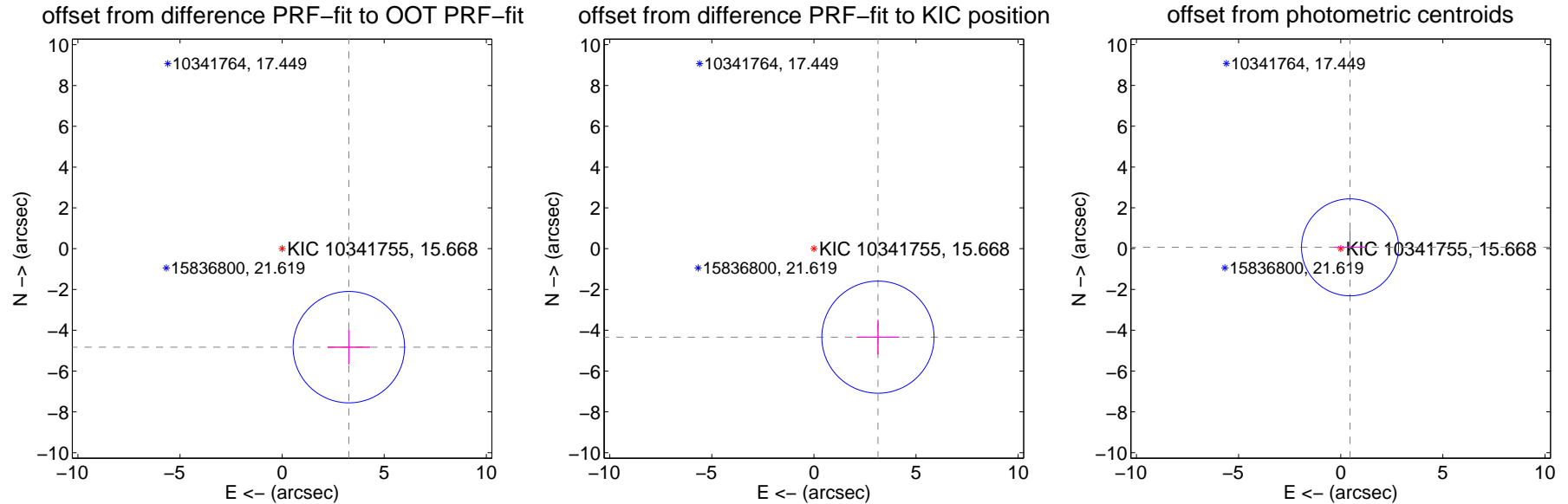
DV Centroid Data

Supplemental centroid analysis for 010341755-03. Kepler magnitude: 15.67. Transit SNR 7.44

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.829 ± 0.910	6.41	-3.268 ± 1.042	-4.827 ± 0.843
PRF-fit source offset from KIC position	5.353 ± 0.916	5.84	-3.136 ± 1.042	-4.337 ± 0.843
photometric centroid source offset	0.46 ± 0.79	0.58	-0.46 ± 0.79	0.06 ± 0.85



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 no difference image



Q2 no OOT image



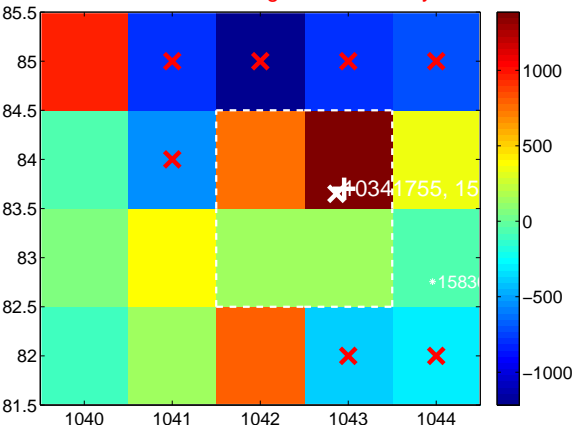
Q3 no difference image



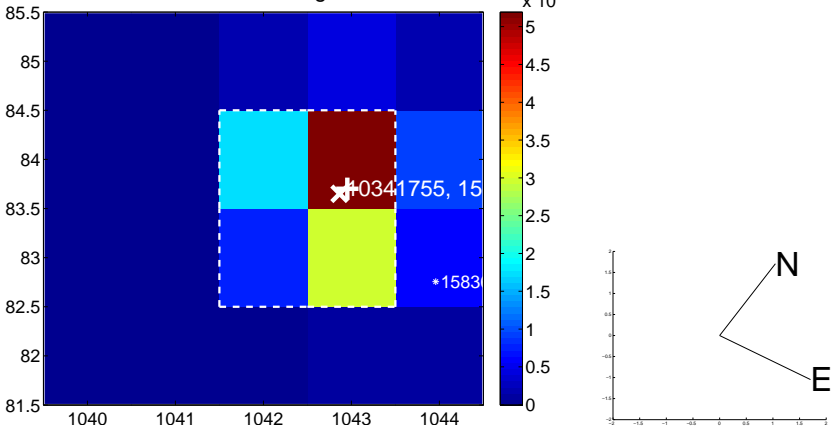
Q3 no OOT image



Q4 difference image. Poor Quality



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.

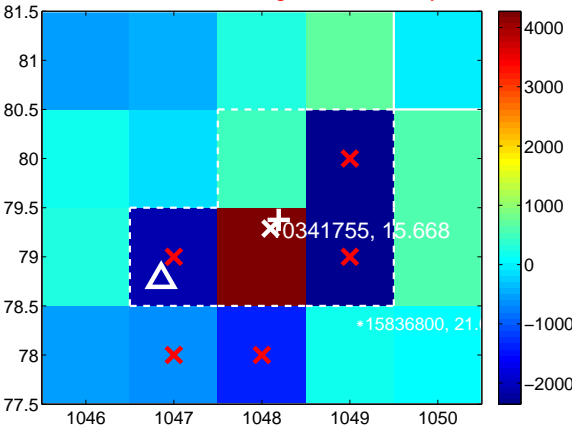
Q9 no difference image



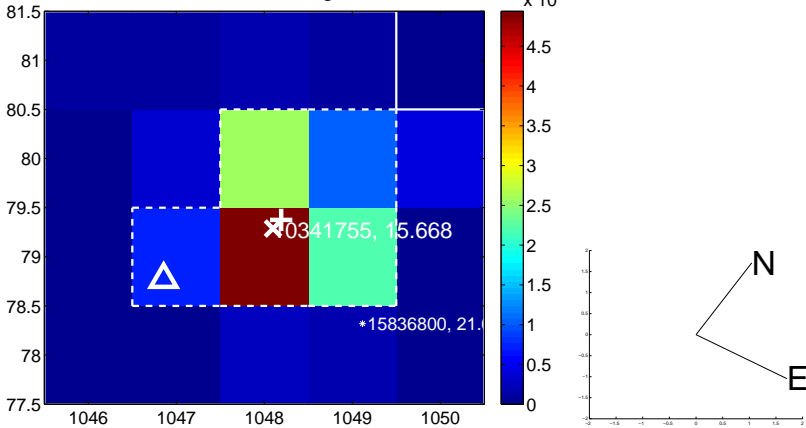
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



