

KIC 010621643

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})
010621643-01	OBS	No	1.480297	132.032461	7.2	9.802	9.6	2.6	1.25	6423	0.40	3295.78
010621643-03	OBS	No	64.299415	157.892604	395.4	2.197	9.6	10.8	1.25	6423	2.92	21.59
010621643-04	OBS	No	27.292892	143.557529	398.3	1.552	9.1	10.1	1.25	6423	2.89	67.66
010621643-05	OBS	No	247.228011	332.438755	251.2	7.684	8.1	8.6	1.25	6423	2.31	3.58
010621643-06	OBS	No	43.332094	135.930240	278.7	3.794	8.6	8.9	1.25	6423	2.35	36.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010621643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010621643-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—CENT_FEW_MEAS
010621643-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

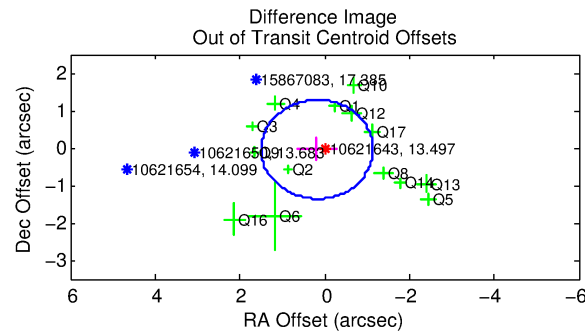
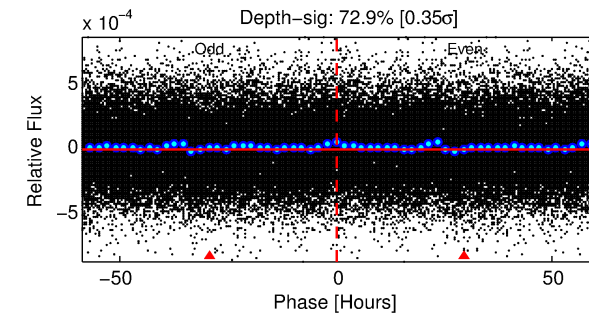
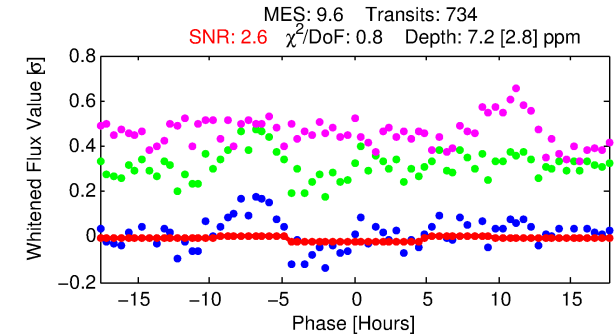
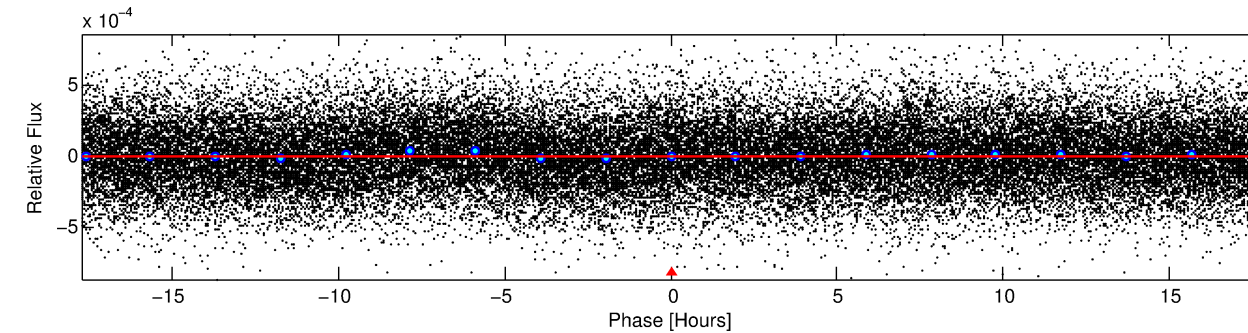
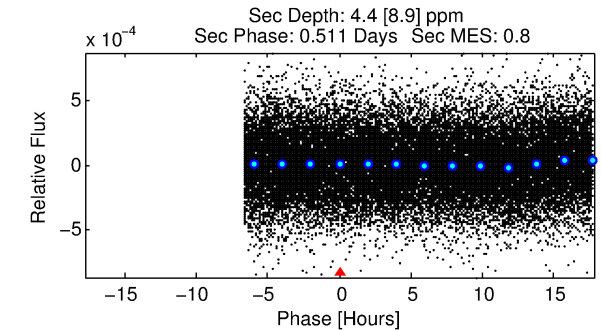
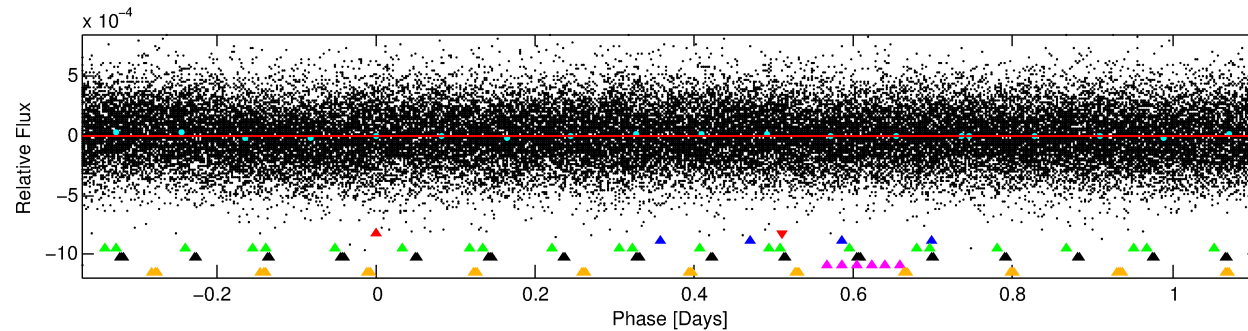
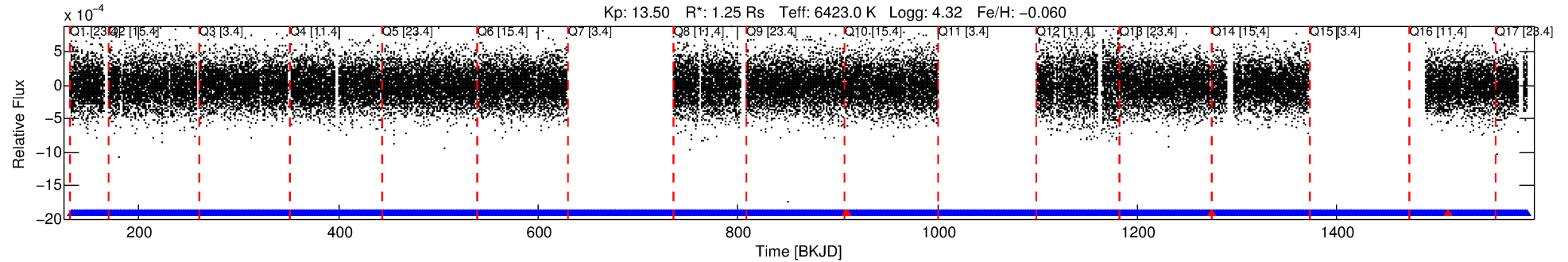
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010621643-01

No Significant Match Found

DV One-Page Summary

KIC: 10621643 Candidate: 1 of 6 Period: 1.480 d



DV Fit Results:

Period = 1.48030 [0.00010] d
Epoch = 132.0325 [0.0278] BKJD
Rp/R* = 0.0029 [0.0036]
a/R* = 1.06 [0.80]
b = 0.92 [1.17]
Seff = 3295.78 [1323.82]
Teq = 1932 [194] K
Rp = 0.40 [0.50] Re
a = 0.0268 [0.0073] AU
Ag = 10.91 [34.59] [0.29σ]
Teffp = 5429 [4273] K [0.82σ]

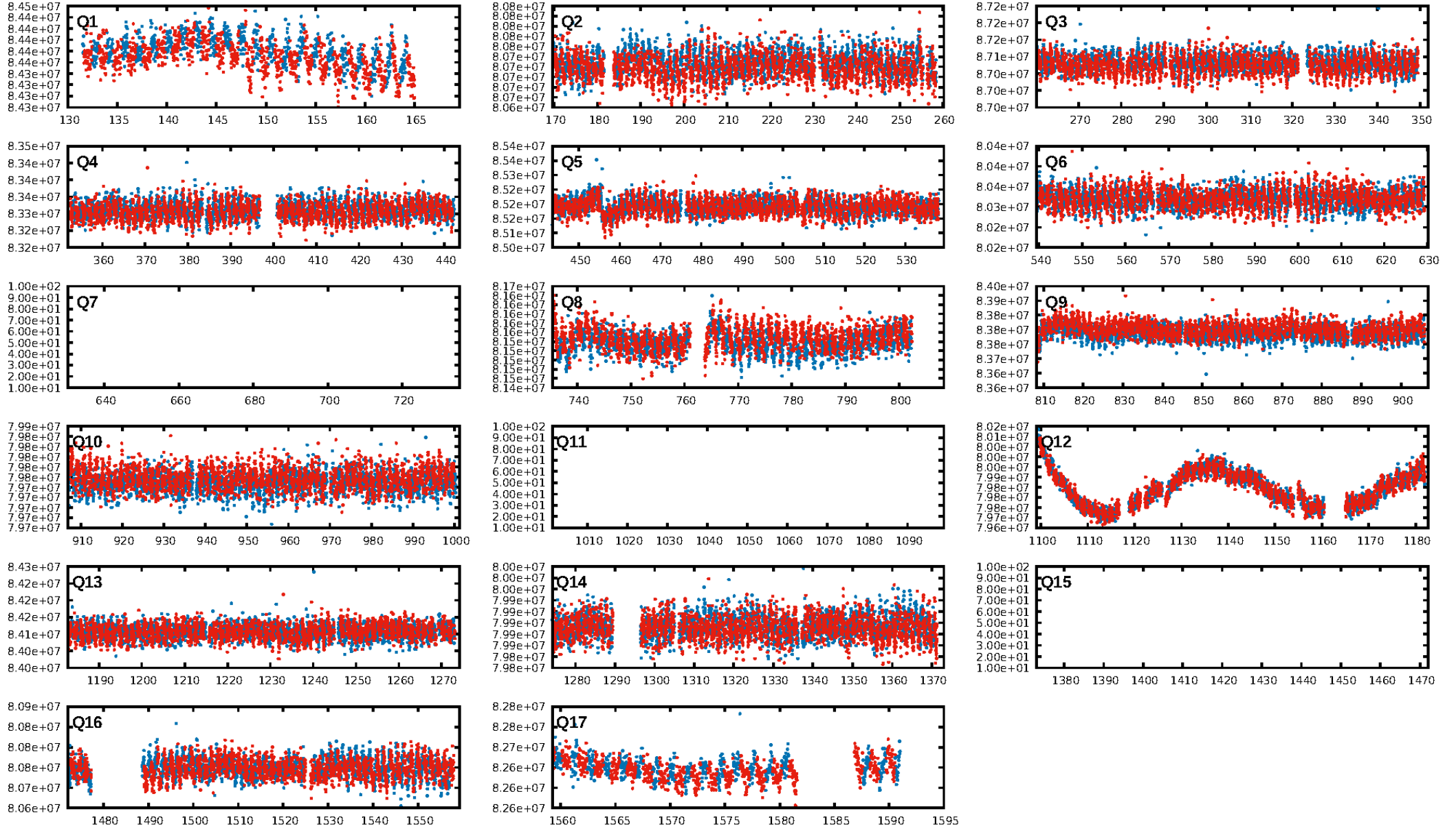
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [62.42σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.48e-13
RollingBand-fgt: 0.99 [688/692]
GhostDiagnostic-chr: 1.736
Centroid-sig: 2.1%
Centroid-so: 7.356 arcsec [2.12σ]
OotOffset-rm: 0.183 arcsec [0.41σ]
KicOffset-rm: 0.270 arcsec [0.63σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [14/14]

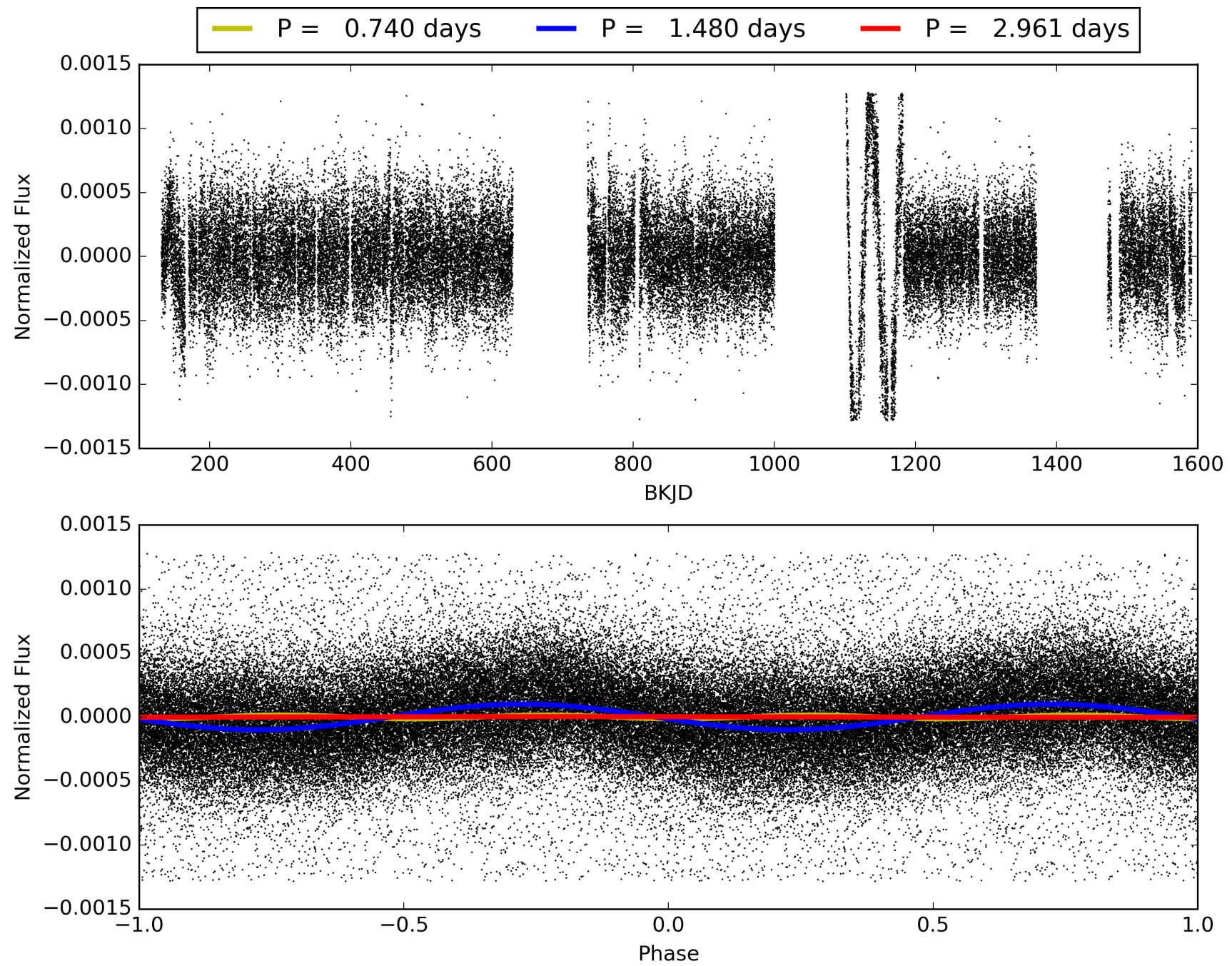
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:03:03 Z