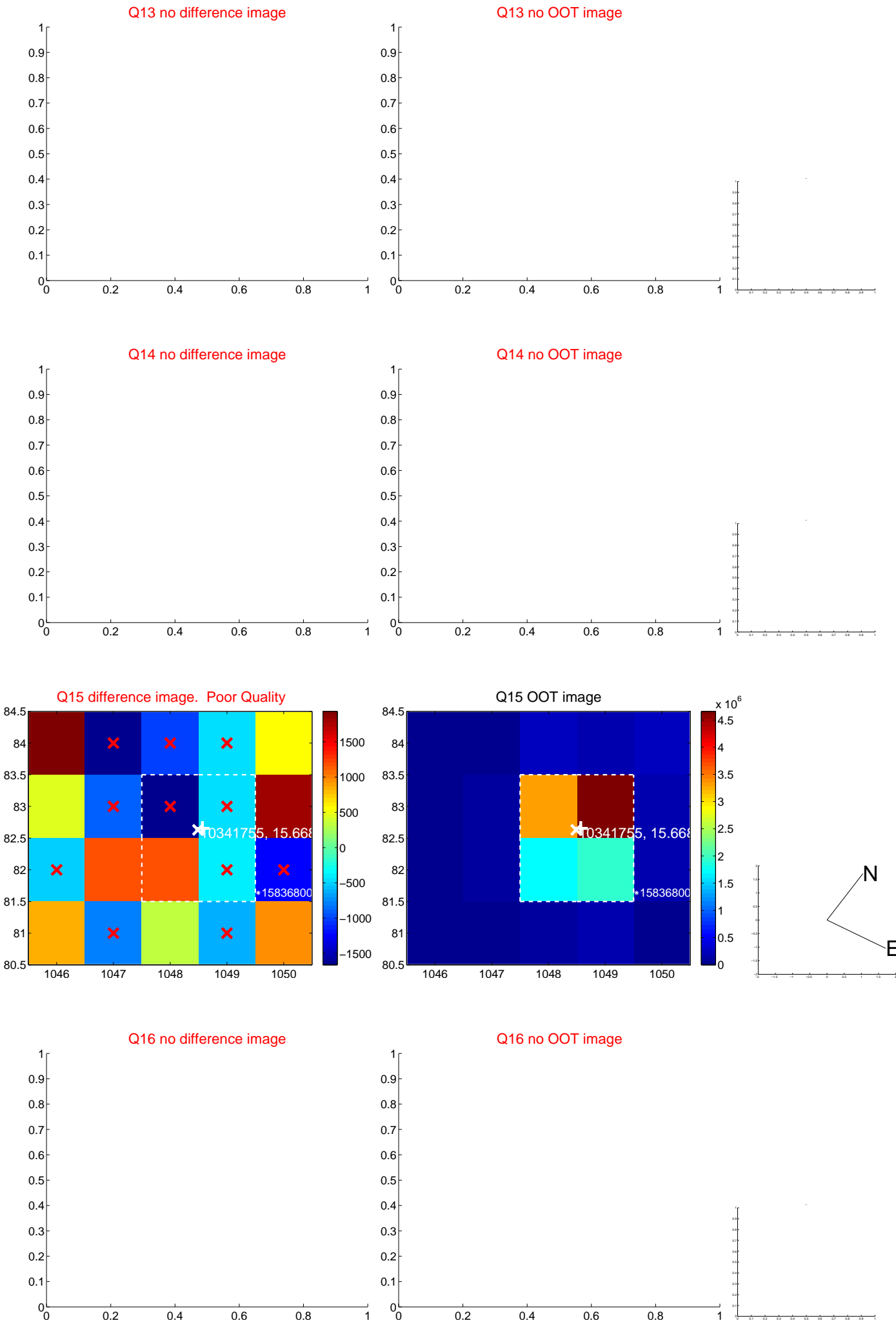
Q12 no difference image



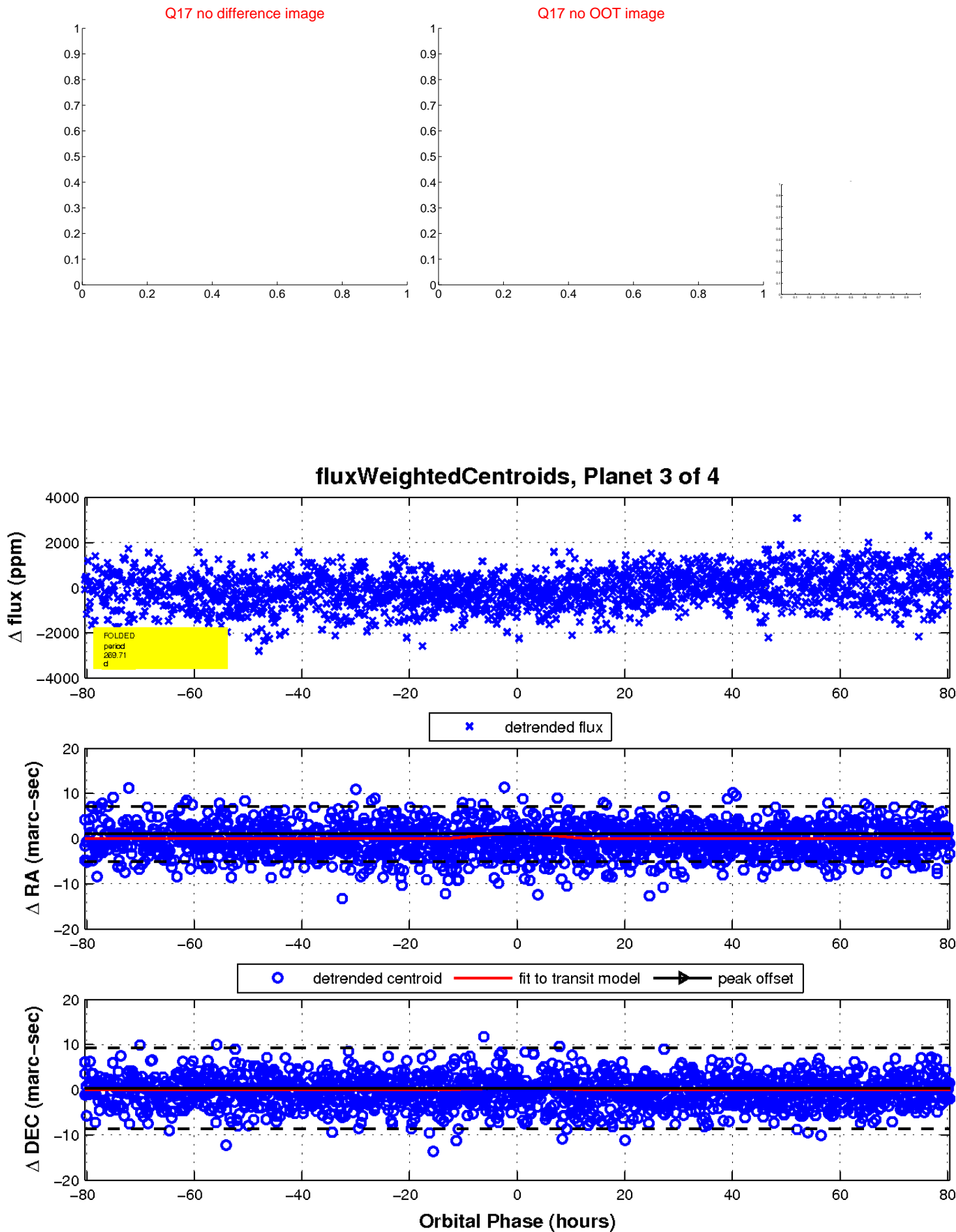
Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

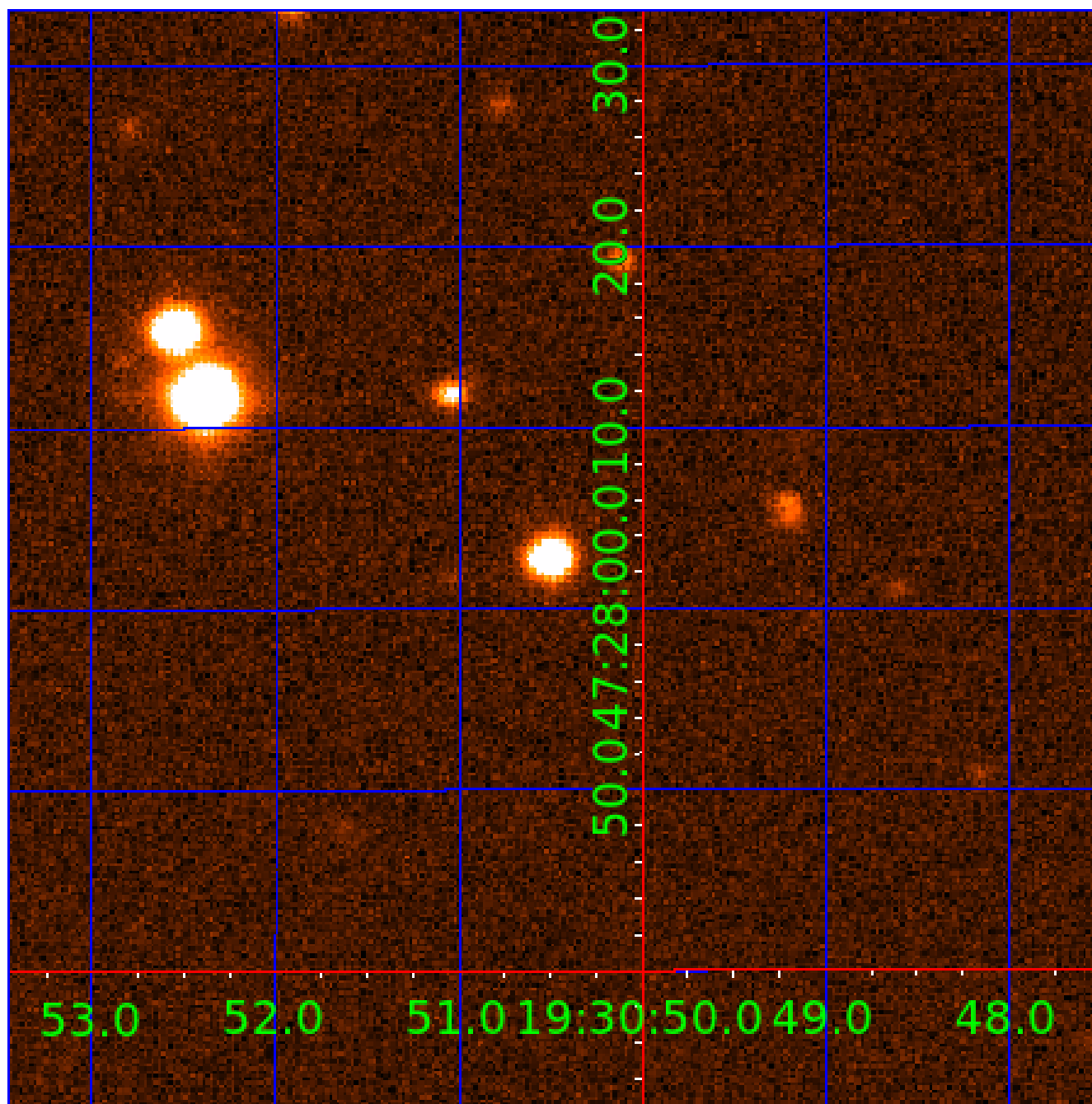


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010341755

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})
010341755-01	OBS	No	0.933685	131.565507	75.4	5.177	12.4	11.8	0.74	4940	0.65	958.46
010341755-02	OBS	No	86.230230	162.461811	251.1	2.428	12.6	2.0	0.74	4940	1.32	2.30
010341755-03	OBS	No	269.710759	376.233984	1418.4	26.808	9.5	7.4	0.74	4940	5.60	0.50
010341755-04	OBS	No	48.664751	176.109181	642.9	3.592	7.7	5.7	0.74	4940	2.26	4.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341755-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
010341755-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010341755-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
010341755-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST

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

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

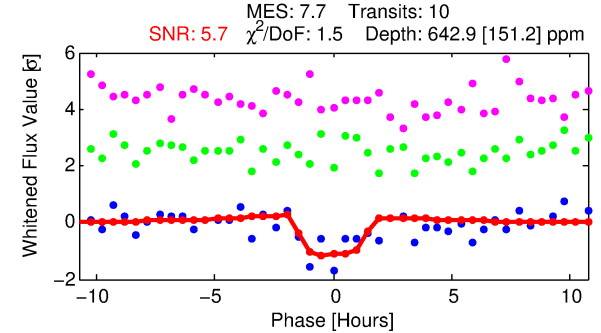
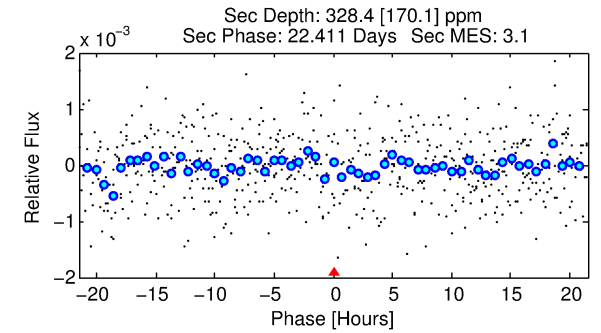
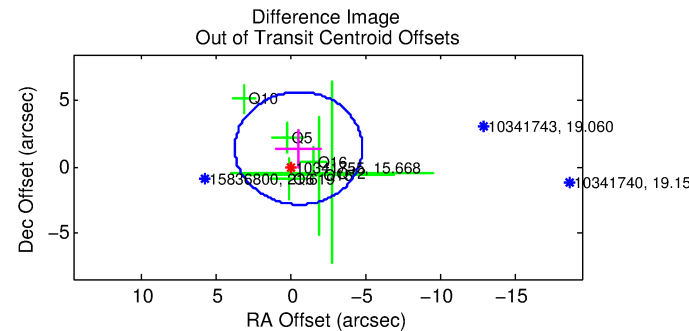
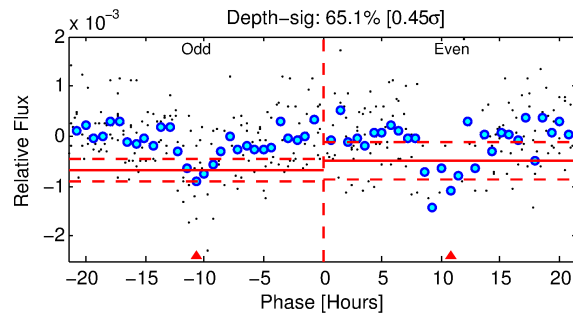
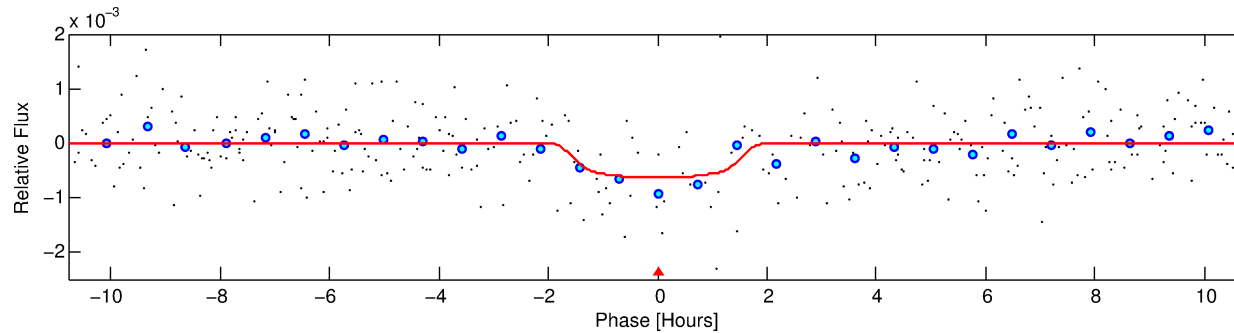
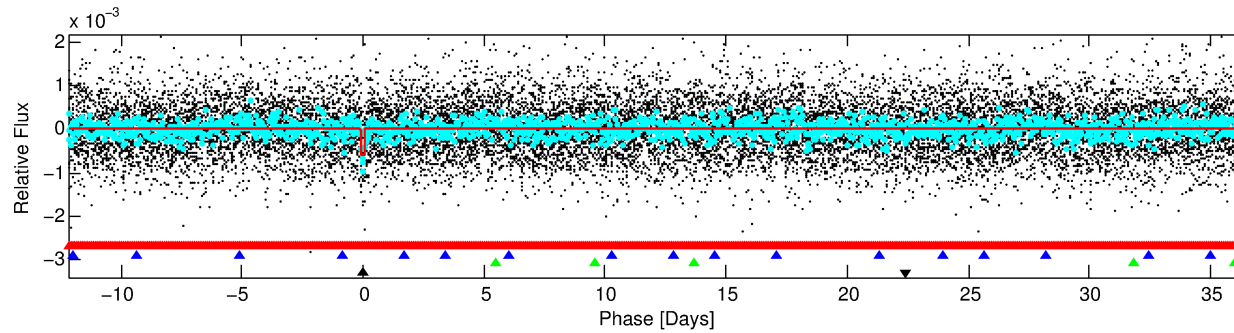
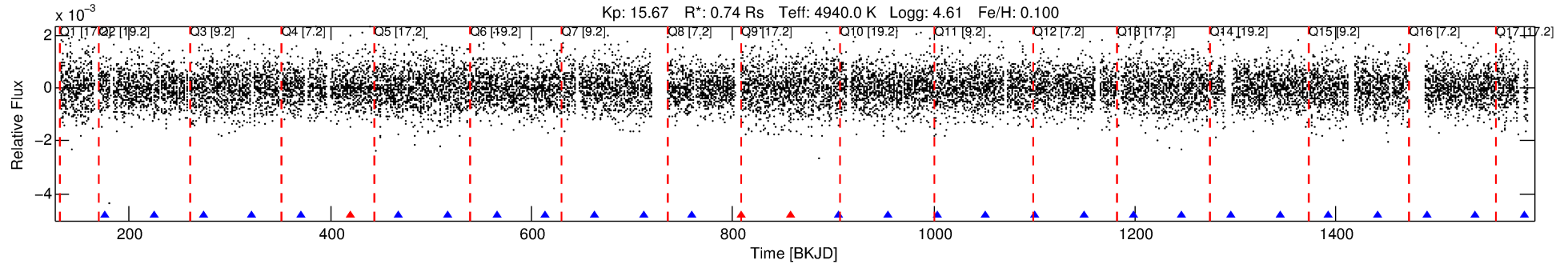
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010341755-04

No Significant Match Found

DV One-Page Summary

KIC: 10341755 Candidate: 4 of 4 Period: 48.665 d



DV Fit Results:

Period = 48.66475 [0.00109] d
Epoch = 176.1092 [0.0146] BKJD
Rp/R* = 0.0280 [0.0250]
a/R* = 53.53 [178.40]
b = 0.89 [0.82]
Seff = 4.92 [0.92]
Teq = 380 [18] K
Rp = 2.26 [2.03] Re
a = 0.2430 [0.0228] AU
Ag = 2092.87 [3896.13] [0.54 σ]
Teffp = 3972 [1849] K [1.94 σ]

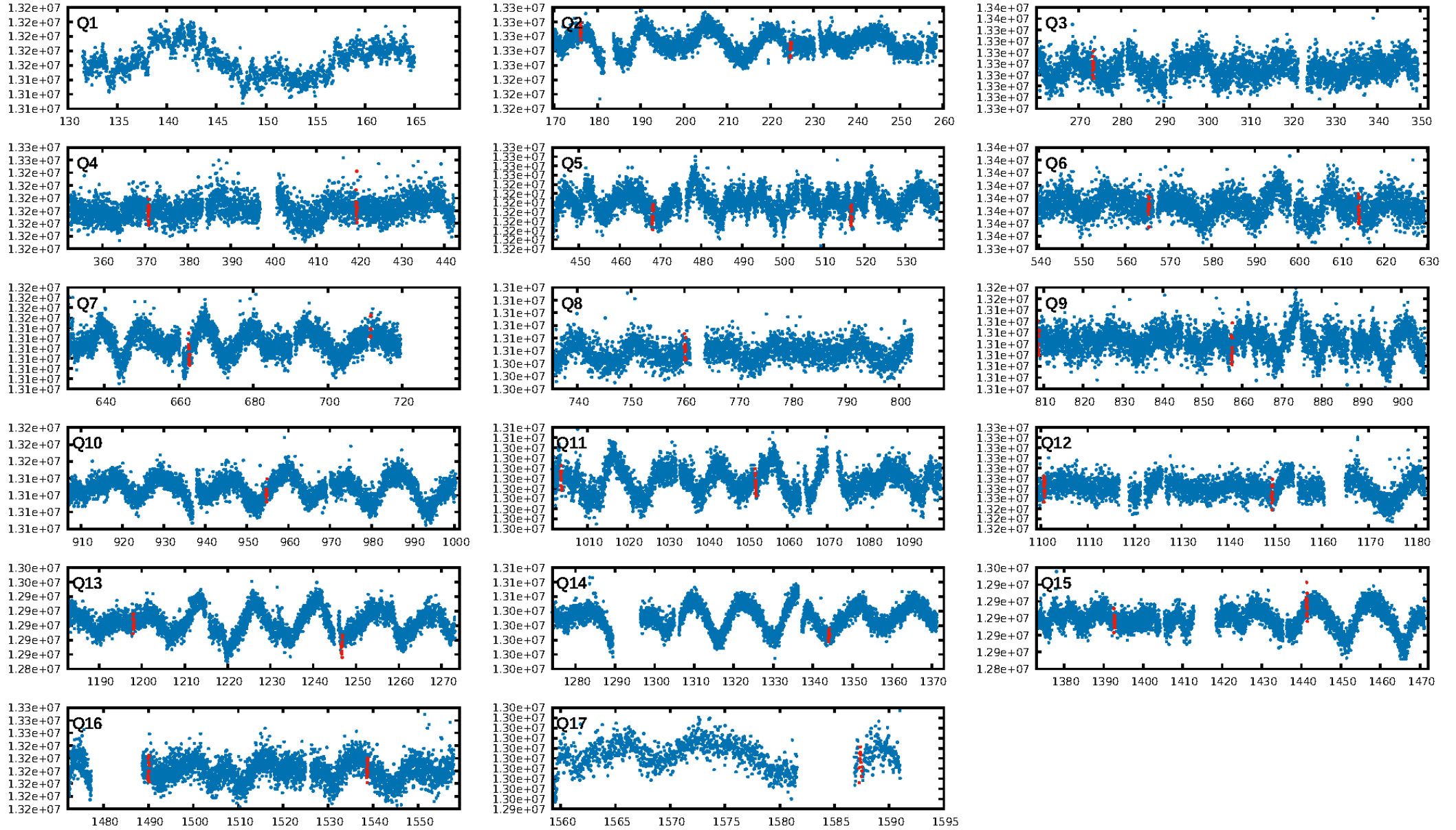
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [181.81 σ]
LongPeriod-sig: 100.0% [207.96 σ]
ModelChiSquare2-sig: 5.1%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.53e-10
RollingBand-fgt: 0.70 [7/10]
GhostDiagnostic-chr: 0.01885
Centroid-sig: 46.0%
Centroid-so: 1.143 arcsec [0.83 σ]
OotOffset-rm: 1.500 arcsec [1.06 σ]
KicOffset-rm: 1.475 arcsec [1.04 σ]
OotOffset-st: 2/1/2/1 [6]
KicOffset-st: 2/1/2/1 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.00 [0/15]

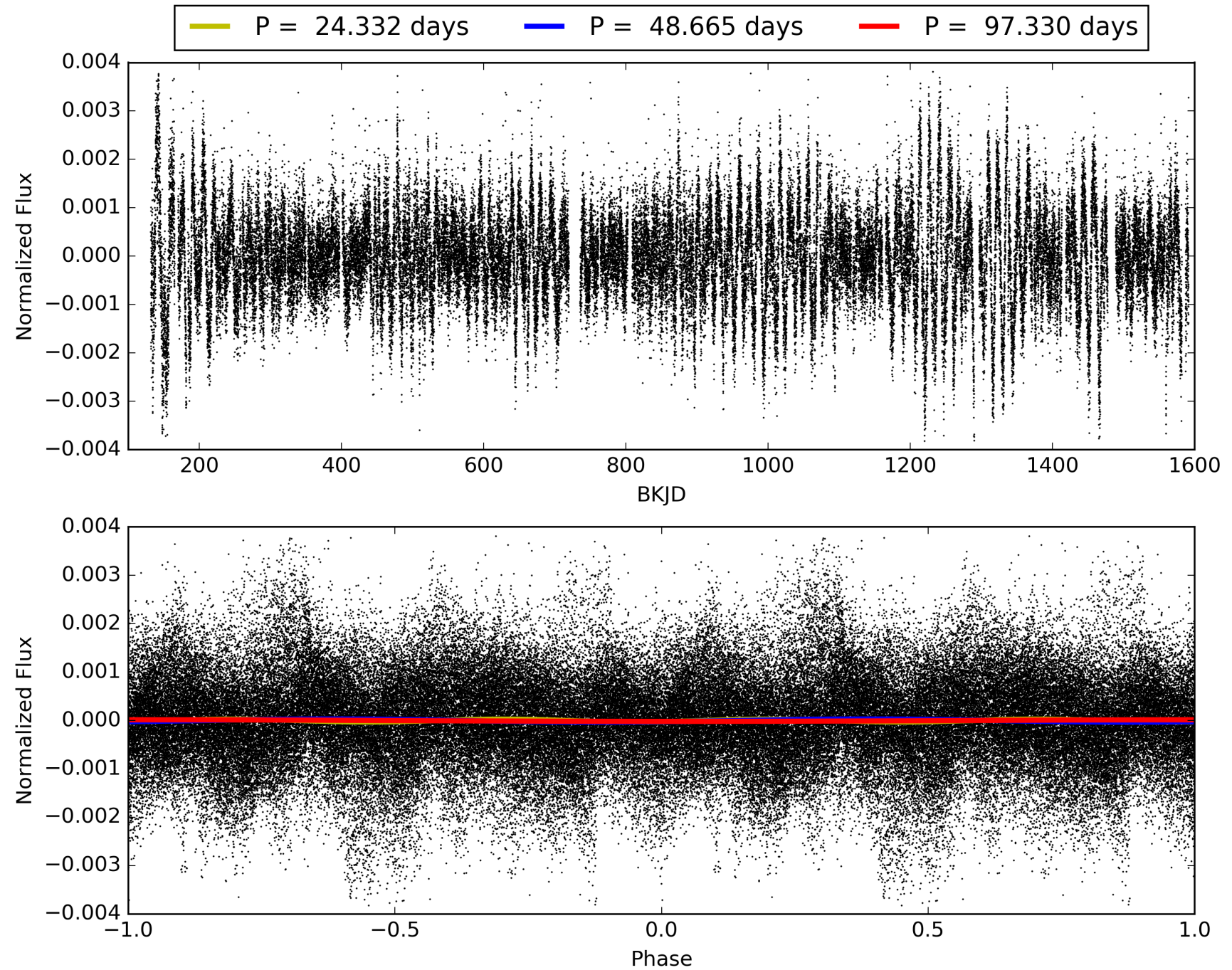
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:36:08 Z