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

TCE 010621643-01, PDC Light Curves

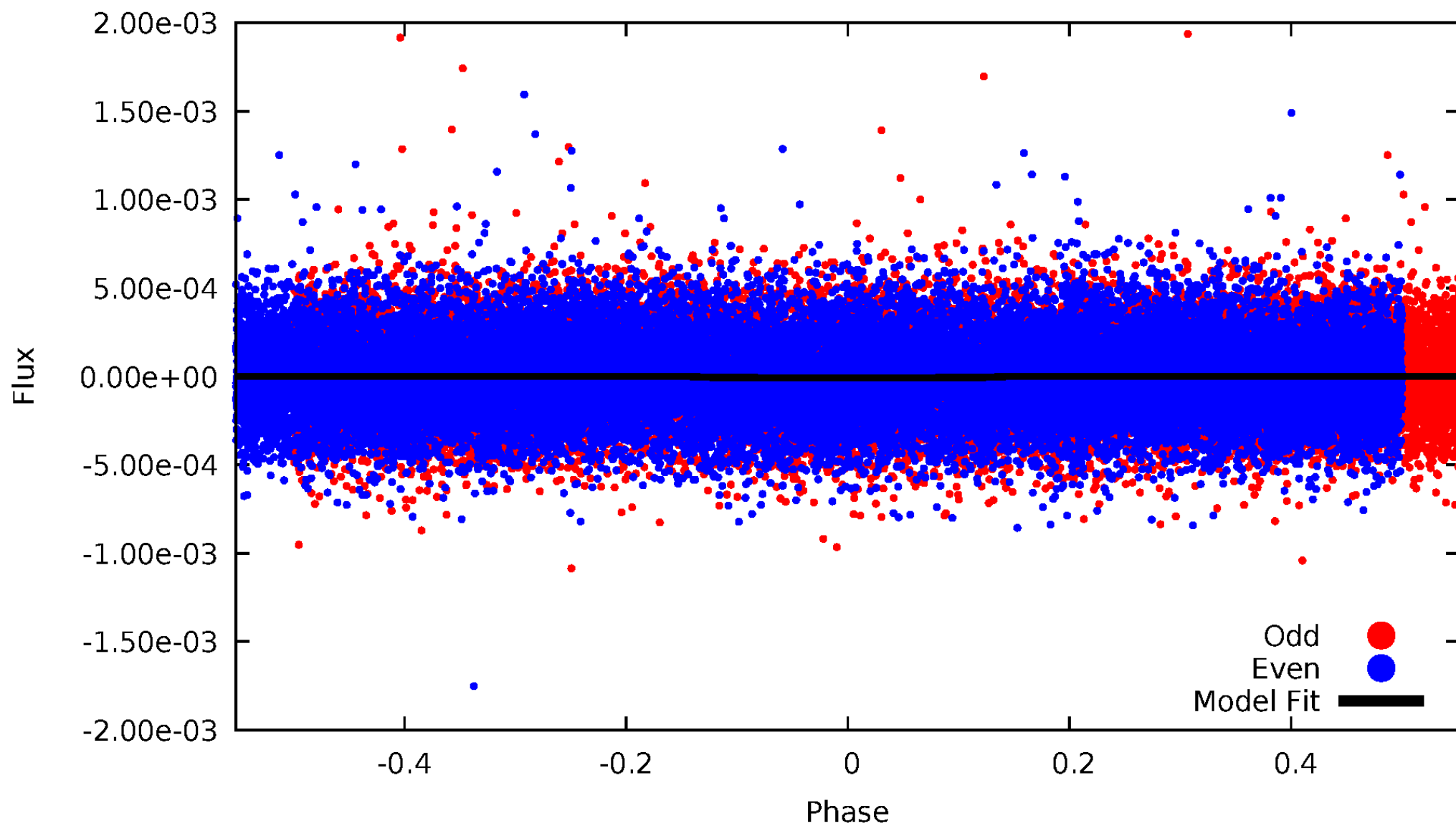


TCE 010621643-01



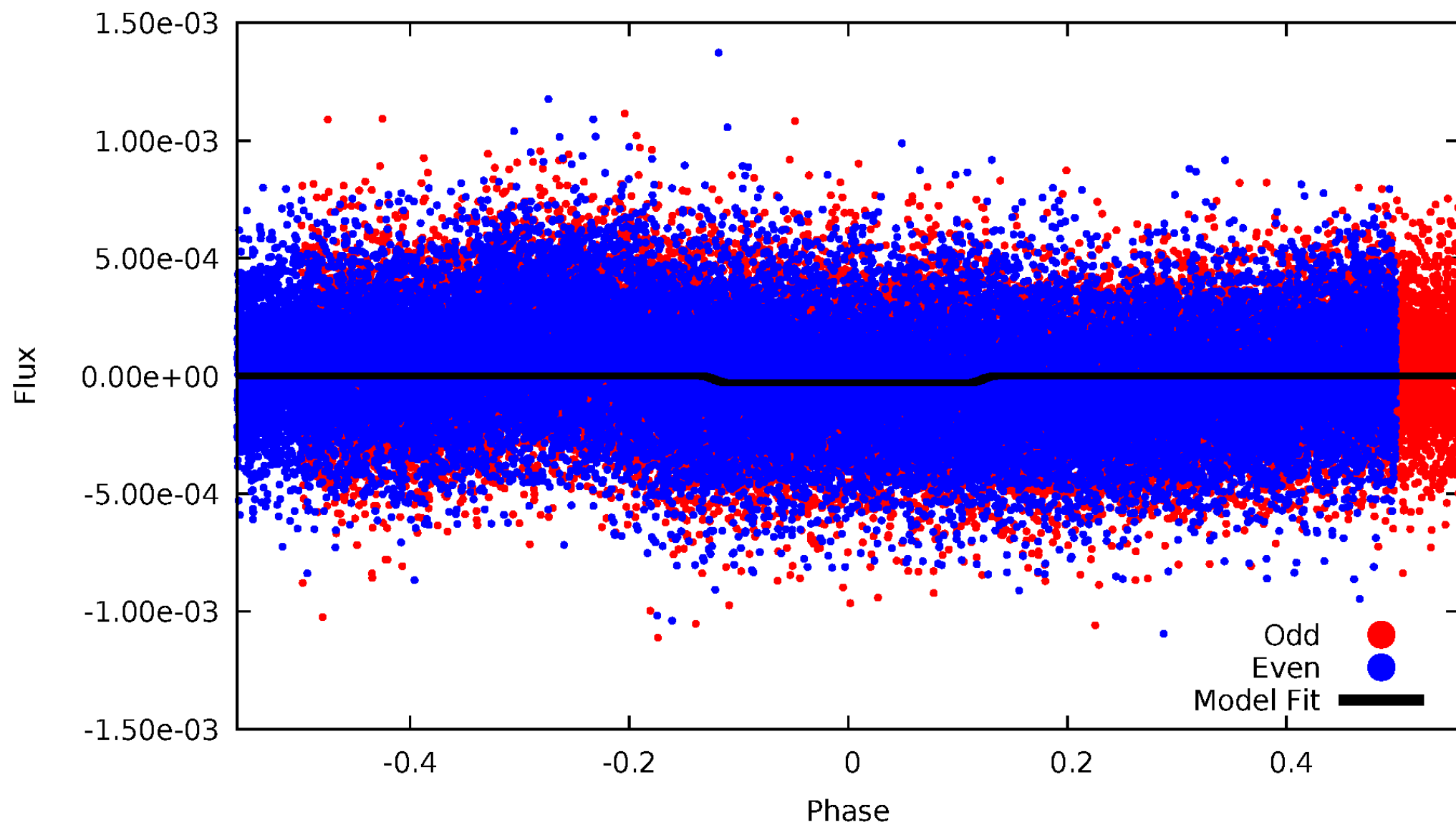
DV Odd/Even

TCE 010621643-01

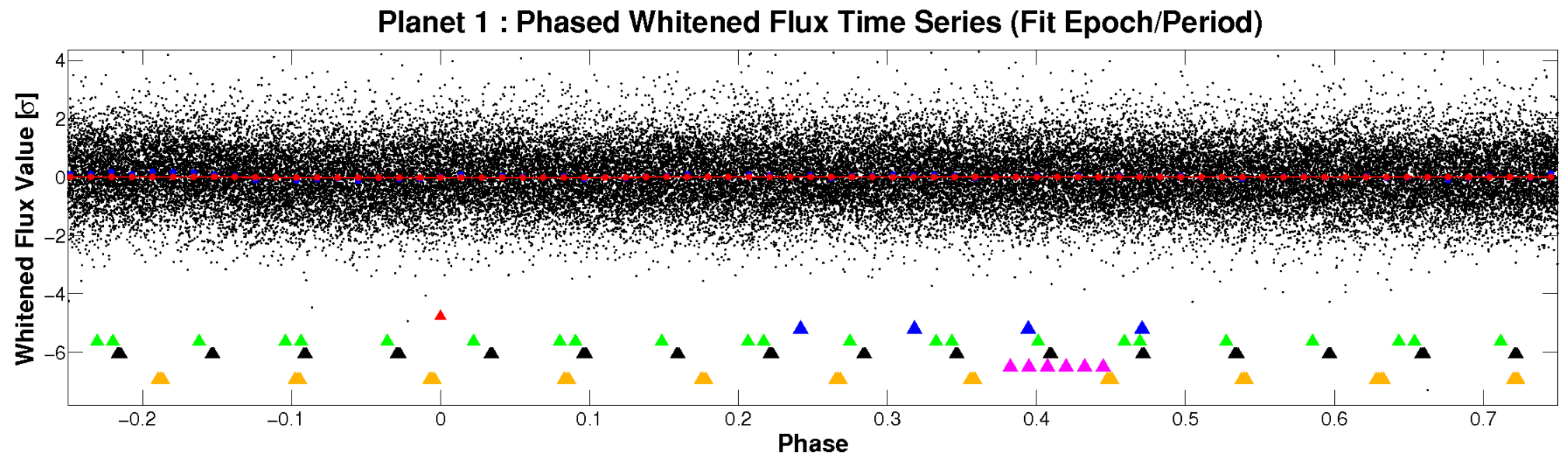
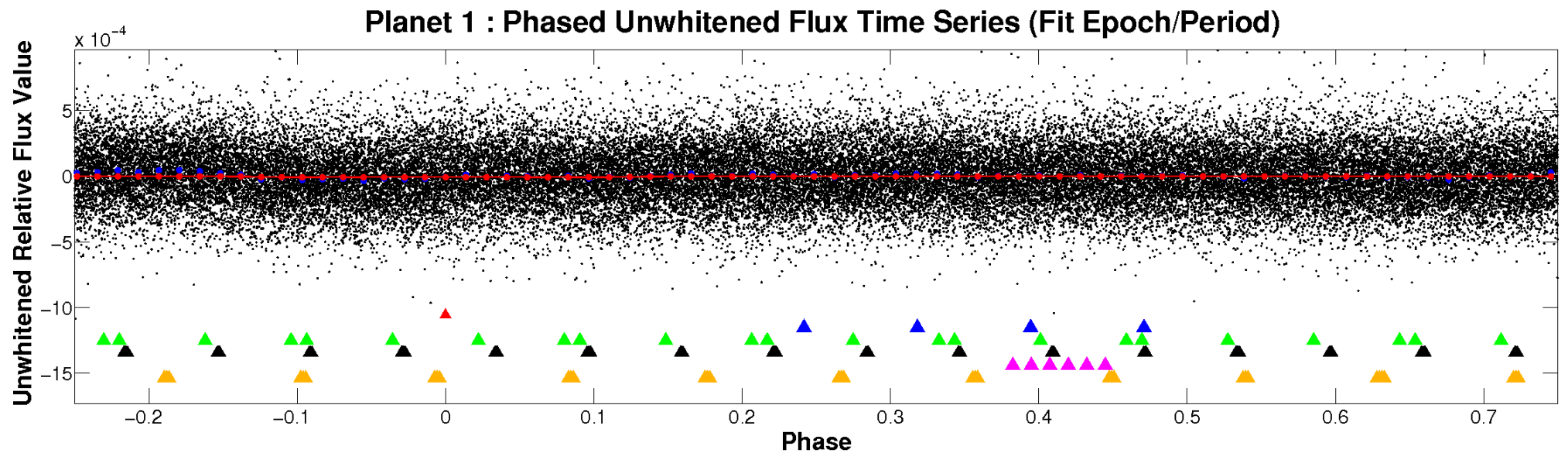