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

TCE 010341755-04, PDC Light Curves

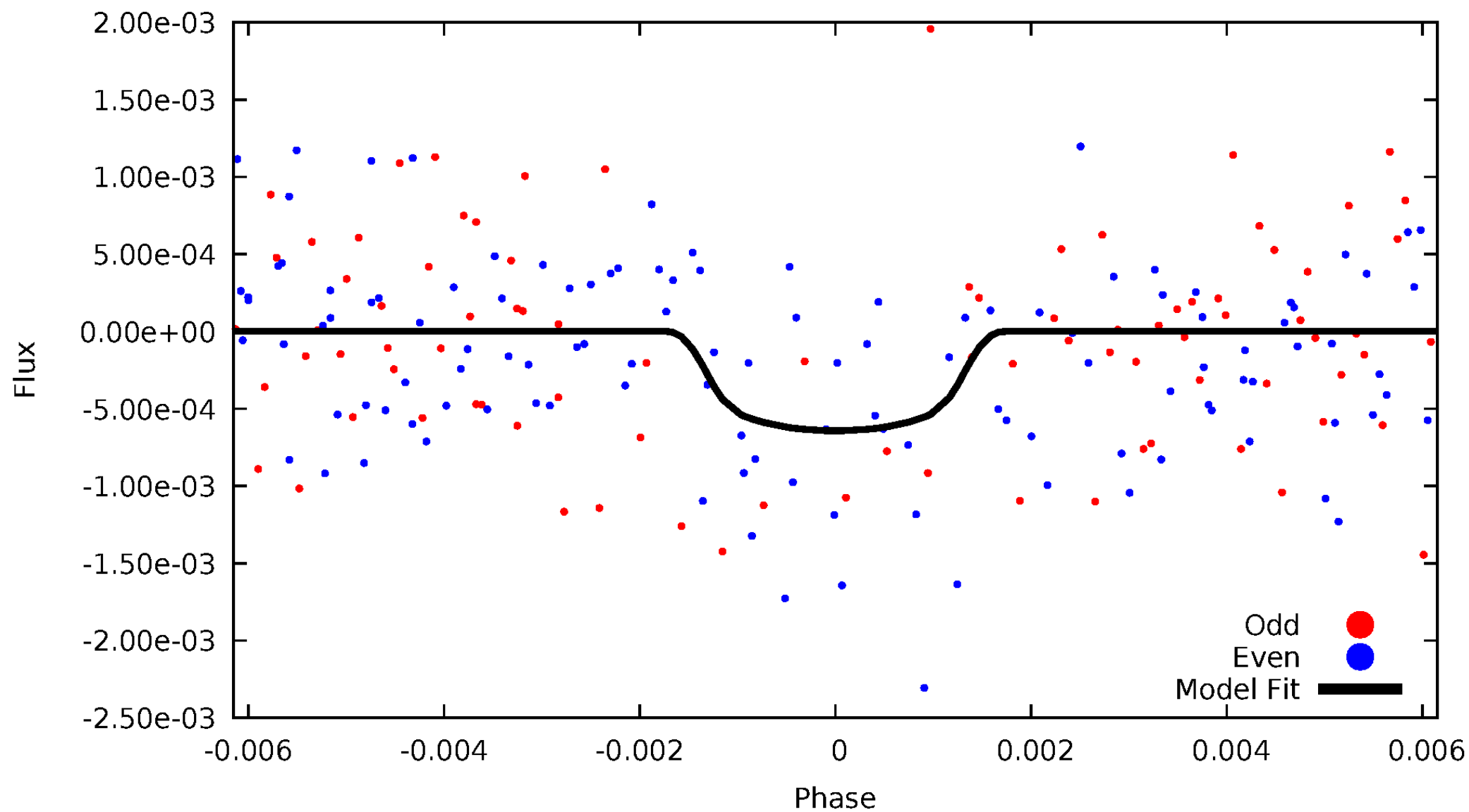


TCE 010341755-04



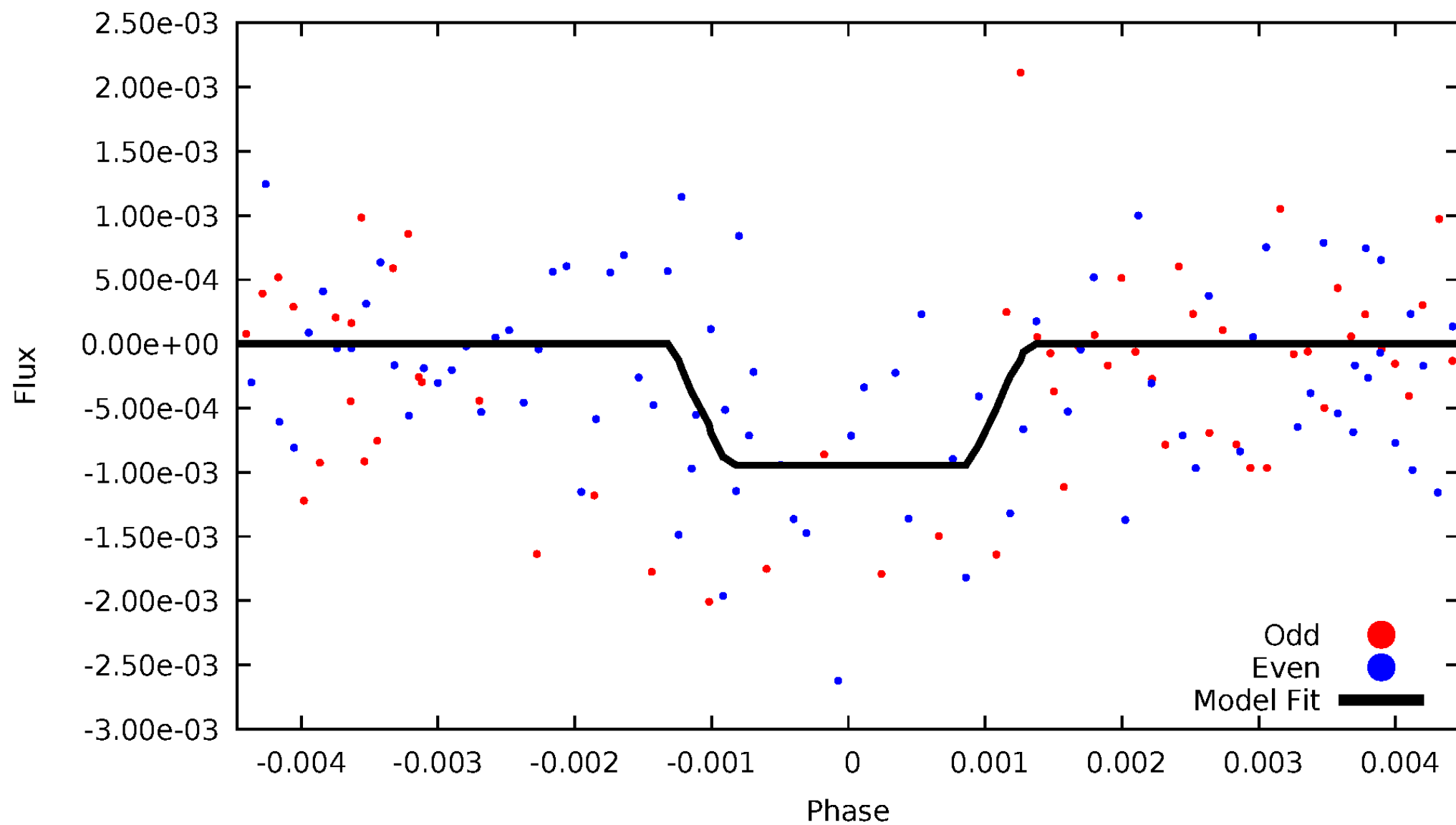
DV Odd/Even

TCE 010341755-04



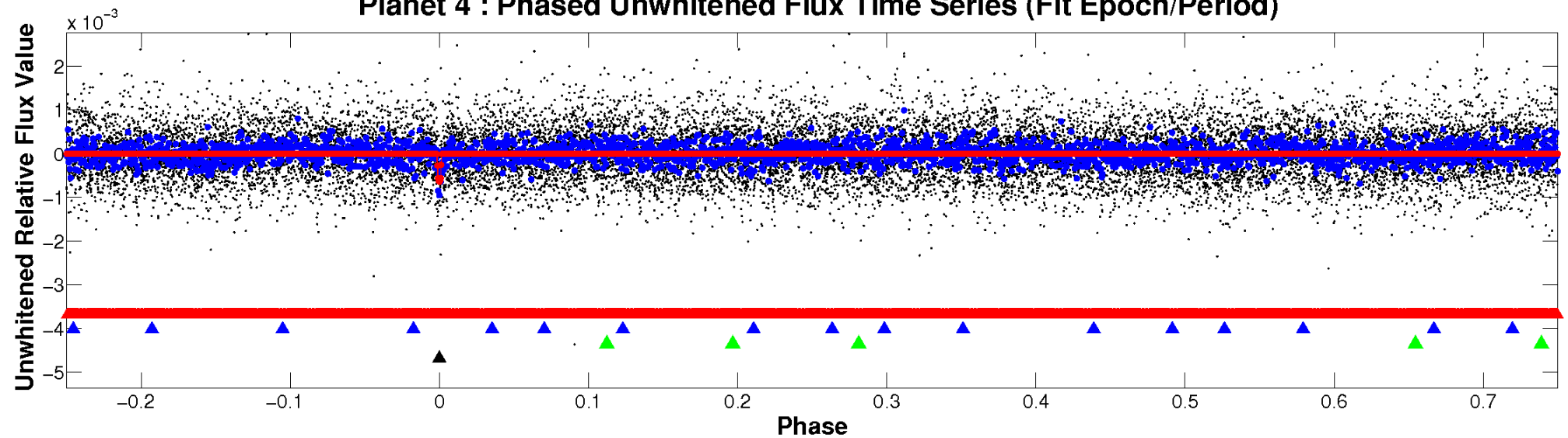
ALT Odd/Even

TCE 010341755-04

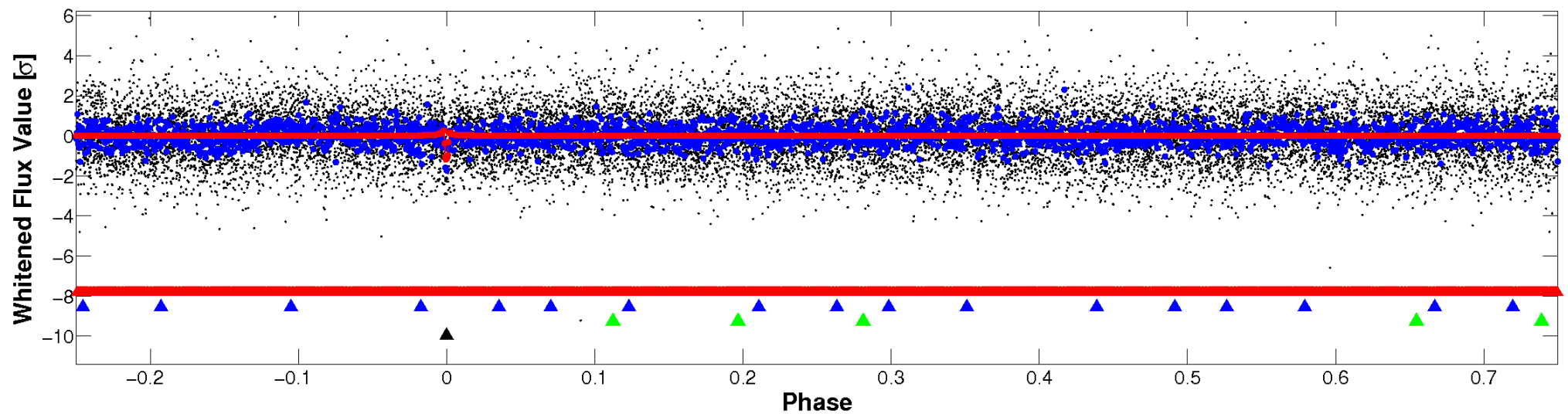


Non-Whitened Vs. Whitened Light Curve

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

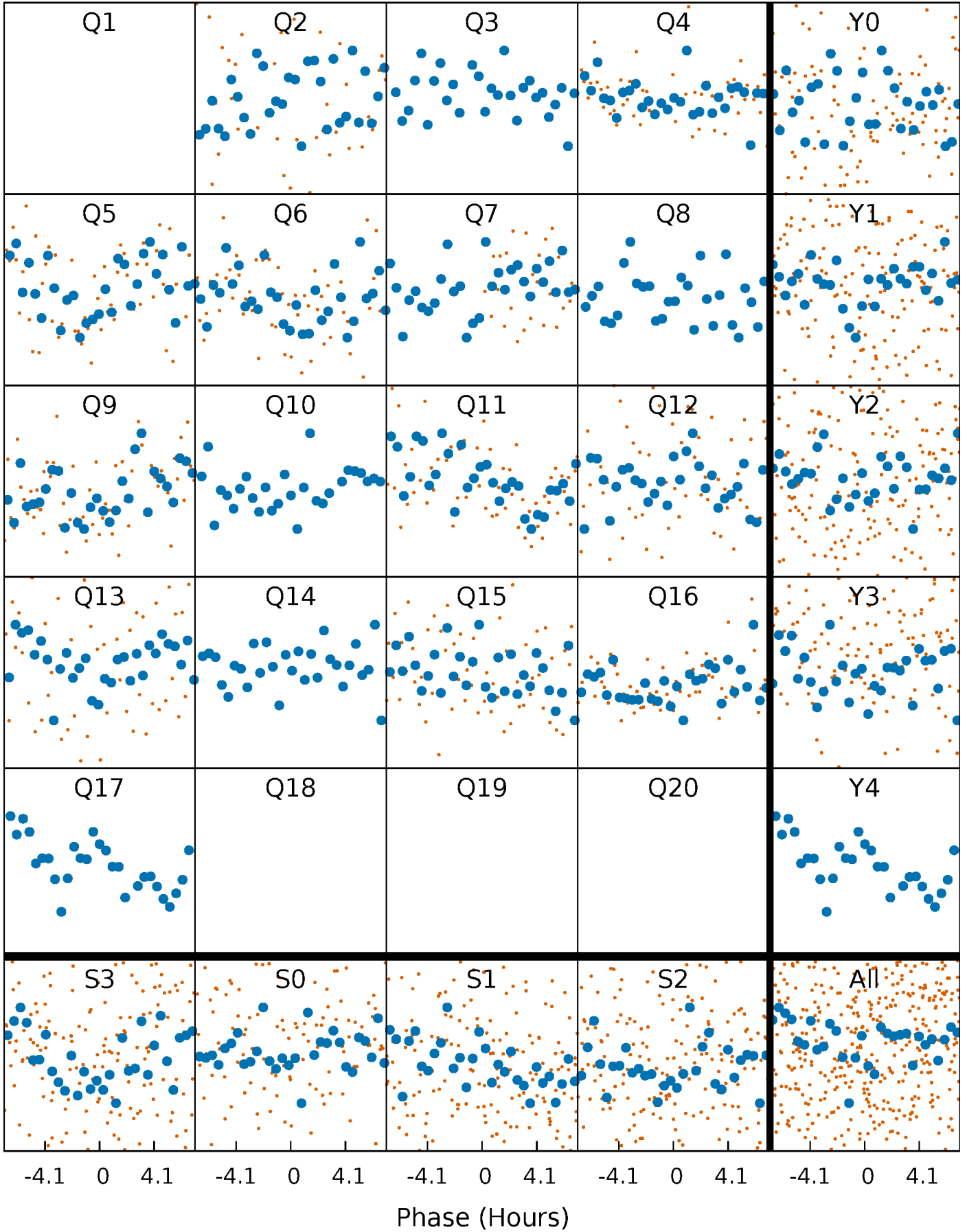


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



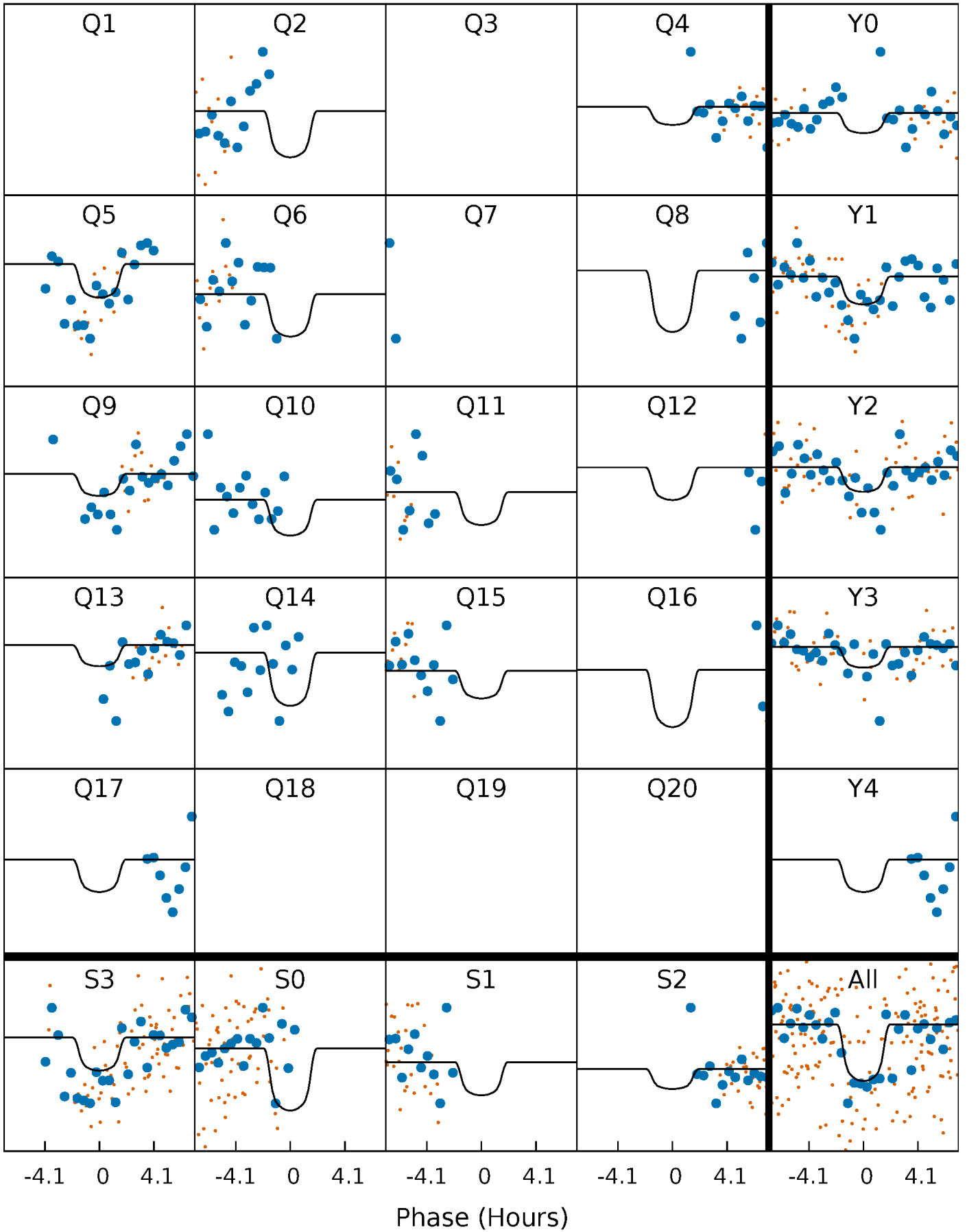
PDC Quarter-Phased Transit Curves

TCE 010341755-04 P= 48.664751 Days $T_0=176.109181$ (BKJD)



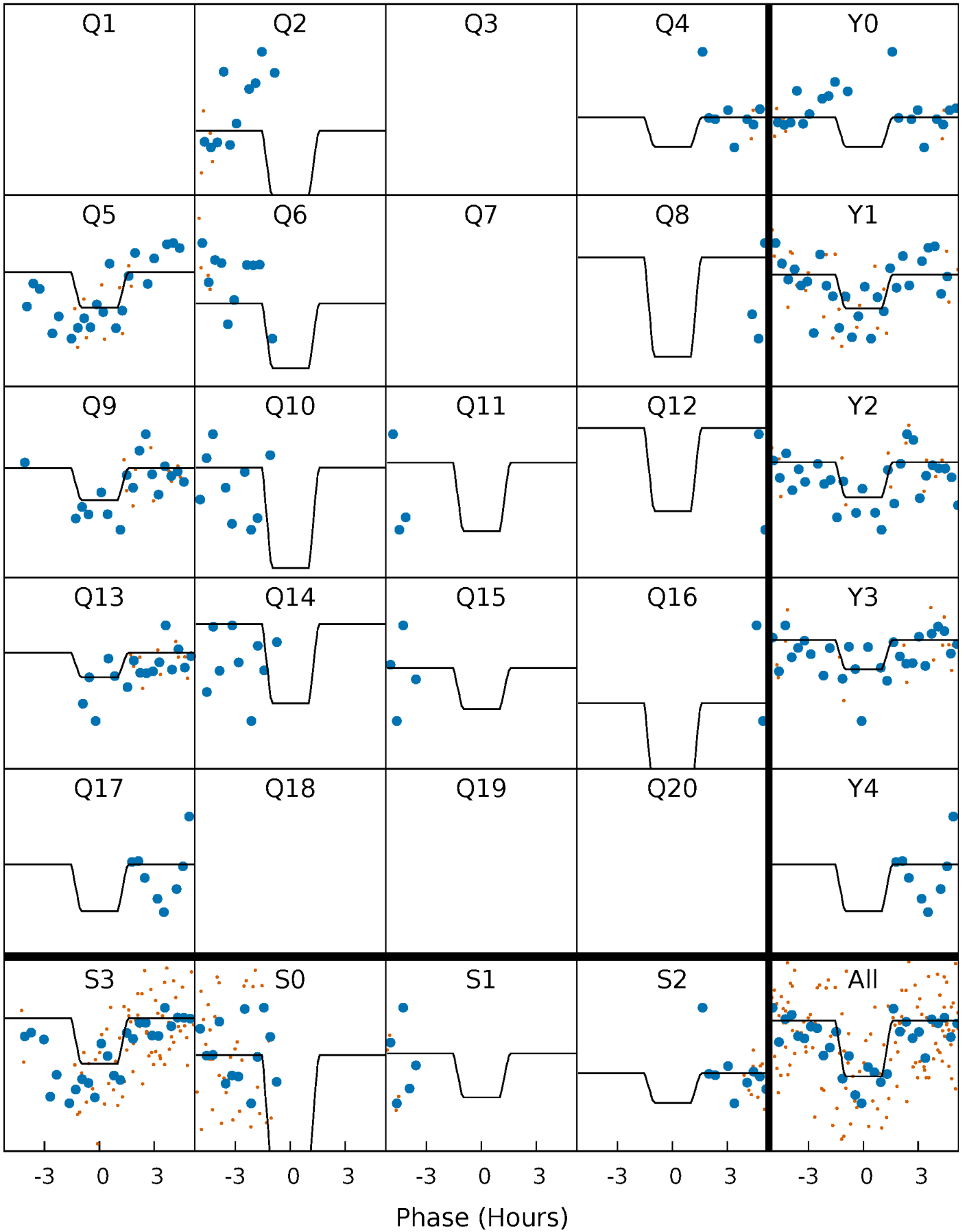
DV Quarter-Phased Transit Curves

TCE 010341755-04 P= 48.664751 Days $T_0=176.109181$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

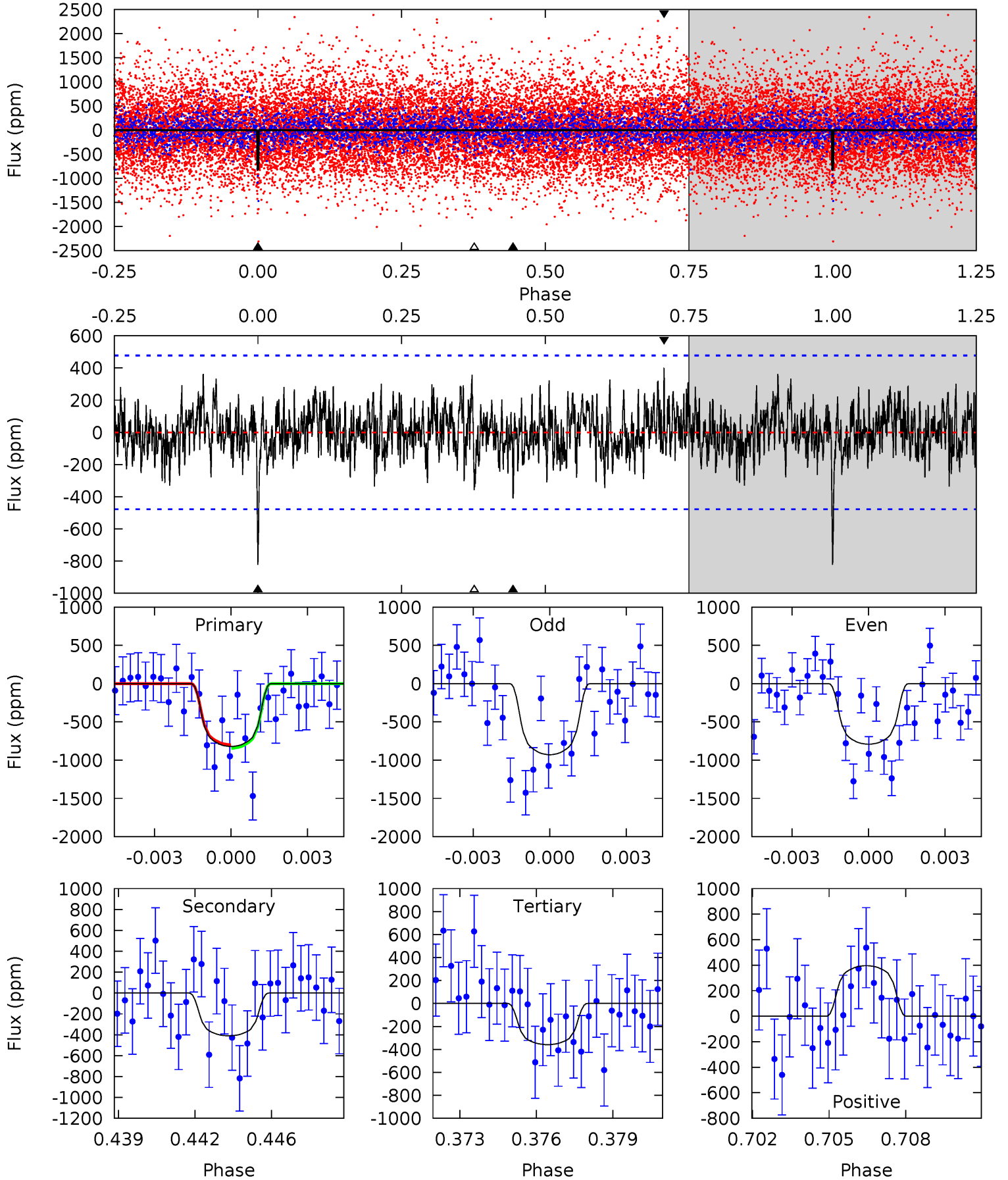
TCE 010341755-04 $P = 48.668382$ Days $T_0 = 176.077174$ (BKJD)