ALT Odd/Even

TCE 010621643-01

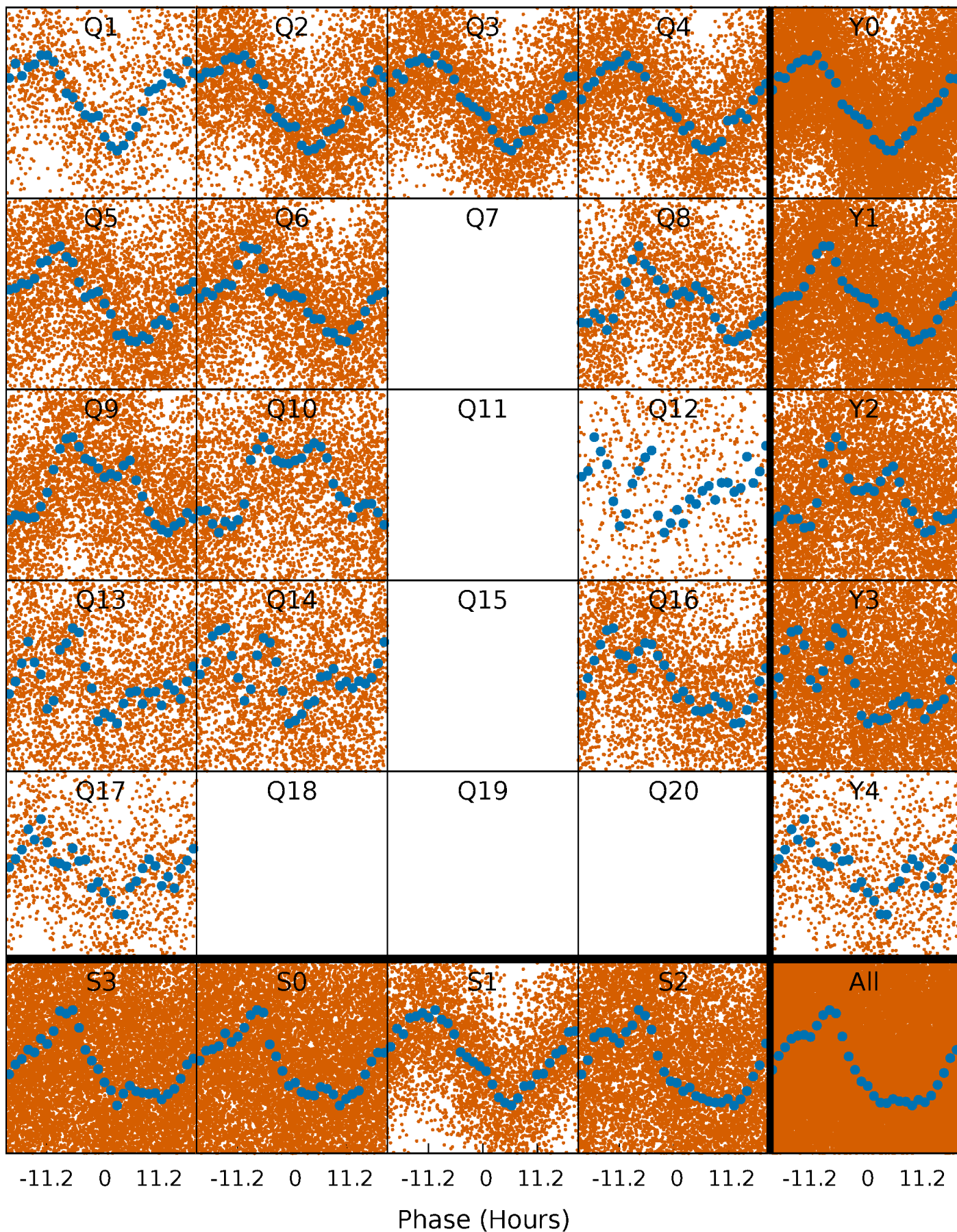


Non-Whitened Vs. Whitened Light Curve



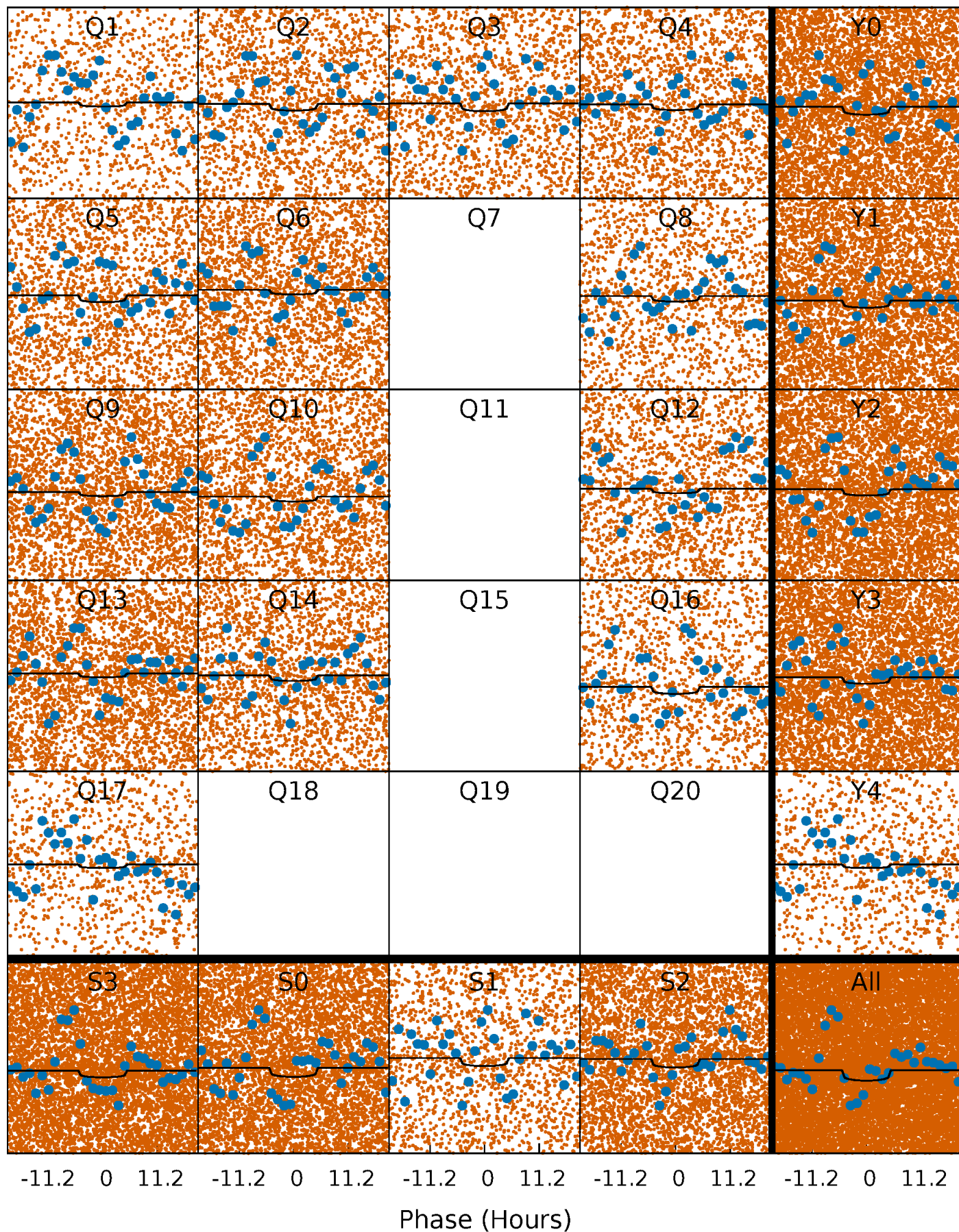
PDC Quarter-Phased Transit Curves

TCE 010621643-01 P= 1.480297 Days $T_0=132.032461$ (BKJD)



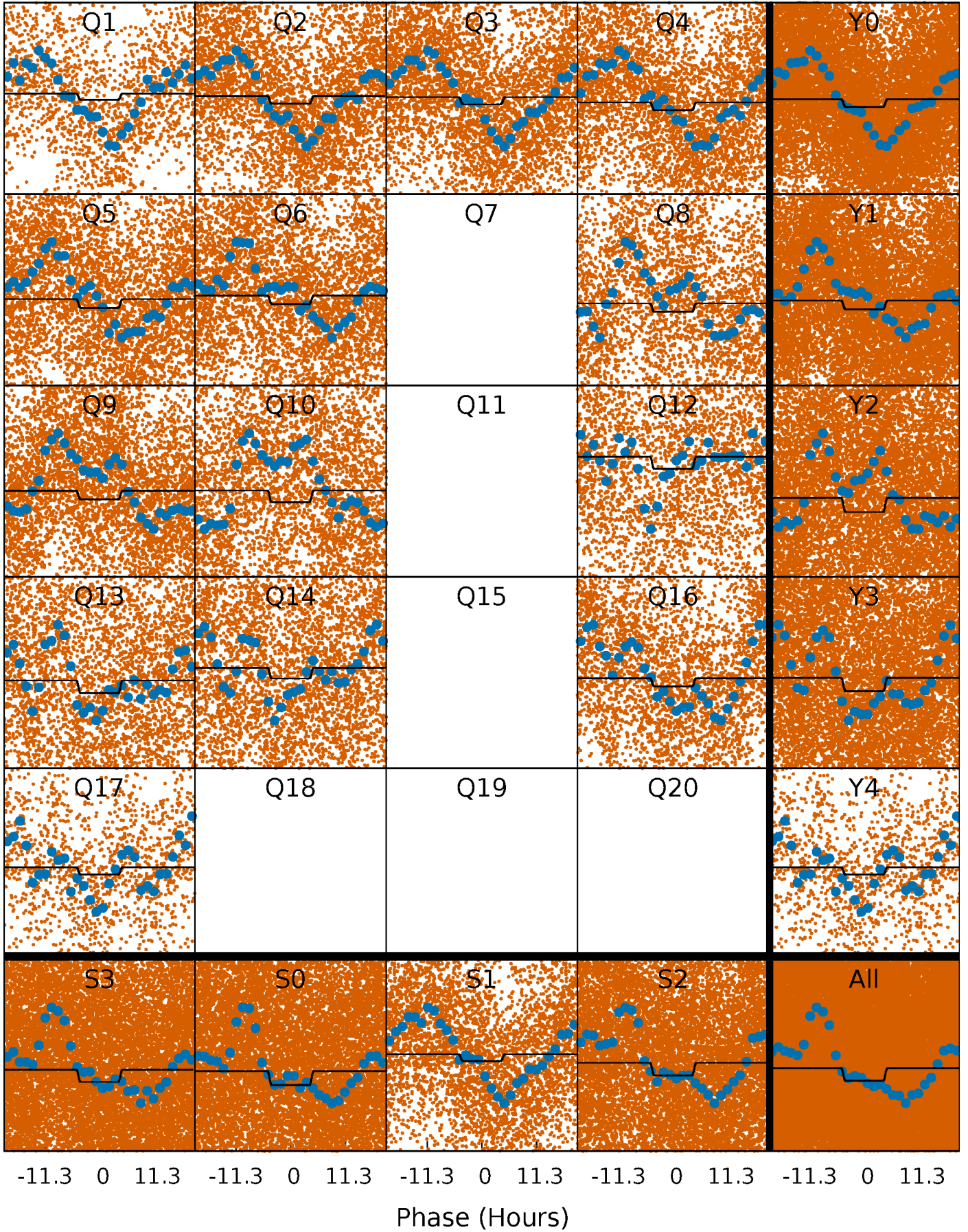
DV Quarter-Phased Transit Curves

TCE 010621643-01 P= 1.480297 Days $T_0=132.032461$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

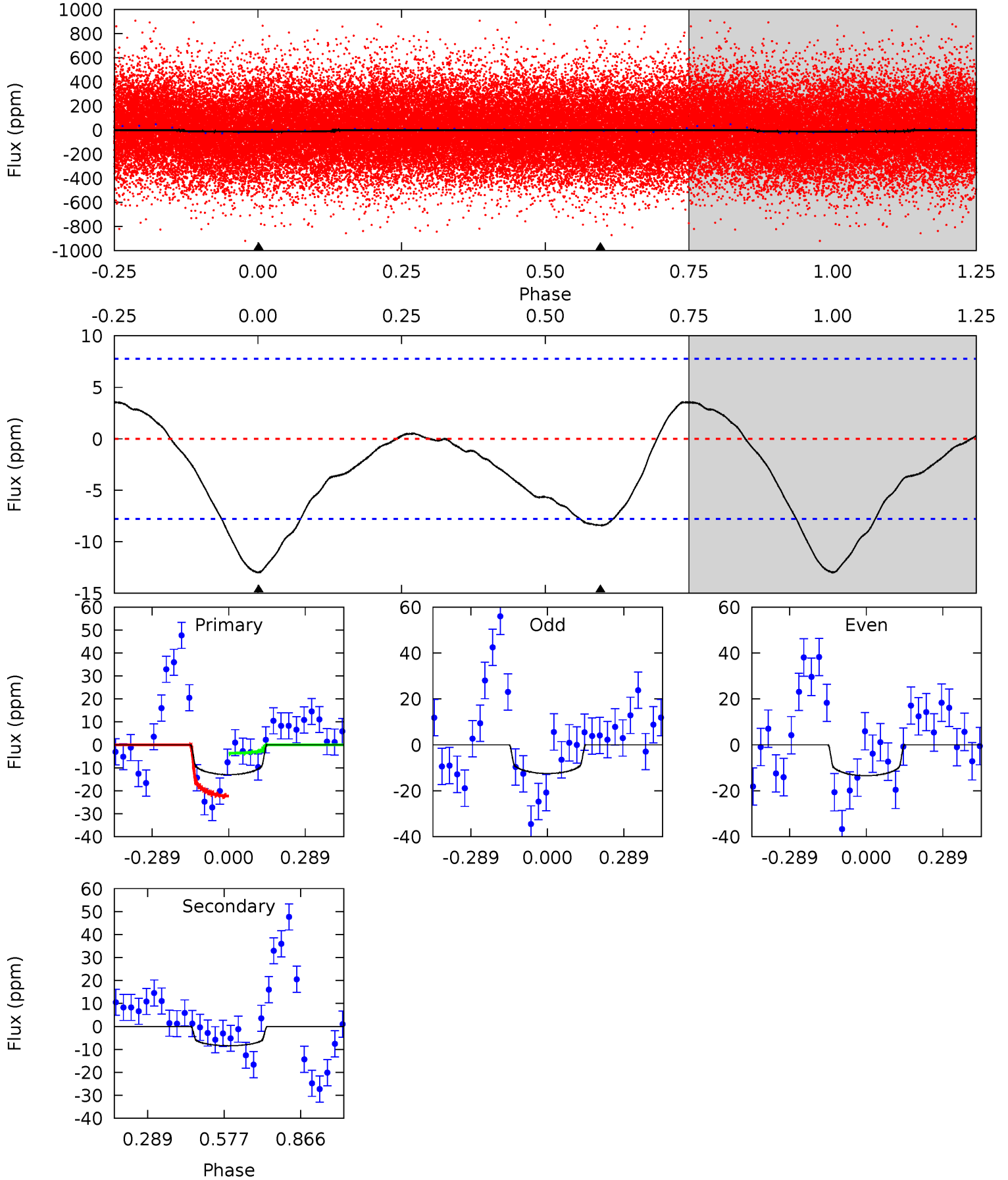
TCE 010621643-01 P= 1.480444 Days $T_0=132.051425$ (BKJD)



DV Model-Shift Uniqueness Test

010621643-01, P = 1.480297 Days, E = 130.552164 Days

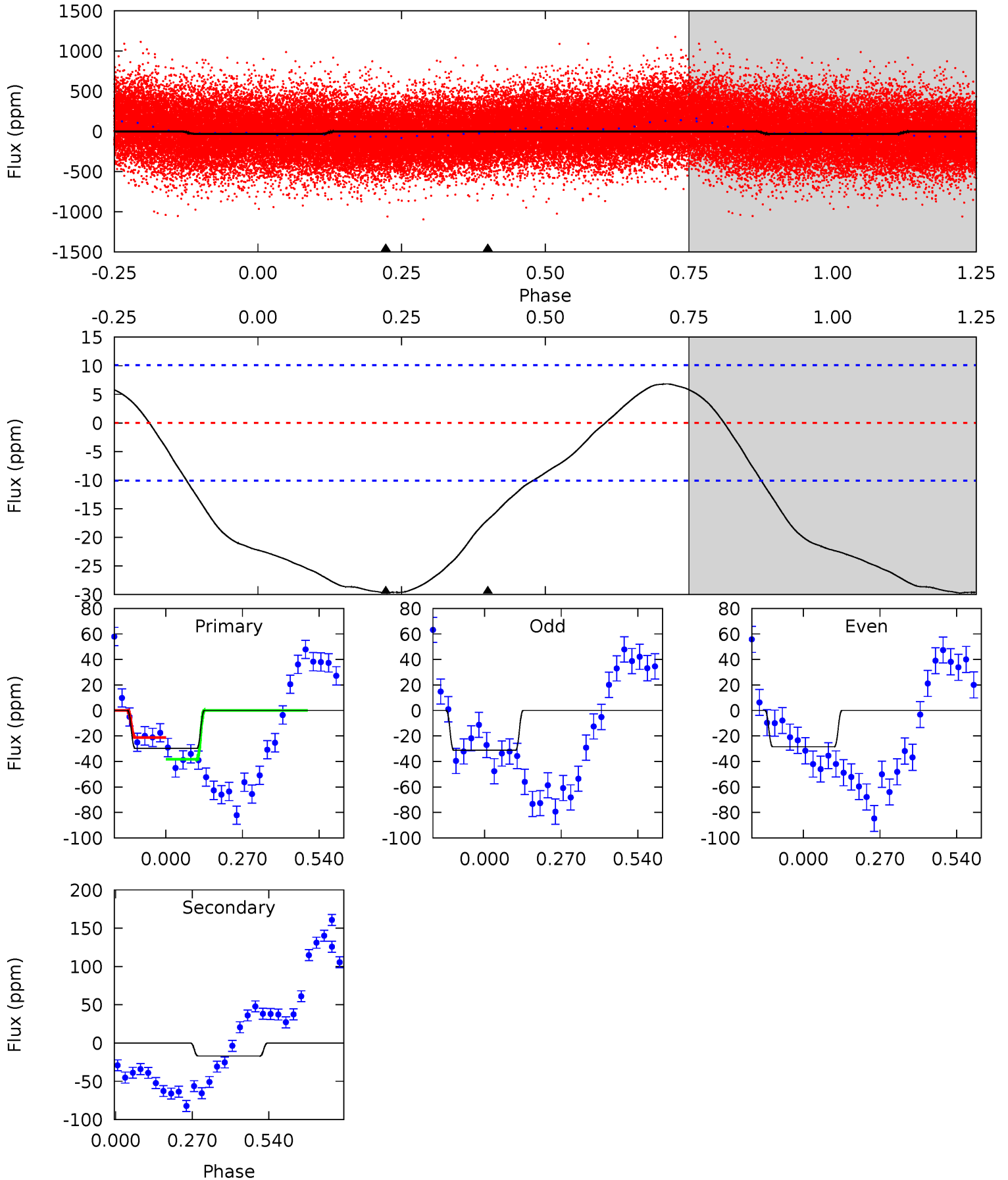
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.23	4.69	0	0	4.34	1.06	0.19	7.23	7.23	4.69	4.69	0.27	0.98	0.21	5.15



Alt Model-Shift Uniqueness Test

010621643-01, P = 1.480444 Days, E = 130.570981 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	7.30	0	0	4.35	1.10	3.96	12.8	12.8	7.30	7.30	0.59	1.02	0.19	3.95



Stellar Parameters For KIC 010621643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6423^{+160}_{-192}	$4.316^{+0.101}_{-0.203}$	$-0.060^{+0.250}_{-0.300}$	$1.247^{+0.418}_{-0.179}$	$1.172^{+0.185}_{-0.152}$	$0.851^{+0.351}_{-0.453}$
	+2%/-3%	+2%/-5%	+417%/-500%	+34%/-14%	+16%/-13%	+41%/-53%
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 010621643-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 2	$0.54^{+0.45}_{-0.36}$	2723^{+208}_{-142}	5515^{+5003}_{-1267}	12^{+79}_{-8}
Alt.	-17 ± 2	$0.76^{+0.54}_{-0.45}$	2732^{+188}_{-146}	5515^{+3501}_{-1087}	11^{+54}_{-7}

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 $A_{obs} \gg 1.0$

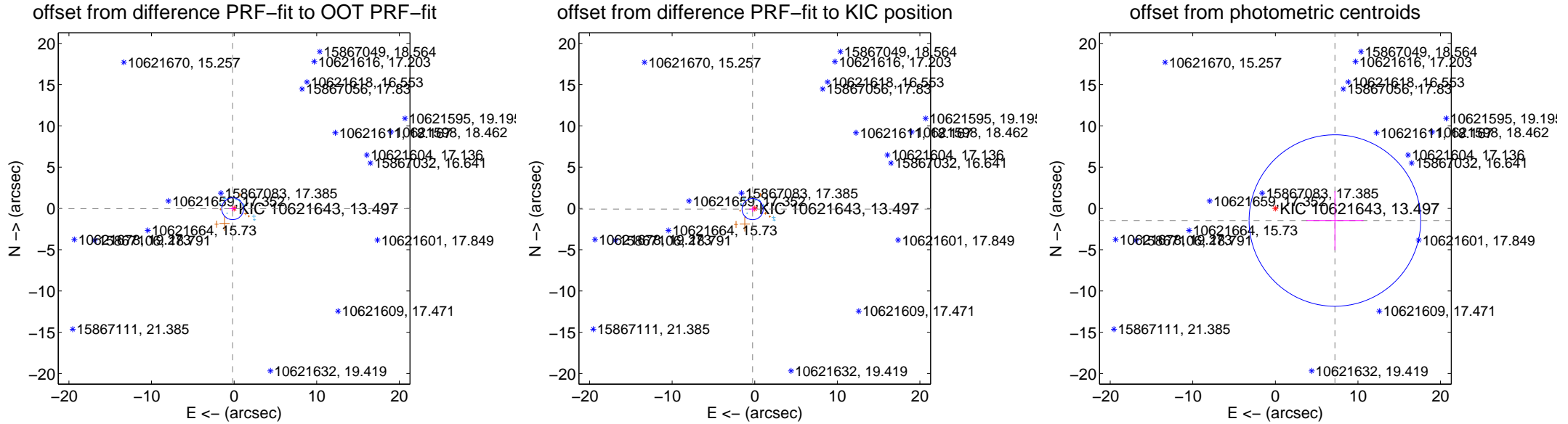
DV Centroid Data

Supplemental centroid analysis for 010621643-01. Kepler magnitude: 13.50. Transit SNR 2.56

There are 8 quarters with good PRF difference image offsets

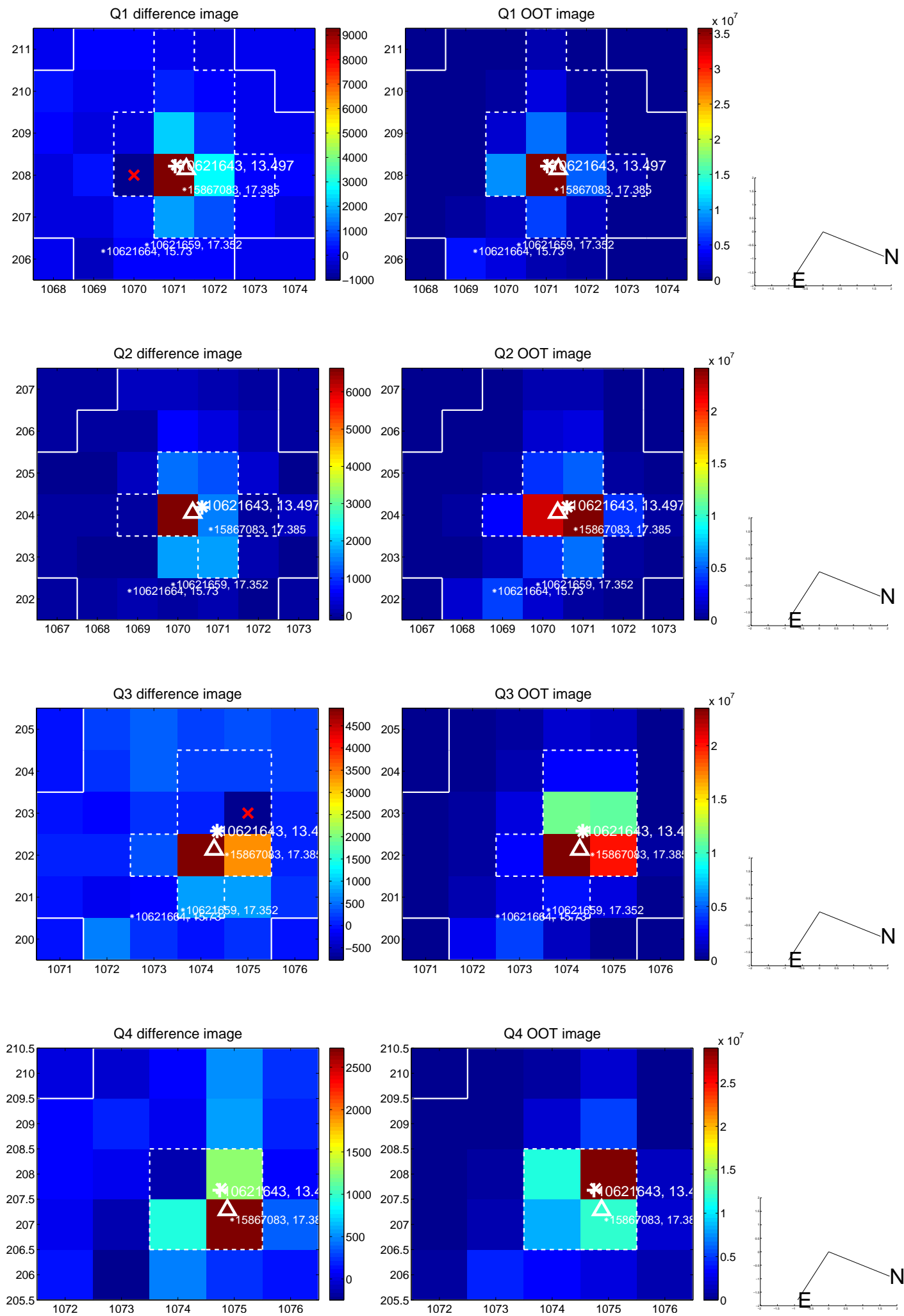
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.183 ± 0.440	0.41	0.179 ± 0.447	-0.039 ± 0.298
PRF-fit source offset from KIC position	0.270 ± 0.427	0.63	0.256 ± 0.431	-0.085 ± 0.333
photometric centroid source offset	7.36 ± 3.46	2.12	-7.21 ± 3.46	-1.46 ± 3.58

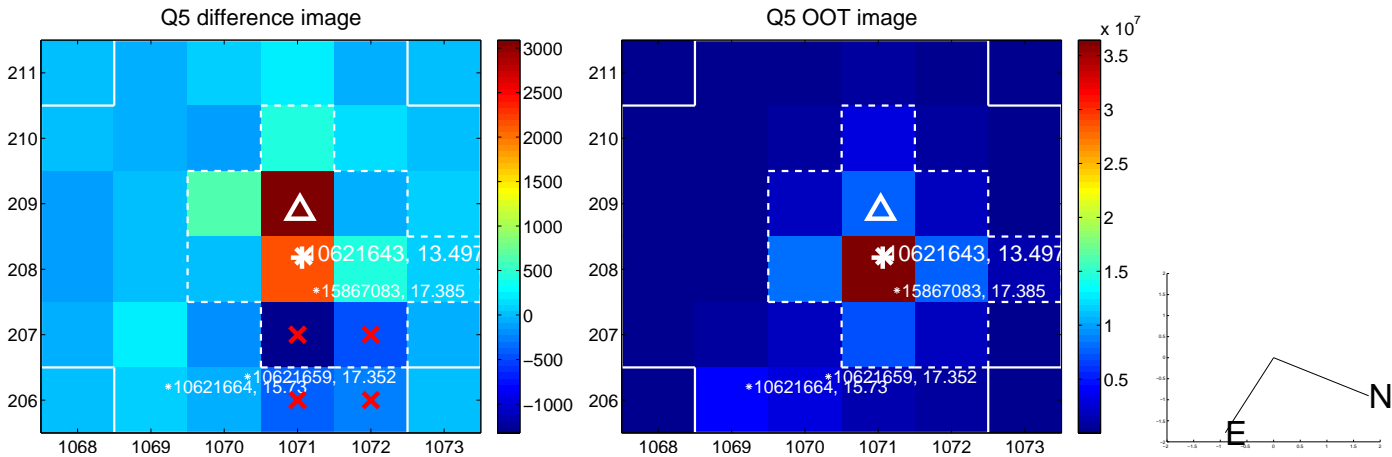


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

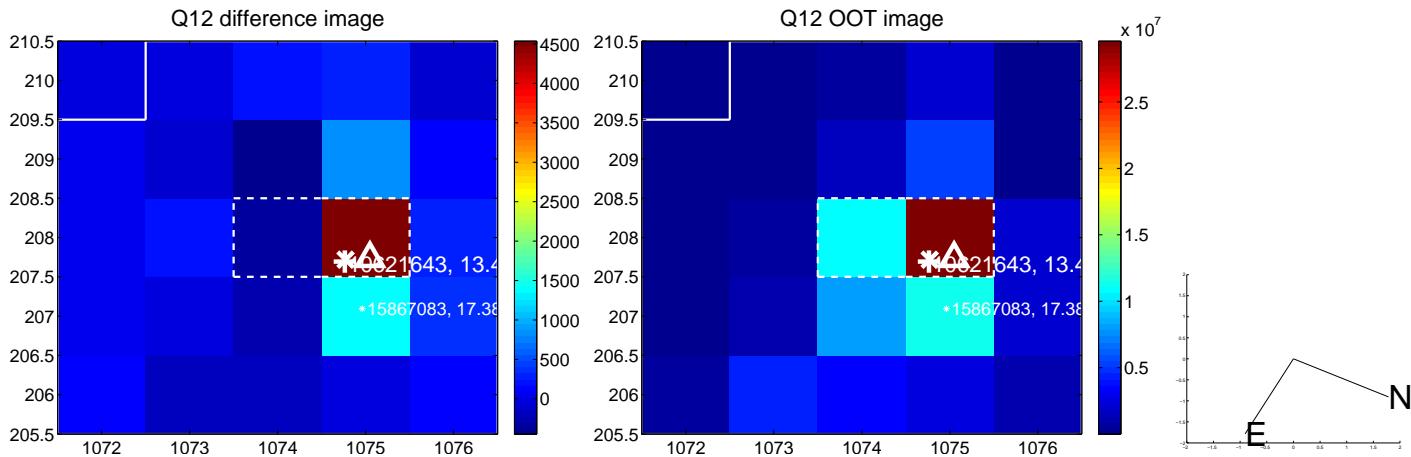
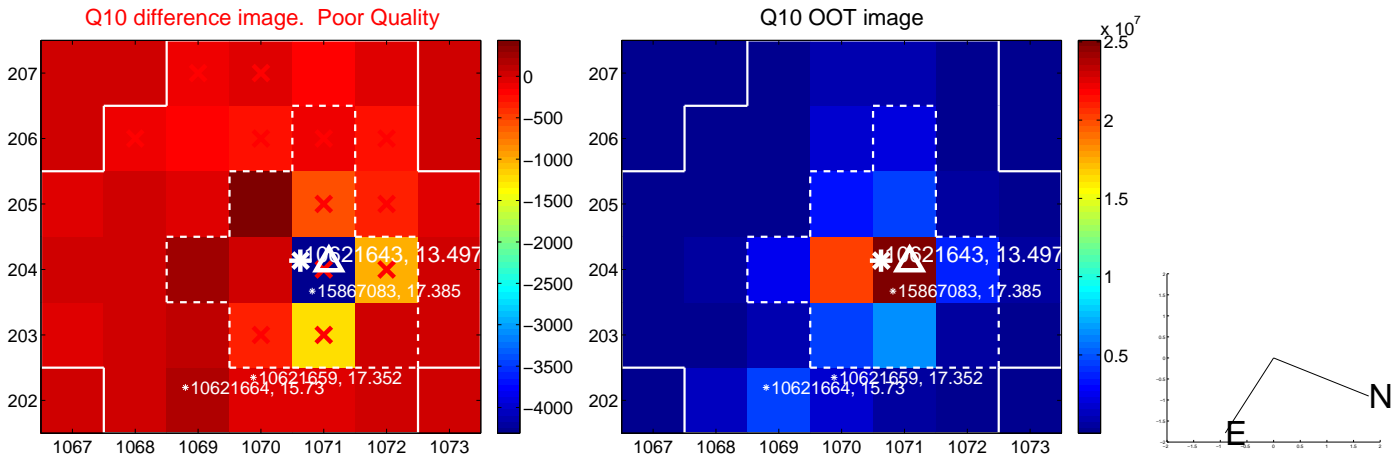
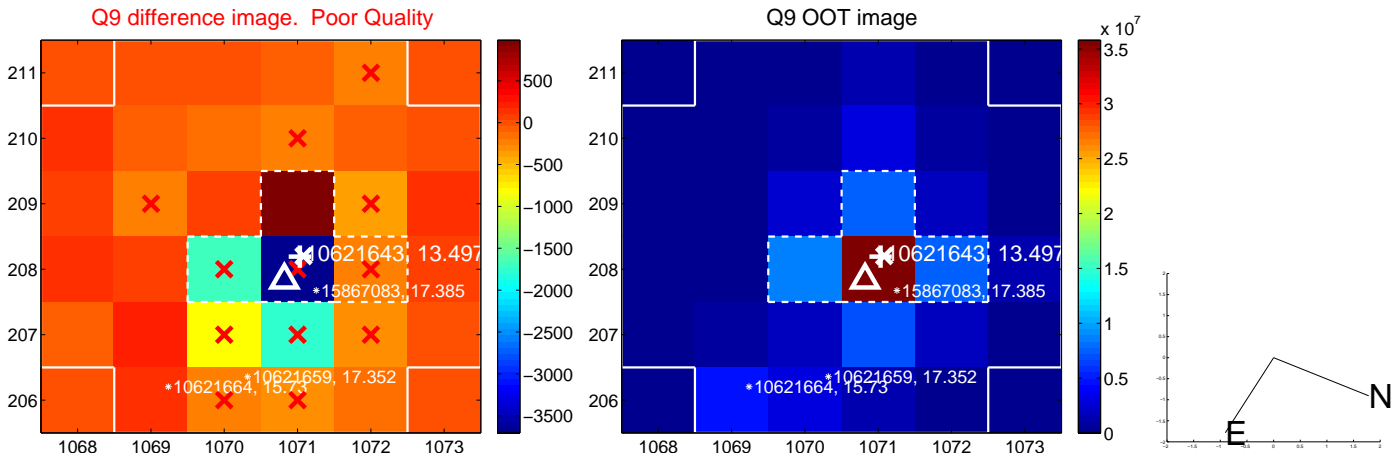
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