DV Model-Shift Uniqueness Test

010341755-04, $P = 48.664751$ Days, $E = 127.444430$ Days

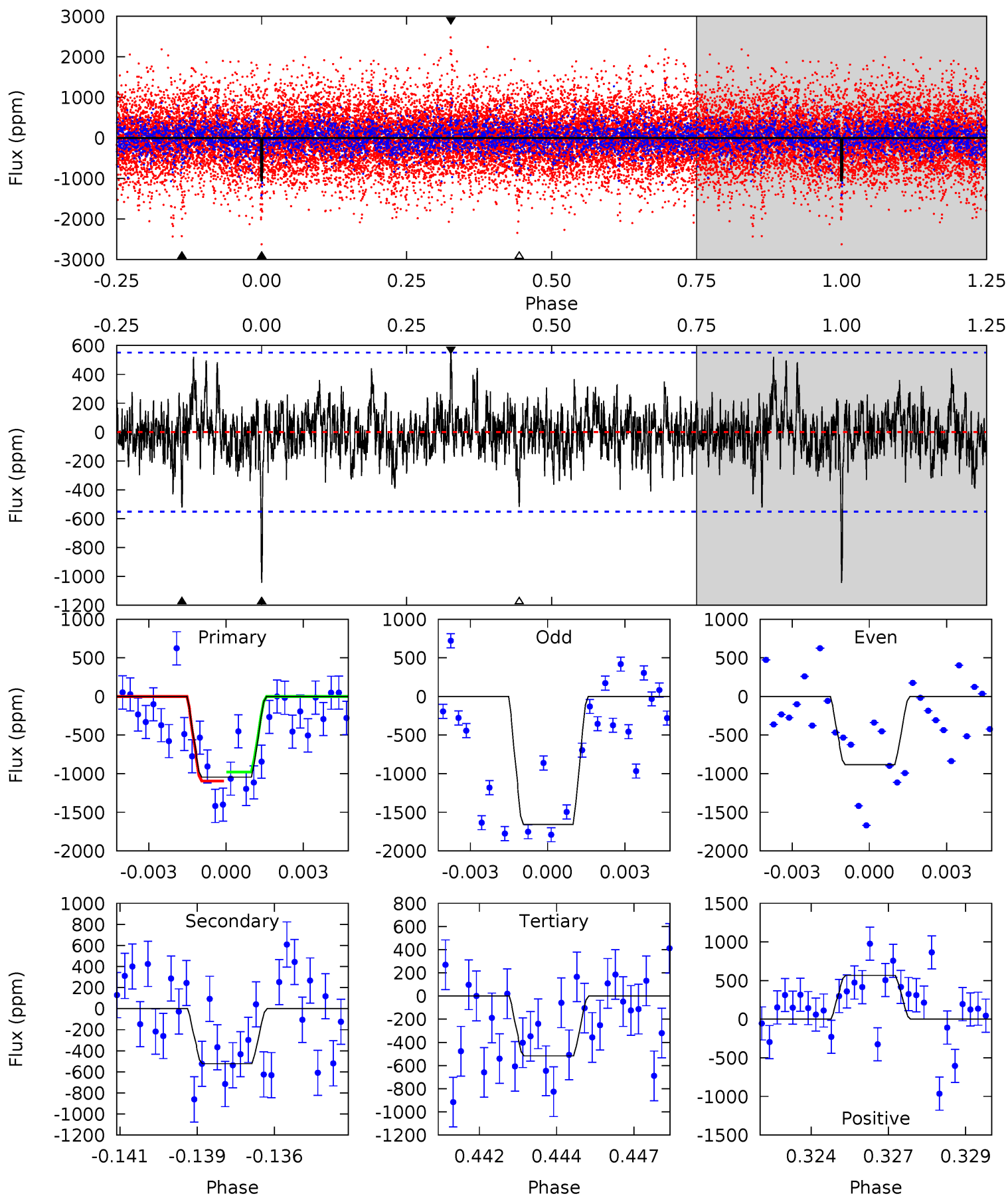
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.00	4.50	3.93	4.34	5.23	2.94	1.31	5.07	4.66	0.57	0.16	0.65	0.56	0.33	0.25



Alt Model-Shift Uniqueness Test

010341755-04, $P = 48.668382$ Days, $E = 127.408792$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	5.00	4.95	5.43	5.28	3.01	1.29	5.06	4.58	0.05	-0.43	3.11	0.76	0.35	0.56



Stellar Parameters For KIC 010341755

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4940^{+163}_{-148}	$4.609^{+0.025}_{-0.070}$	$0.100^{+0.250}_{-0.300}$	$0.738^{+0.085}_{-0.052}$	$0.829^{+0.049}_{-0.083}$	$2.900^{+0.361}_{-0.695}$
	+3%/-3%	+1%/-2%	+250%/-300%	+12%/-7%	+6%/-10%	+12%/-24%
Source	PHO1	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 010341755-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-410 ± 91	$2.72^{+1.79}_{-1.62}$	537^{+21}_{-18}	4100^{+1981}_{-672}	1863^{+9580}_{-1244}
Alt.	-522 ± 104	$2.89^{+1.92}_{-1.73}$	537^{+21}_{-19}	4186^{+1977}_{-704}	2012^{+9824}_{-1307}

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

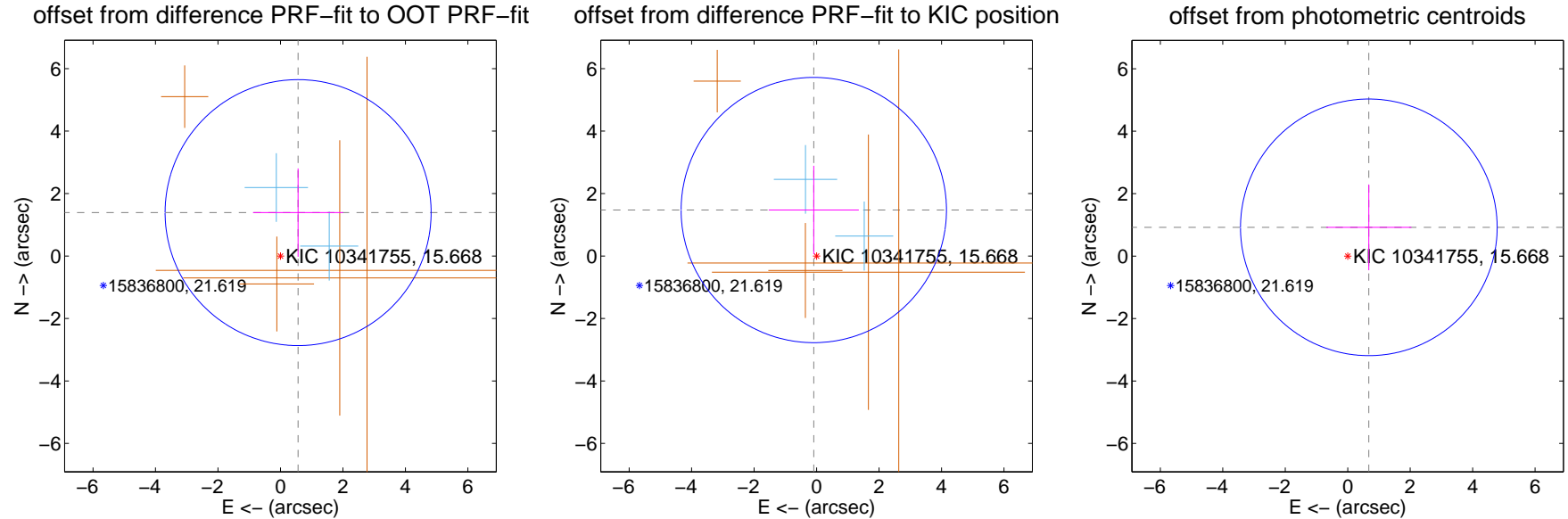
DV Centroid Data

Supplemental centroid analysis for 010341755-04. Kepler magnitude: 15.67. Transit SNR 5.67

There are 2 quarters with good PRF difference image offsets

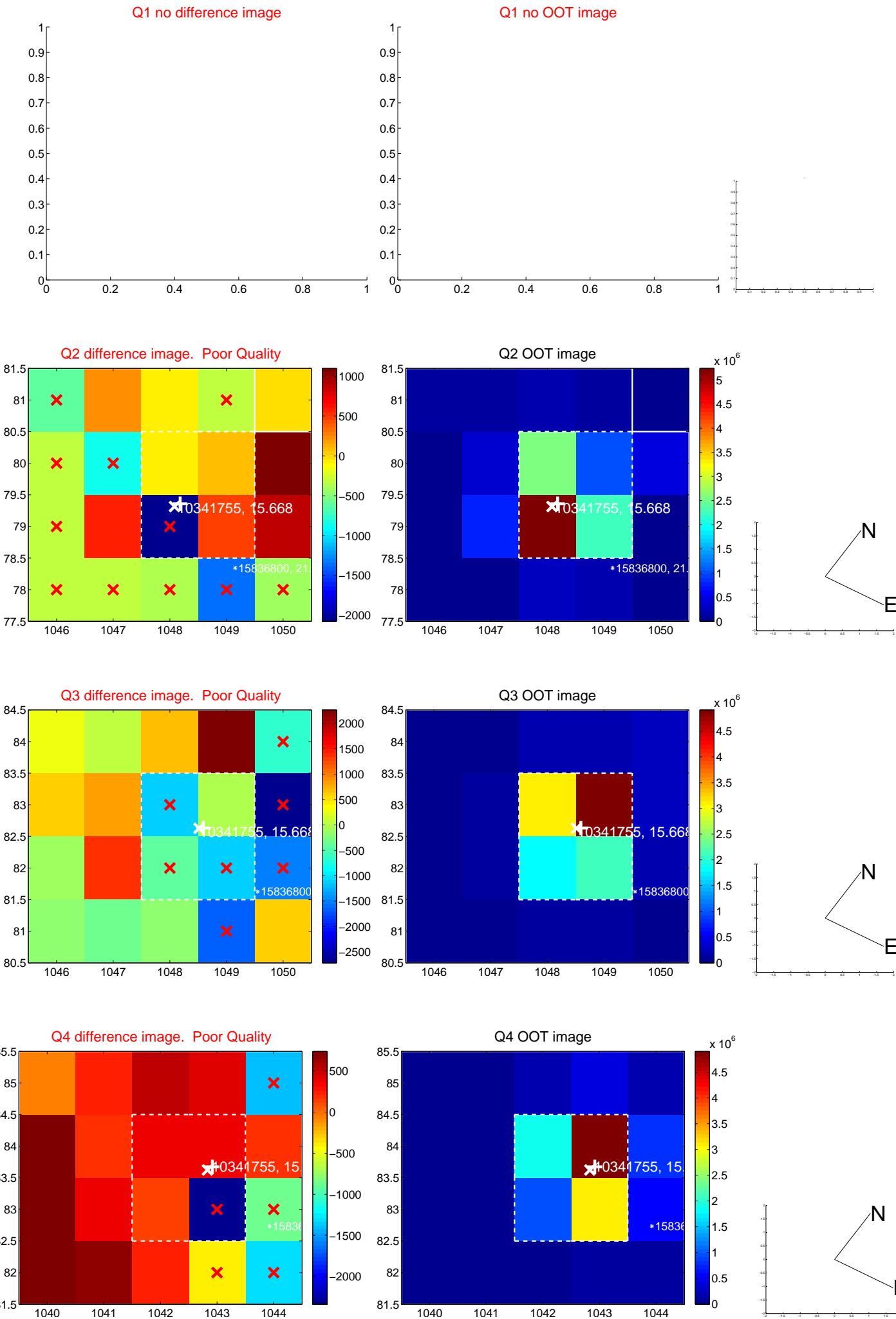
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.500 ± 1.419	1.06	-0.565 ± 1.442	1.390 ± 1.415
PRF-fit source offset from KIC position	1.475 ± 1.415	1.04	0.089 ± 1.442	1.472 ± 1.415
photometric centroid source offset	1.14 ± 1.37	0.83	-0.68 ± 1.36	0.92 ± 1.37