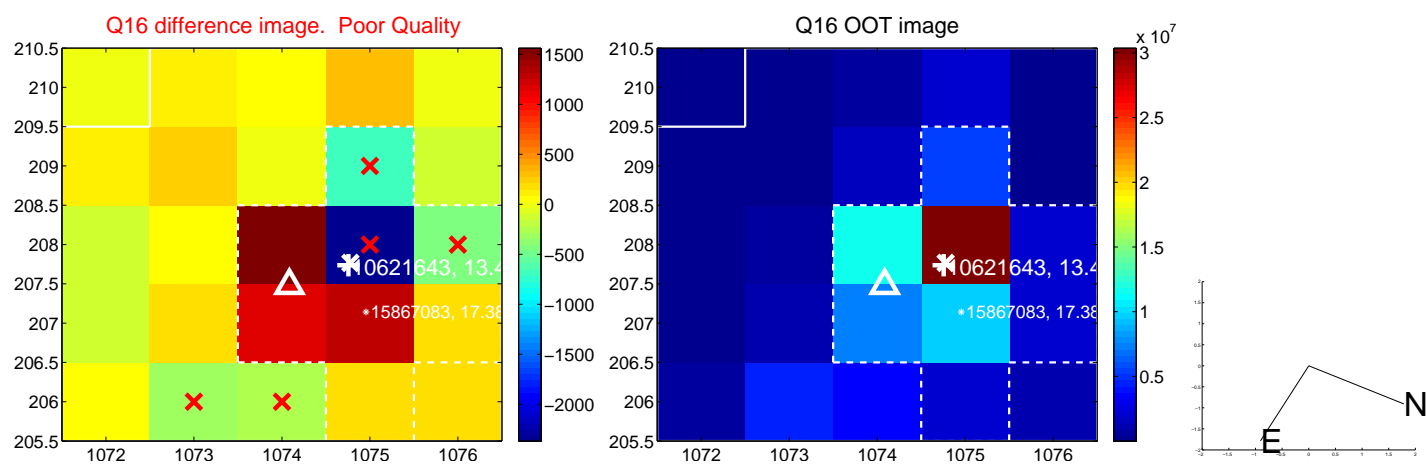
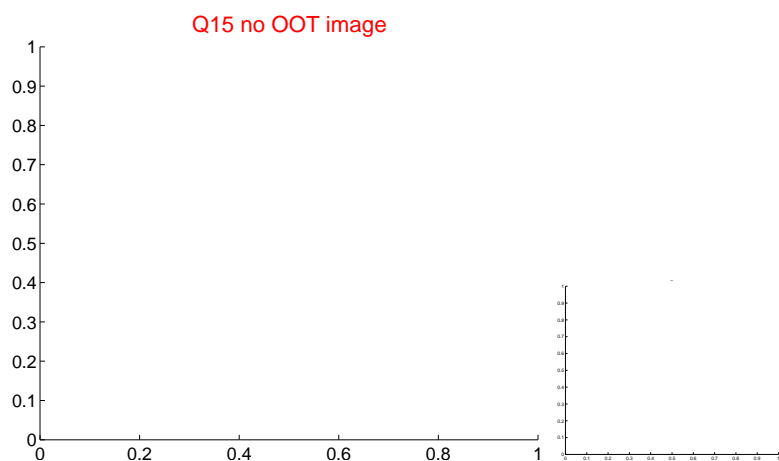
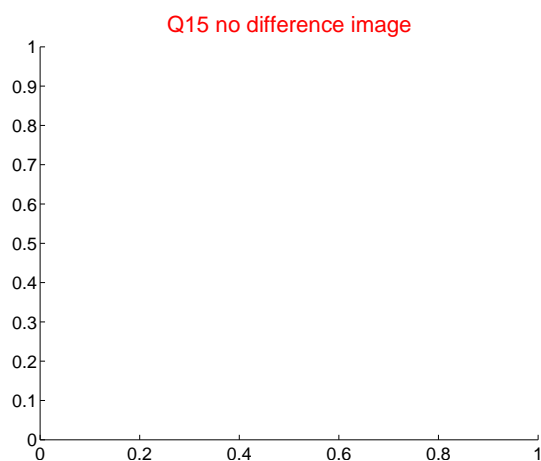
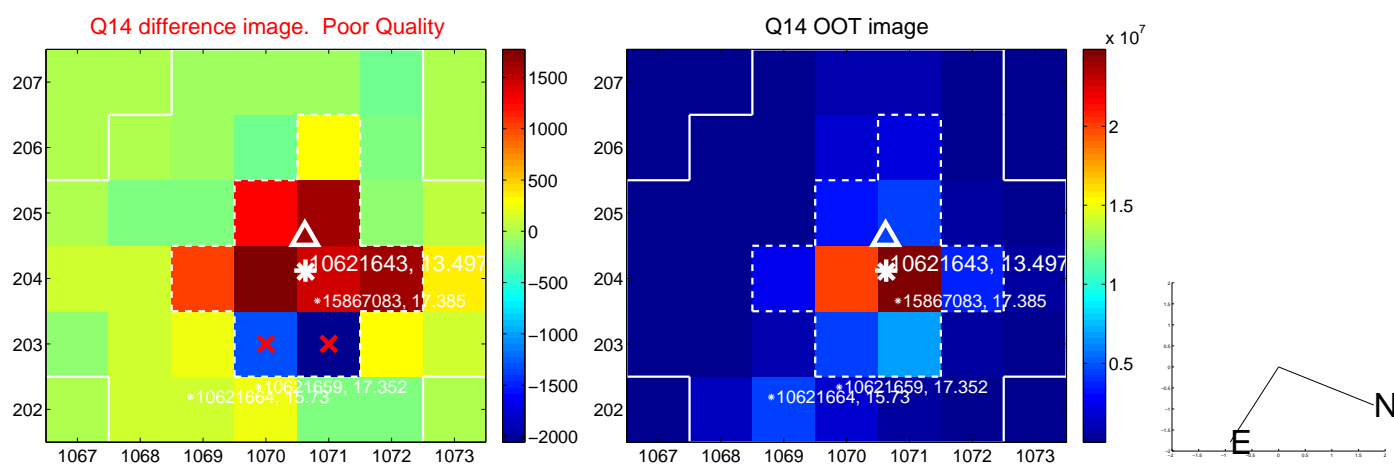
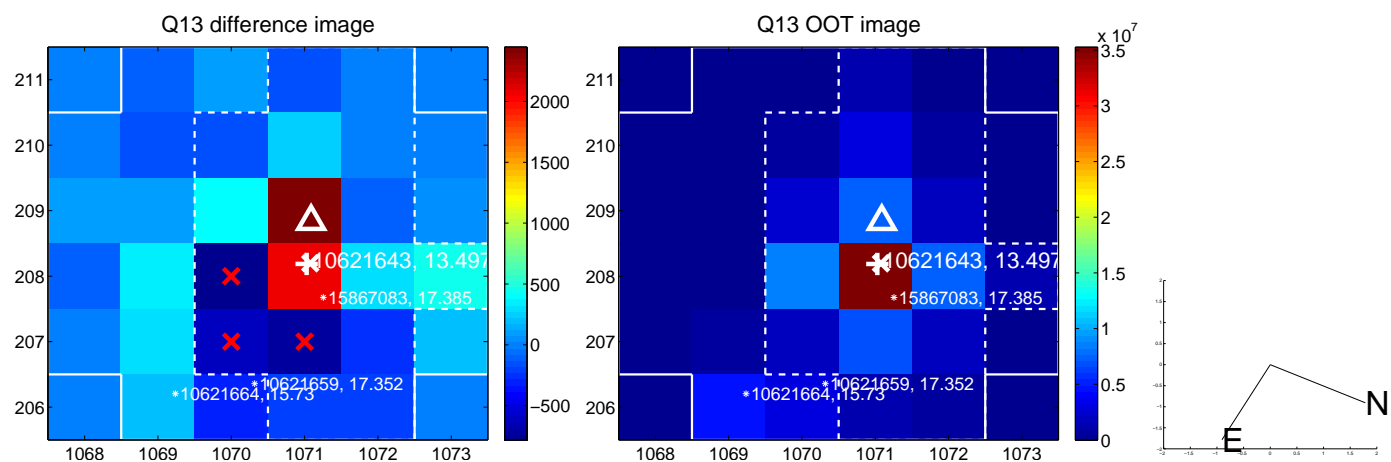
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



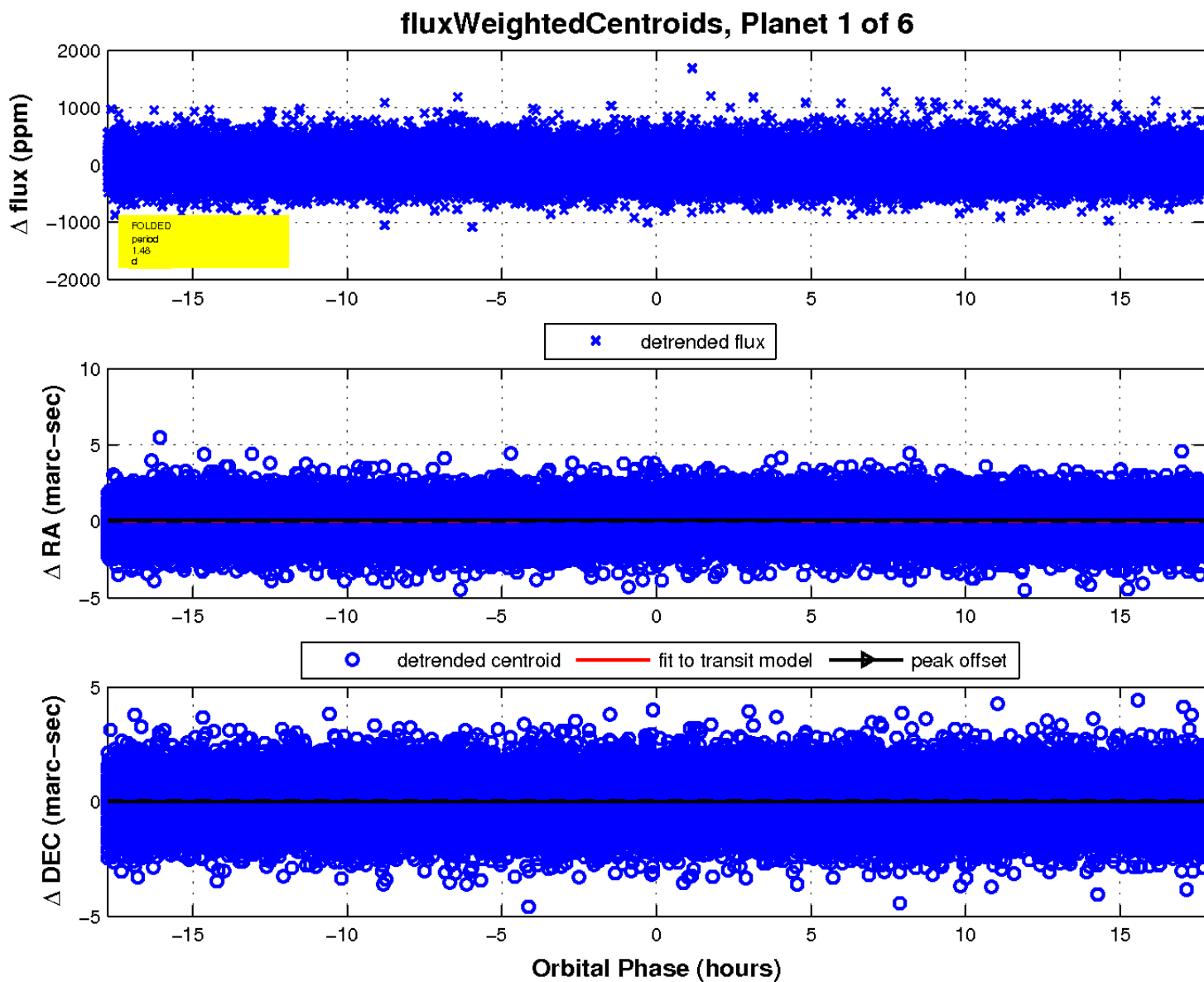
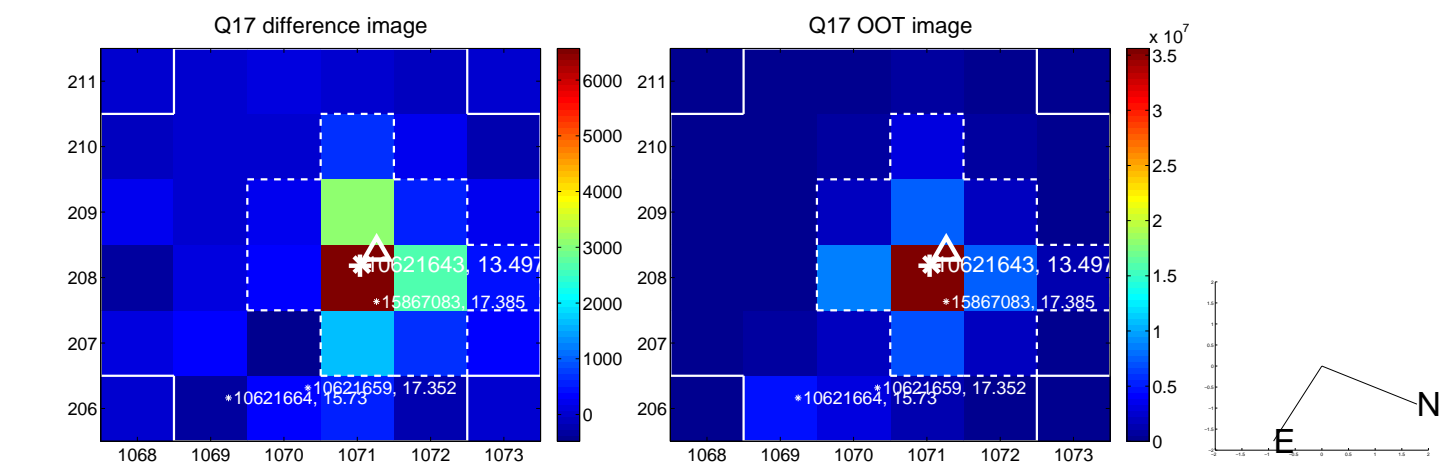
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

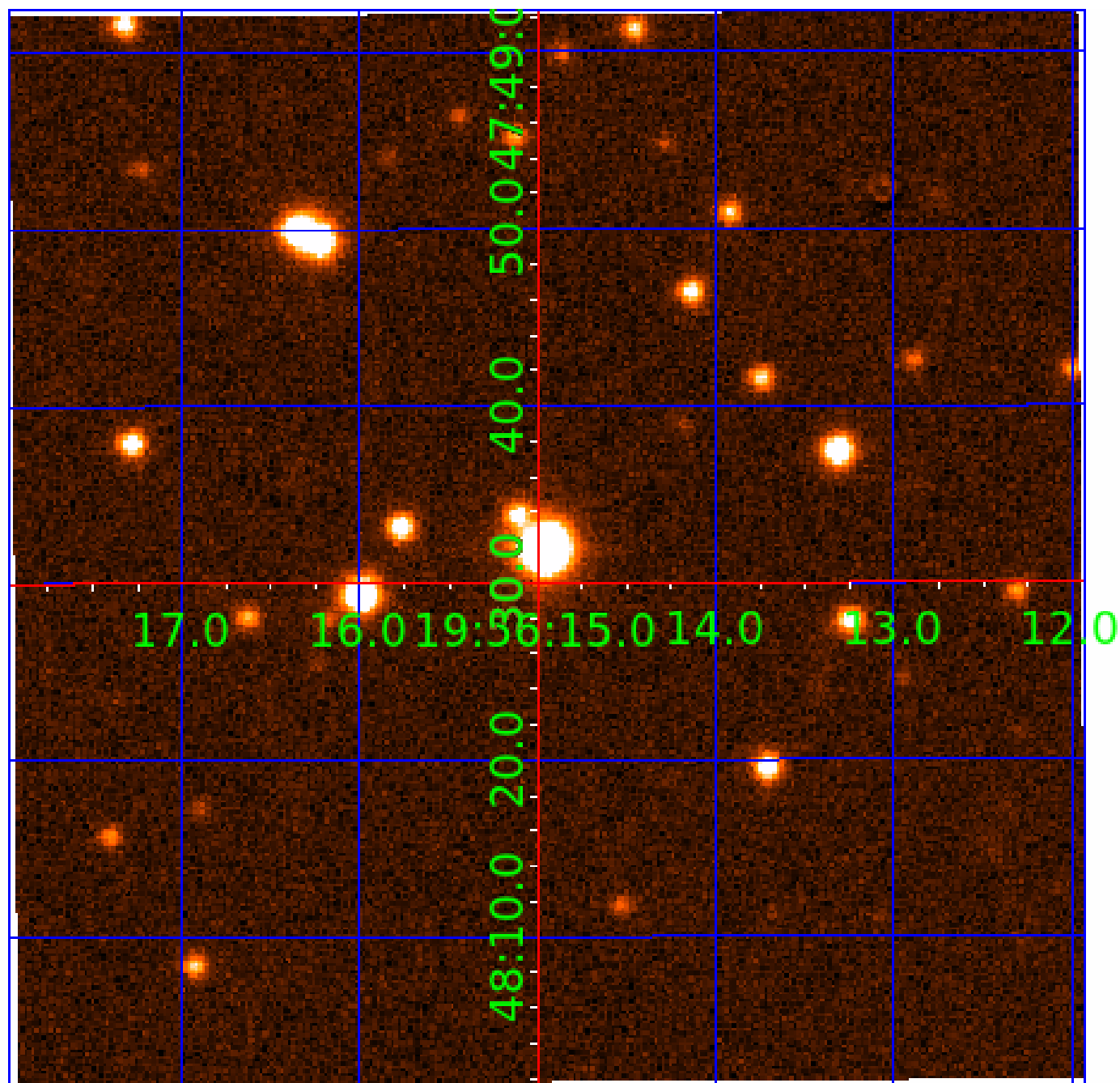


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010621643

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})
010621643-01	OBS	No	1.480297	132.032461	7.2	9.802	9.6	2.6	1.25	6423	0.40	3295.78
010621643-03	OBS	No	64.299415	157.892604	395.4	2.197	9.6	10.8	1.25	6423	2.92	21.59
010621643-04	OBS	No	27.292892	143.557529	398.3	1.552	9.1	10.1	1.25	6423	2.89	67.66
010621643-05	OBS	No	247.228011	332.438755	251.2	7.684	8.1	8.6	1.25	6423	2.31	3.58
010621643-06	OBS	No	43.332094	135.930240	278.7	3.794	8.6	8.9	1.25	6423	2.35	36.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010621643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010621643-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—CENT_FEW_MEAS
010621643-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

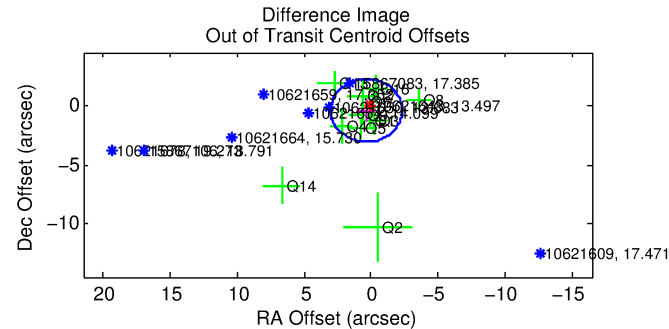
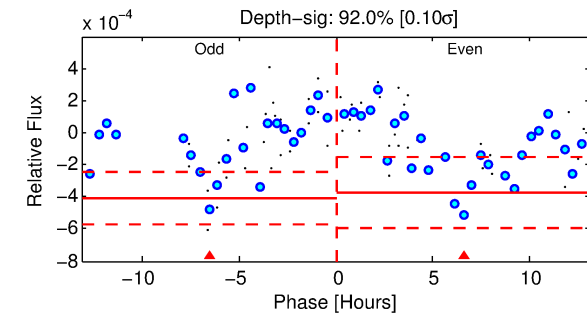
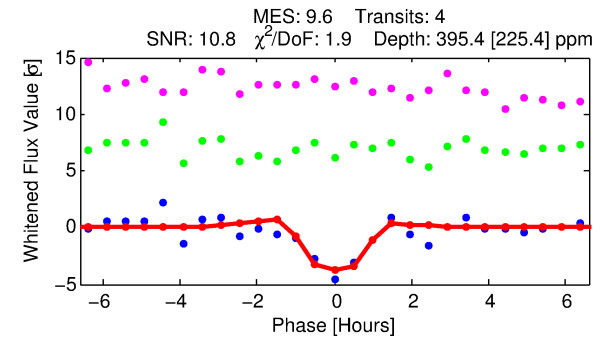
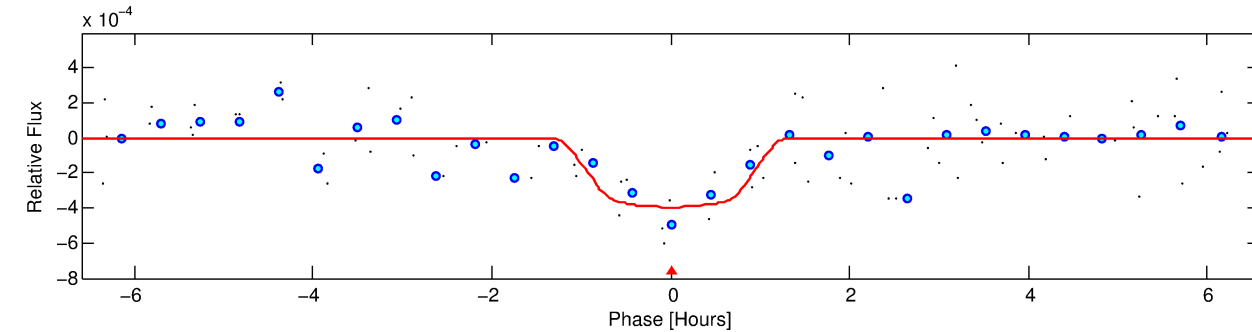
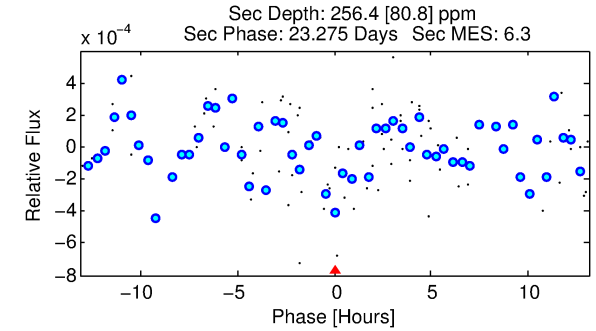
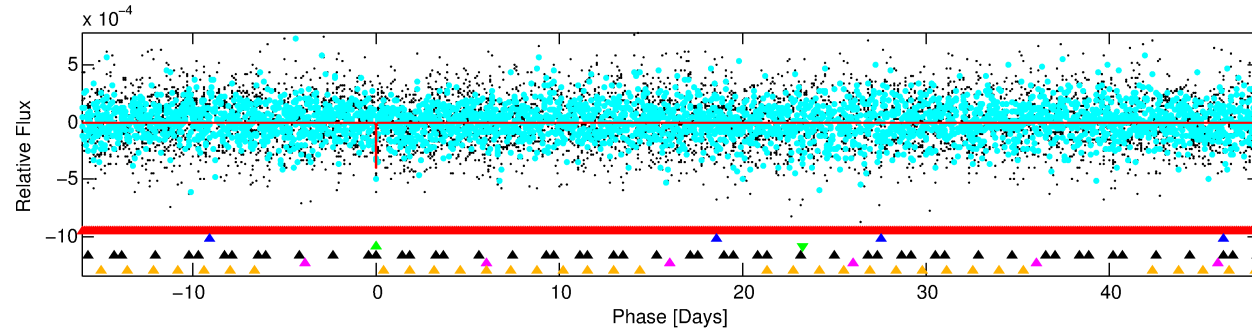
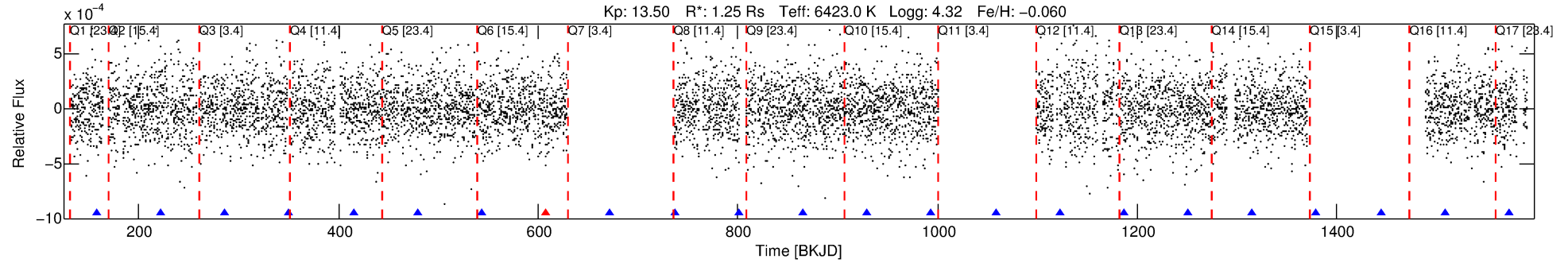
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010621643-03

No Significant Match Found

DV One-Page Summary

KIC: 10621643 Candidate: 3 of 6 Period: 64.299 d



DV Fit Results:

Period = 64.29942 [0.00061] d
Epoch = 157.8926 [0.0081] BKJD
Rp/R* = 0.0215 [0.2074]
a/R* = 105.64 [5759.74]
b = 0.91 [11.01]
Seff = 21.58 [8.67]
Teq = 550 [55] K
Rp = 2.92 [28.24] Re
a = 0.3314 [0.0903] AU
Ag = 1816.08 [35107.07] [0.05σ]
Teffp = 5547 [26805] K [0.19σ]

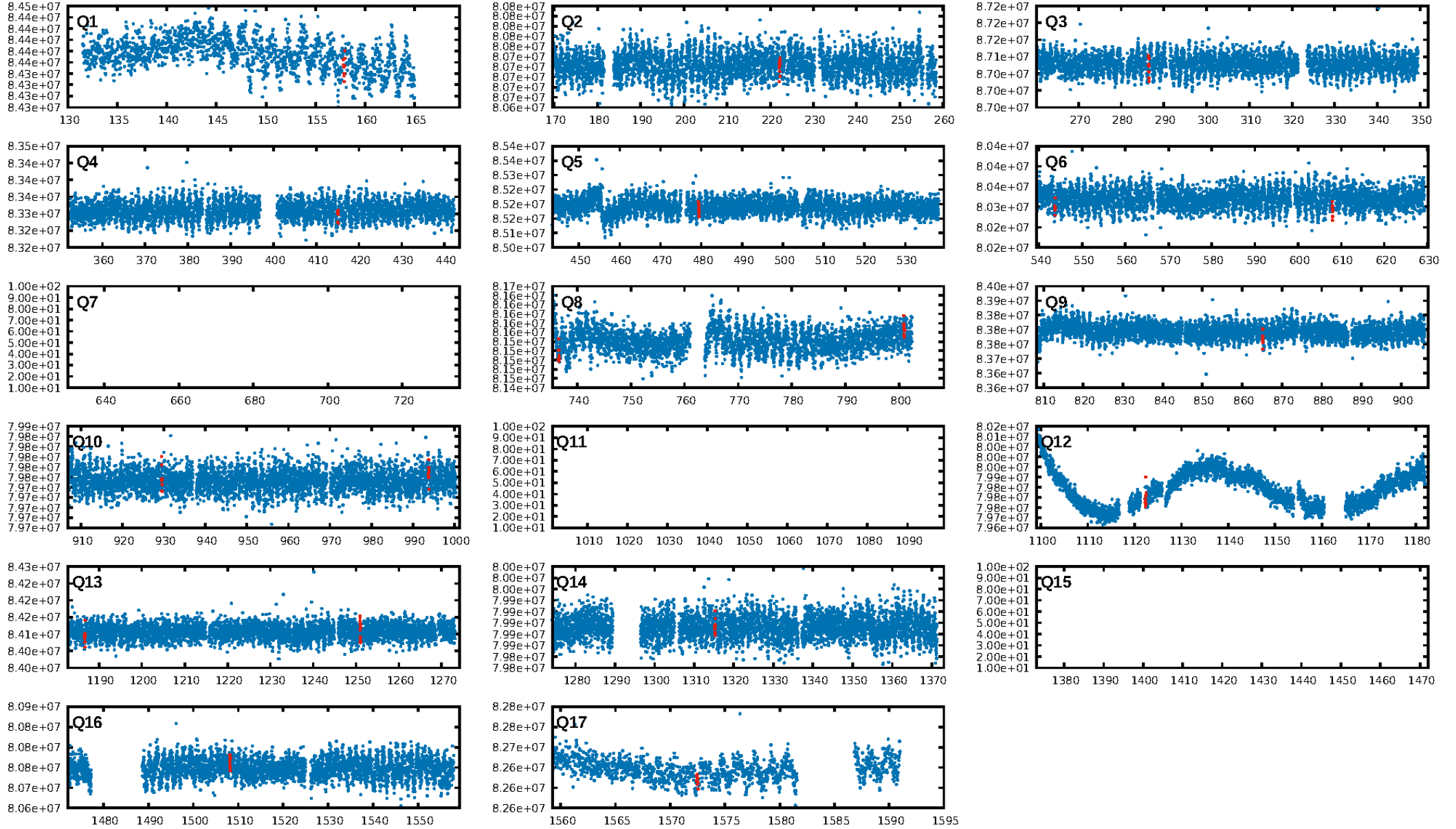
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [114.78σ]
LongPeriod-sig: 100.0% [549.36σ]
ModelChiSquare2-sig: 12.0%
ModelChiSquareGof-sig: 87.0%
Bootstrap-pfa: 5.22e-09
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 0.5664
Centroid-sig: 71.8%
Centroid-so: 0.182 arcsec [0.21σ]
OotOffset-rm: 0.556 arcsec [0.63σ]
KicOffset-rm: 0.691 arcsec [0.73σ]
OotOffset-st: 3/1/3/5 [12]
KicOffset-st: 3/1/3/5 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 0.54 [7/13]