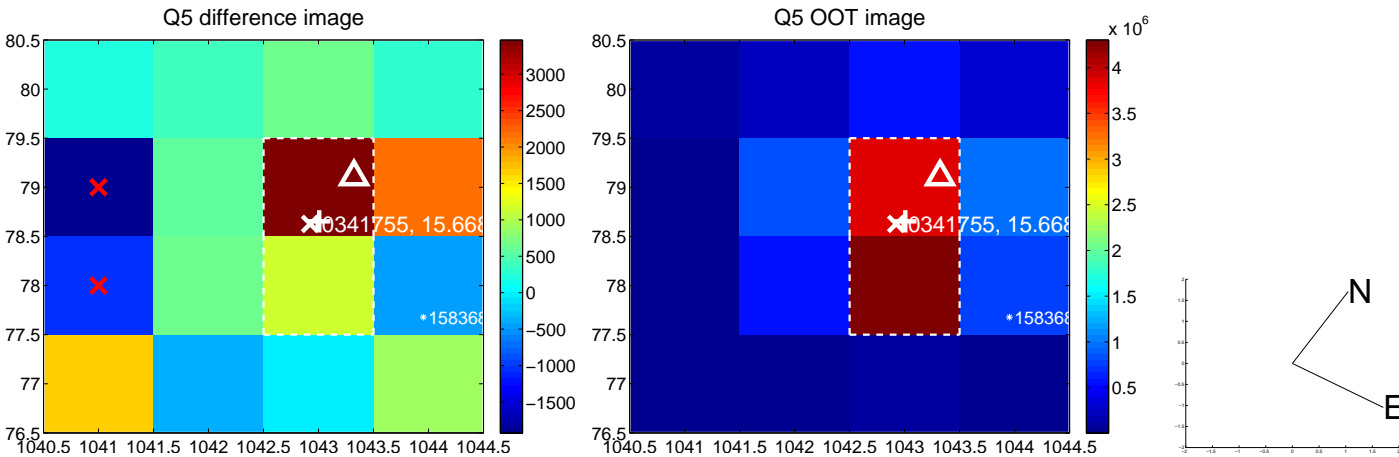


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

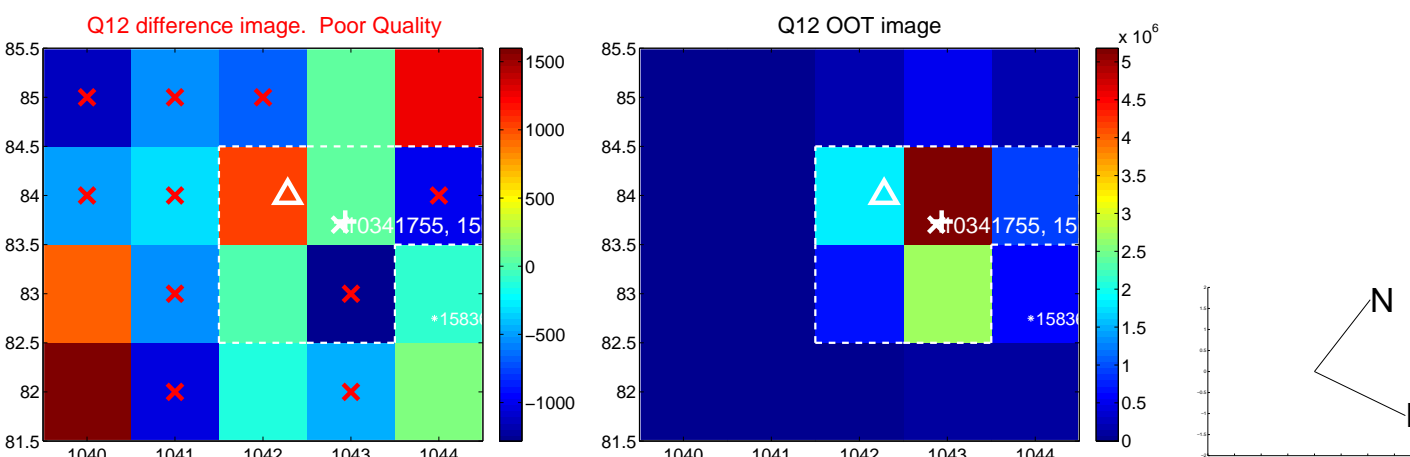
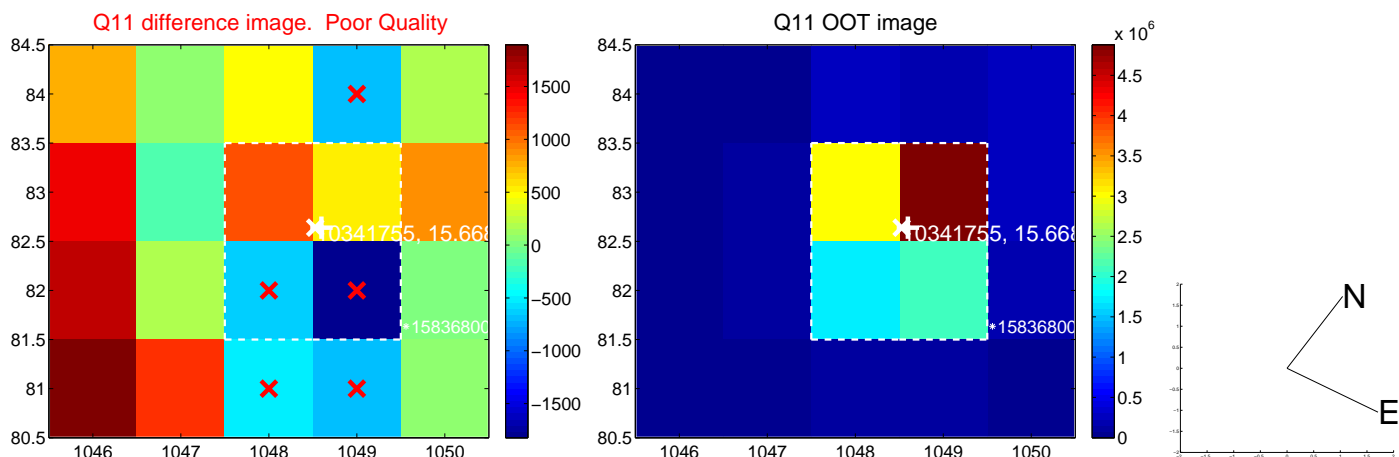
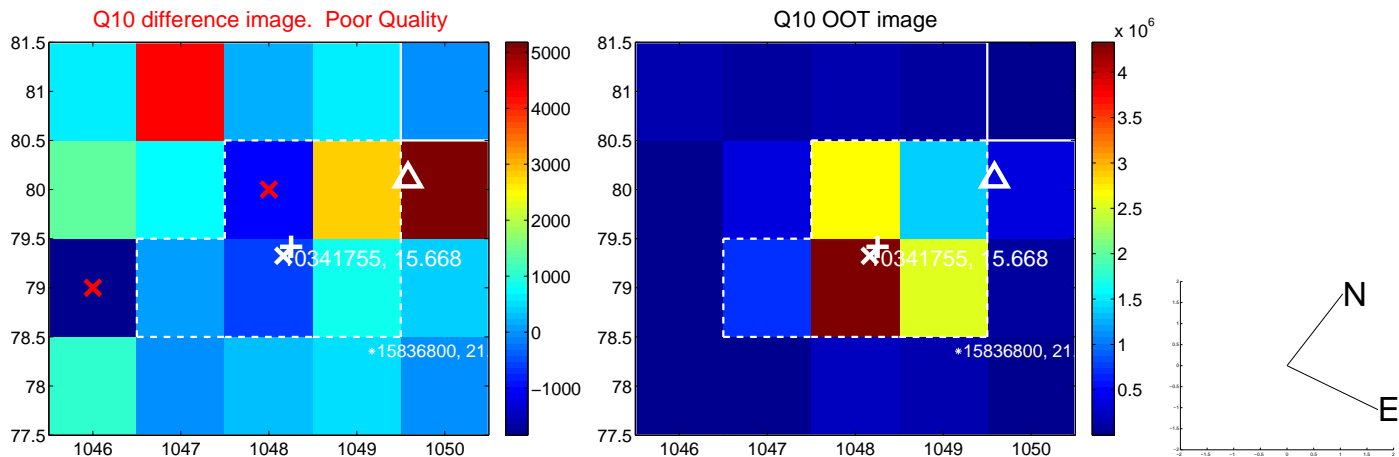
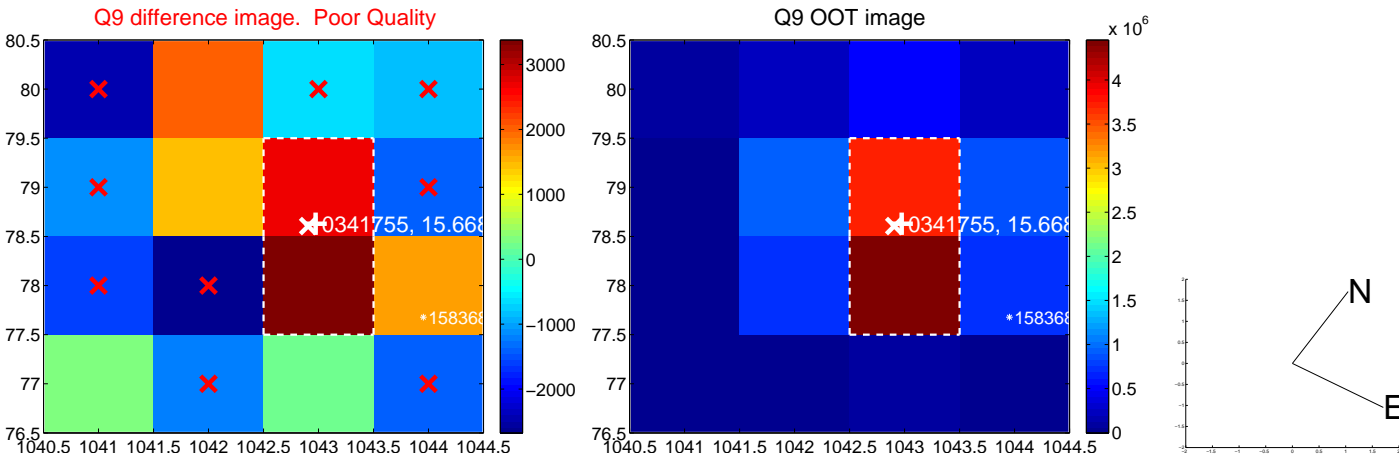
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