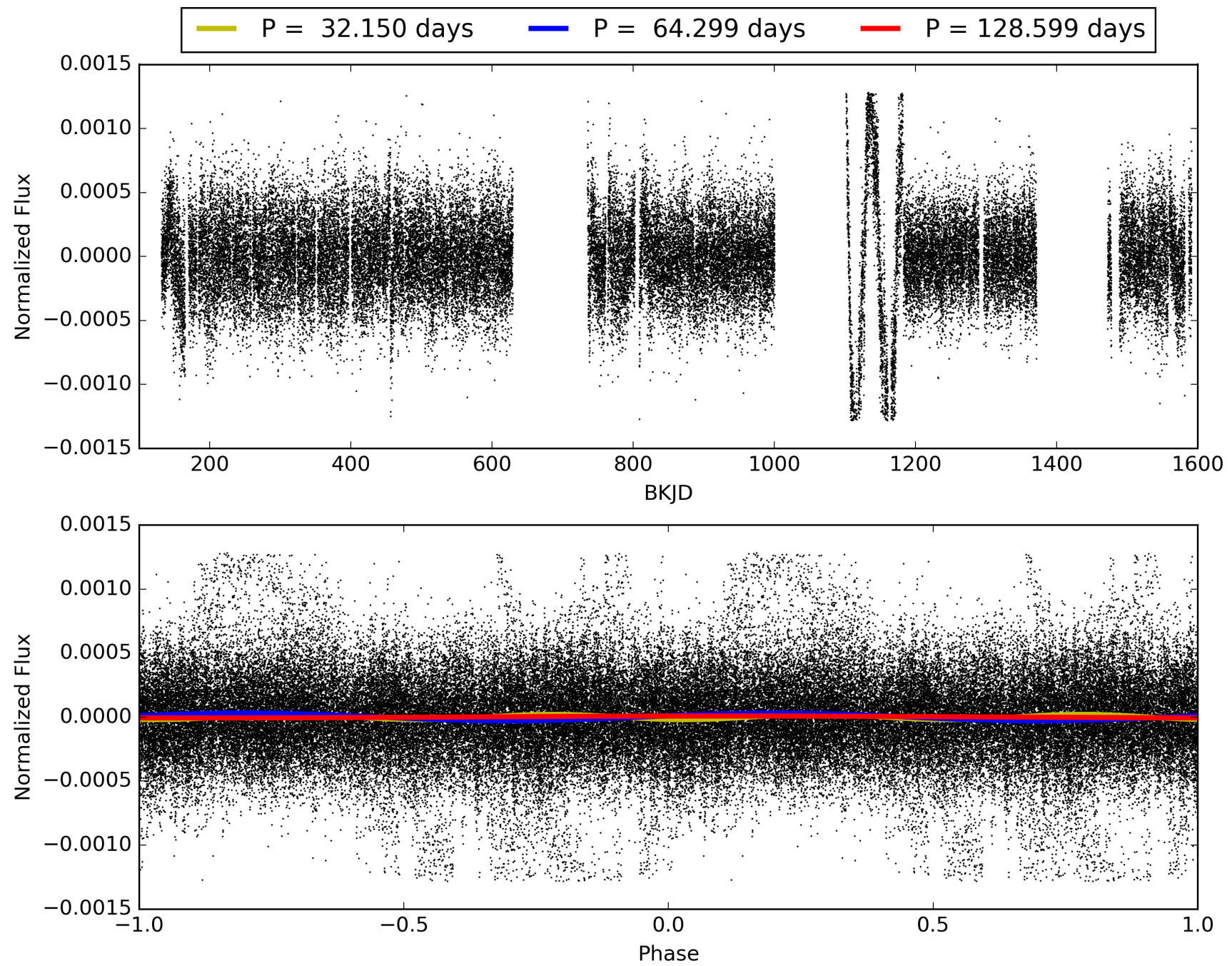
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:03:17 Z