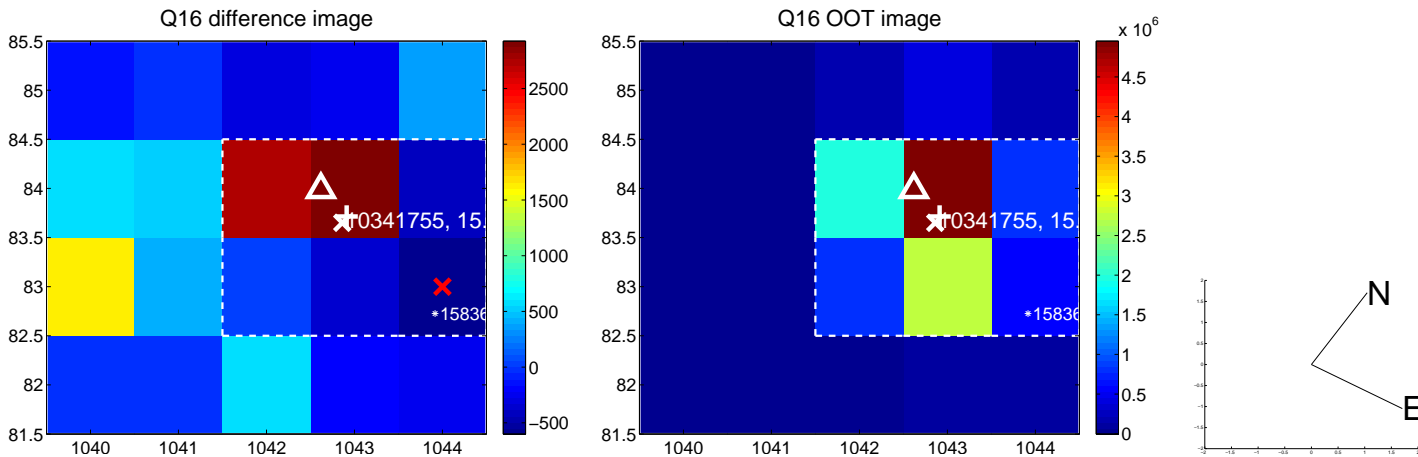
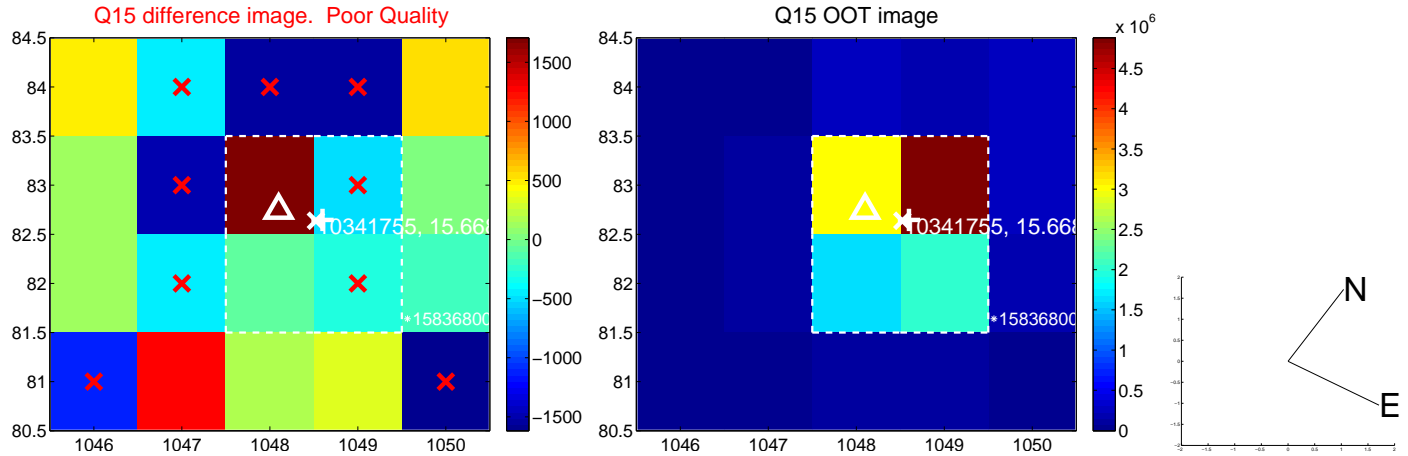
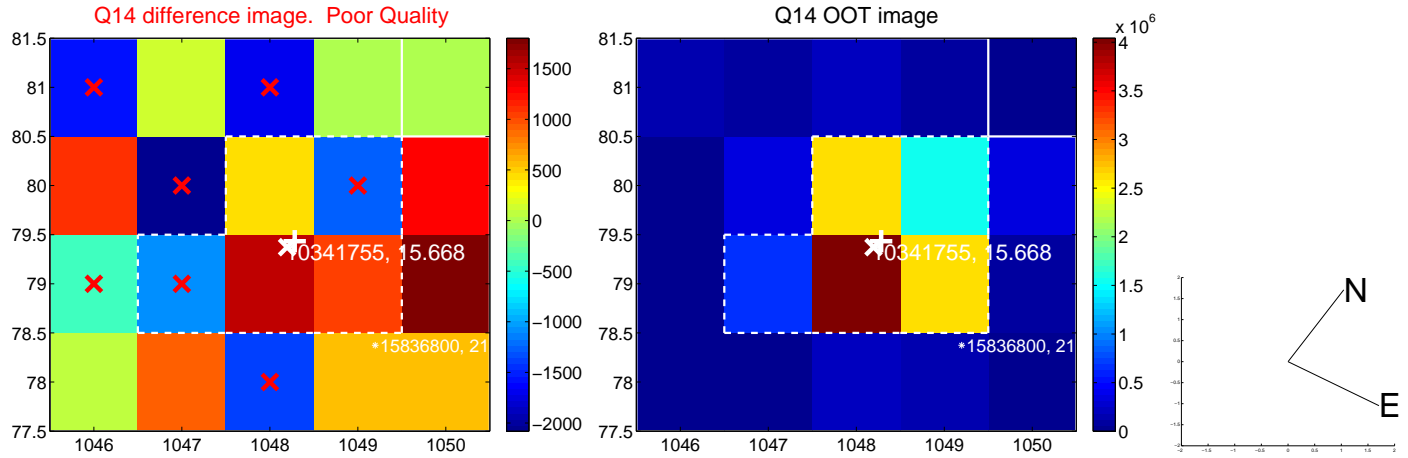
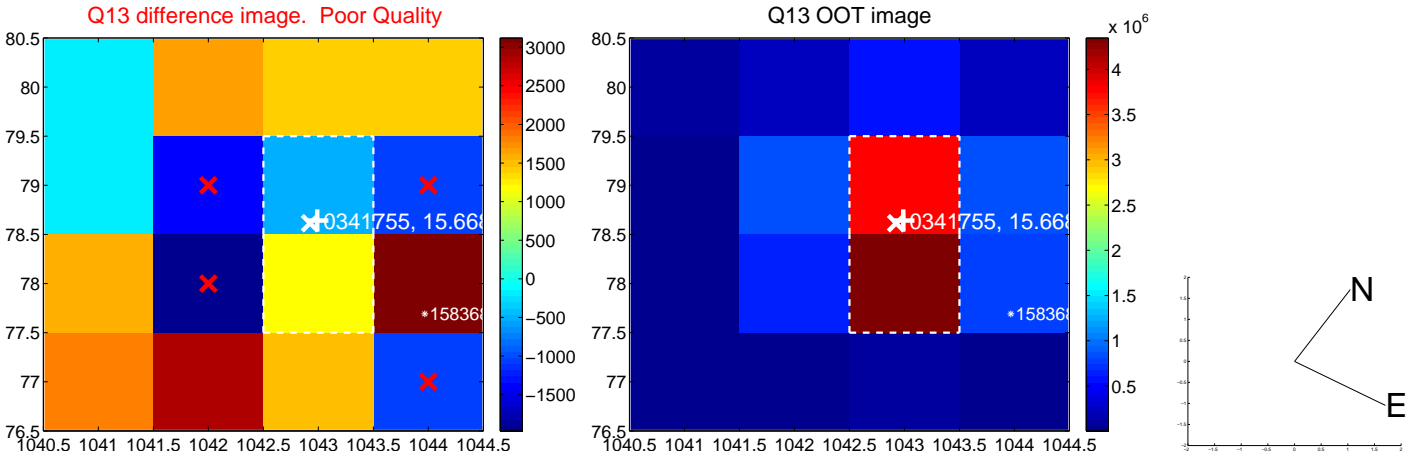
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



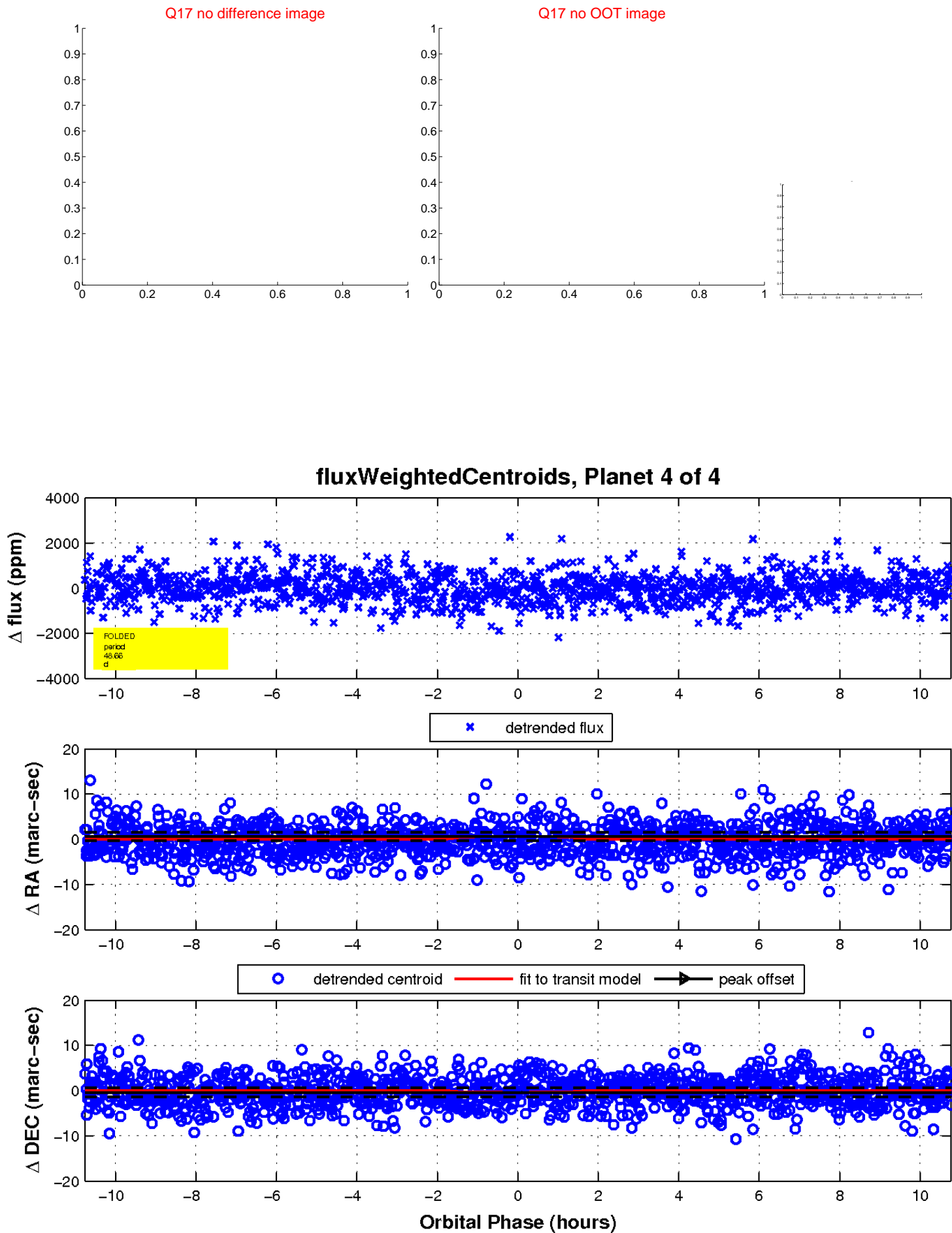
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