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

TCE 010621643-03, PDC Light Curves

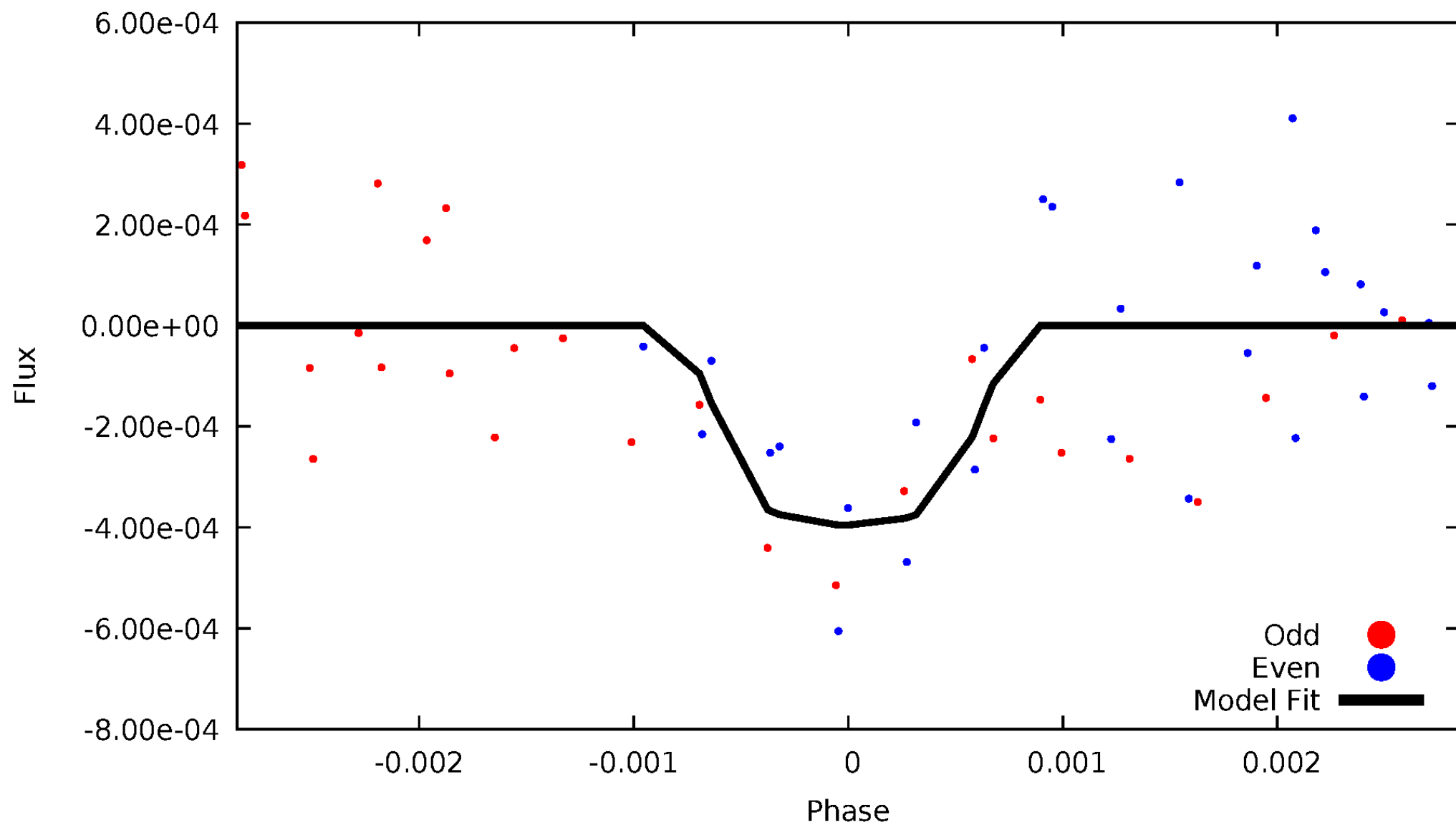


TCE 010621643-03



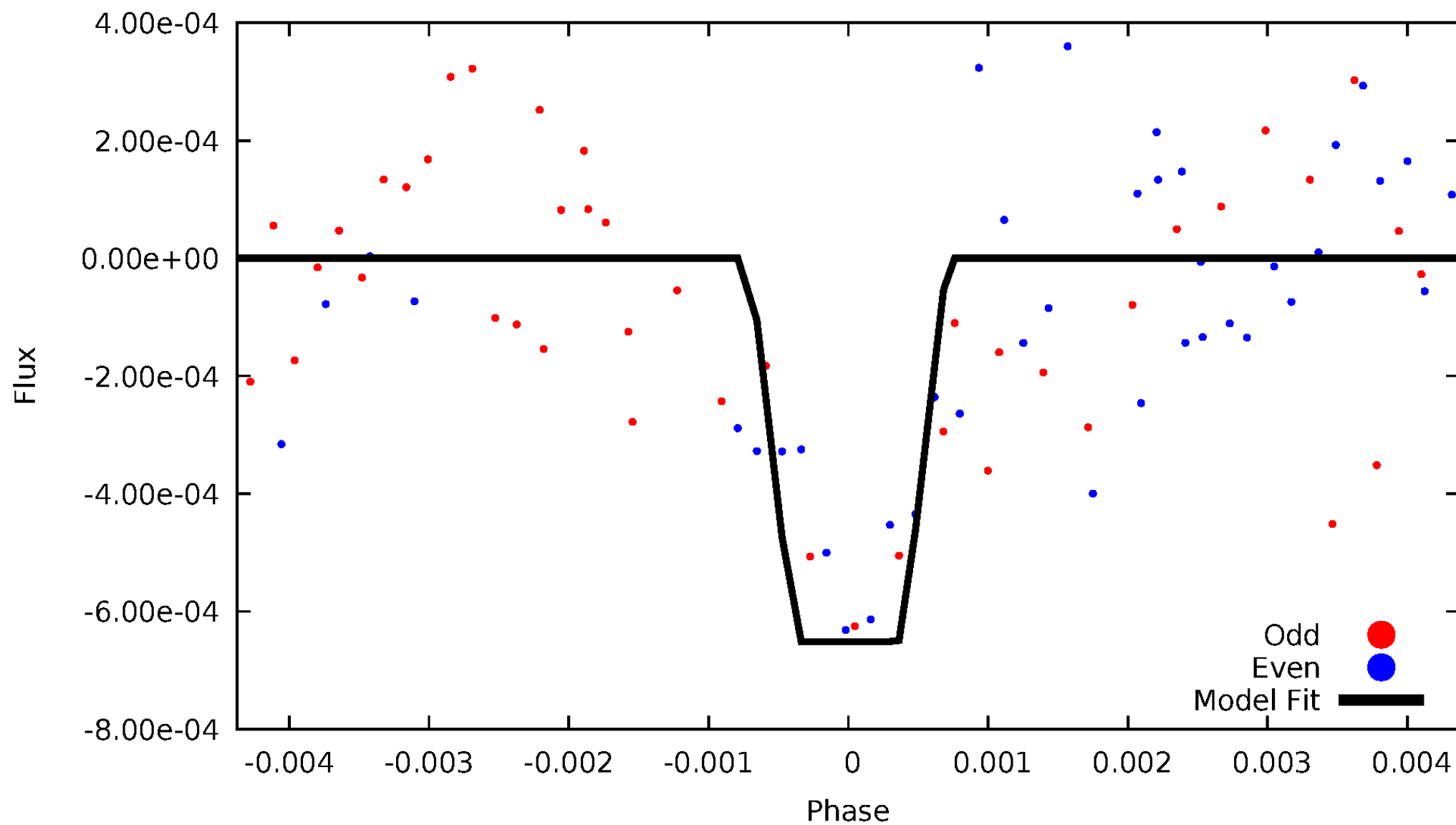
DV Odd/Even

TCE 010621643-03



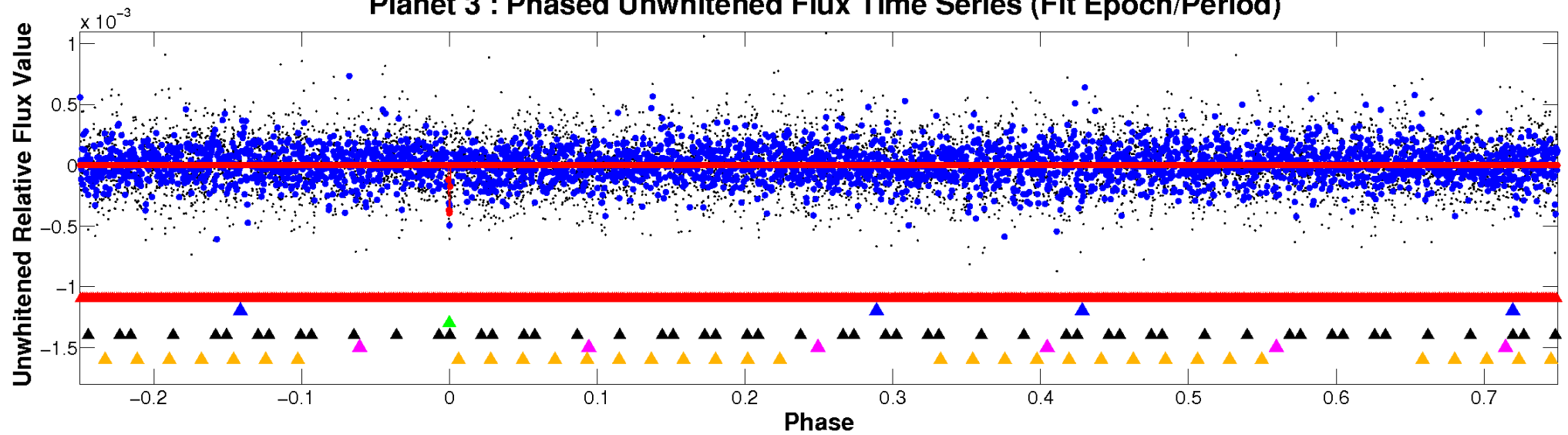
ALT Odd/Even

TCE 010621643-03

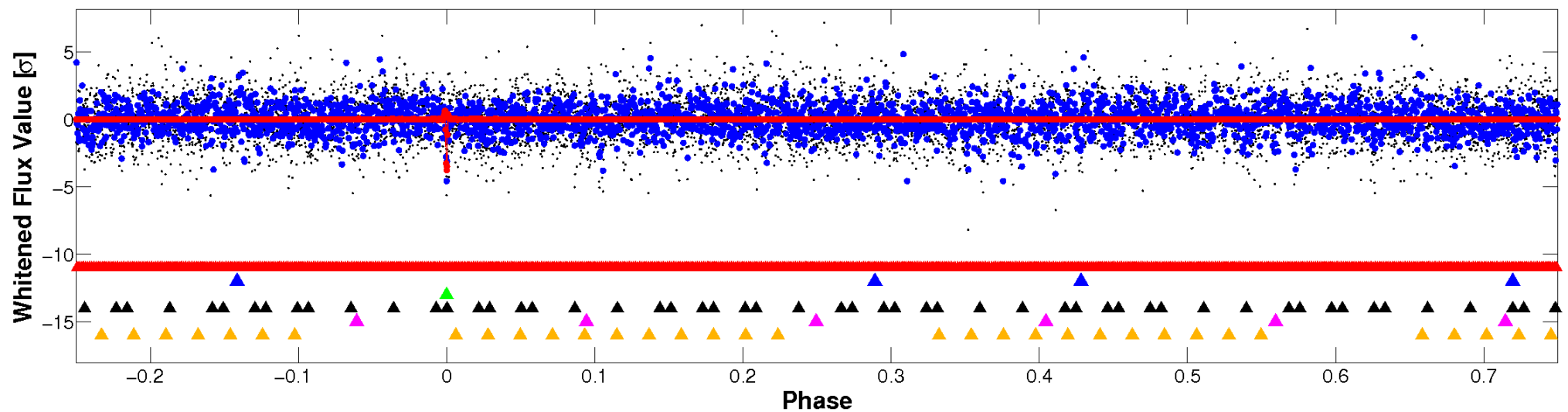


Non-Whitened Vs. Whitened Light Curve

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

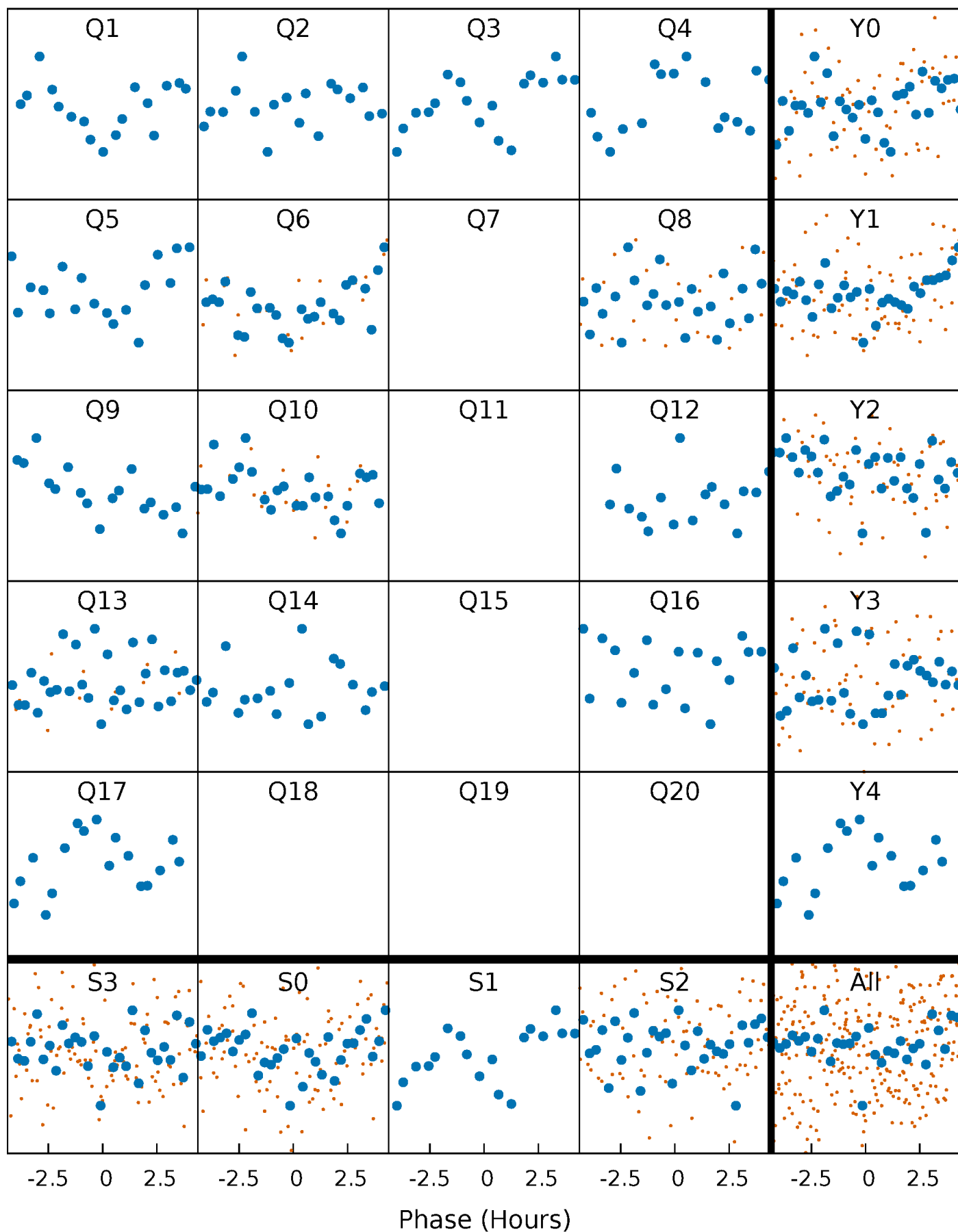


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



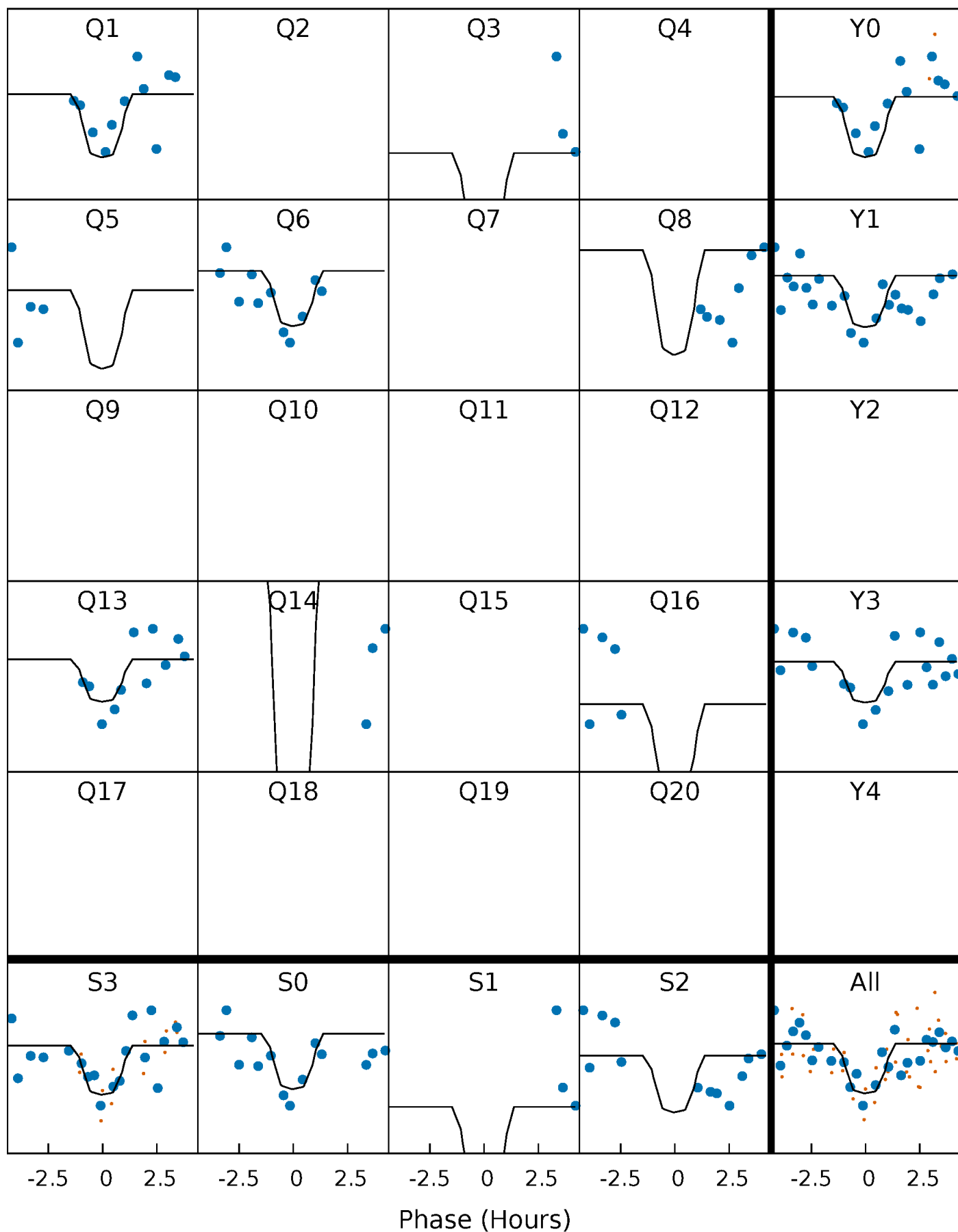
PDC Quarter-Phased Transit Curves

TCE 010621643-03 P= 64.299415 Days $T_0=157.892604$ (BKJD)



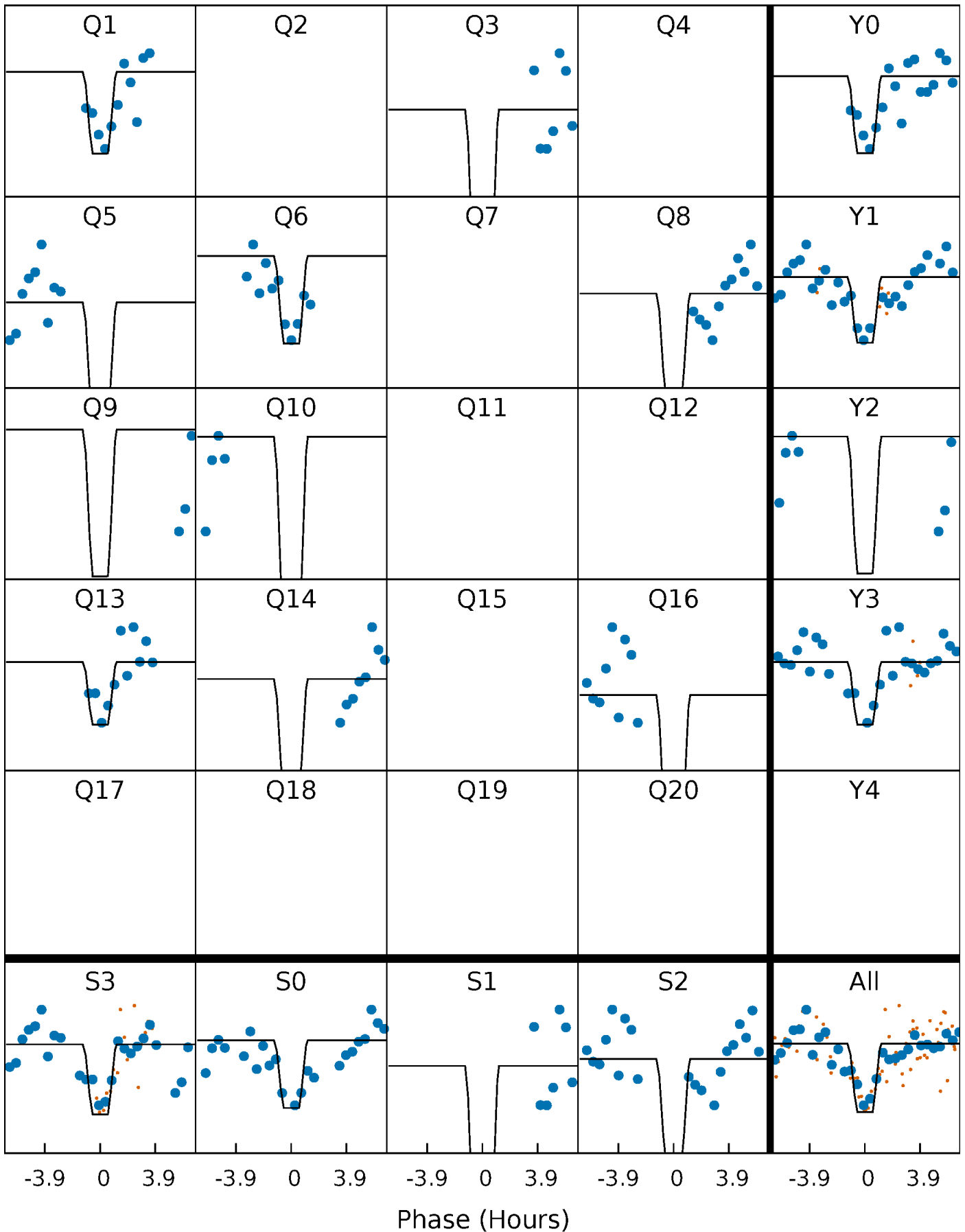
DV Quarter-Phased Transit Curves

TCE 010621643-03 $P = 64.299415$ Days $T_0 = 157.892604$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

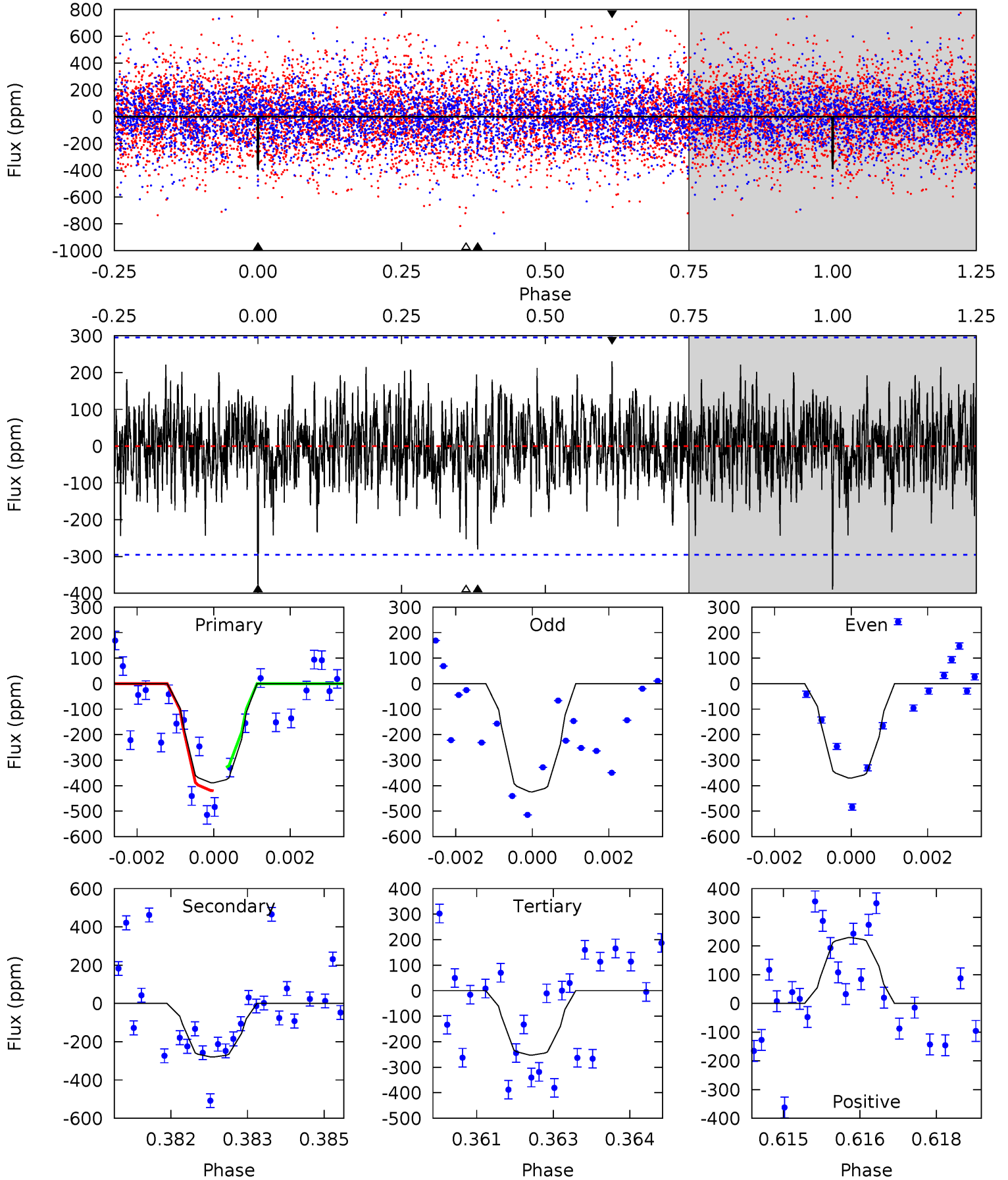
TCE 010621643-03 P= 64.299968 Days $T_0=157.882061$ (BKJD)



DV Model-Shift Uniqueness Test

010621643-03, P = 64.299415 Days, E = 93.593189 Days

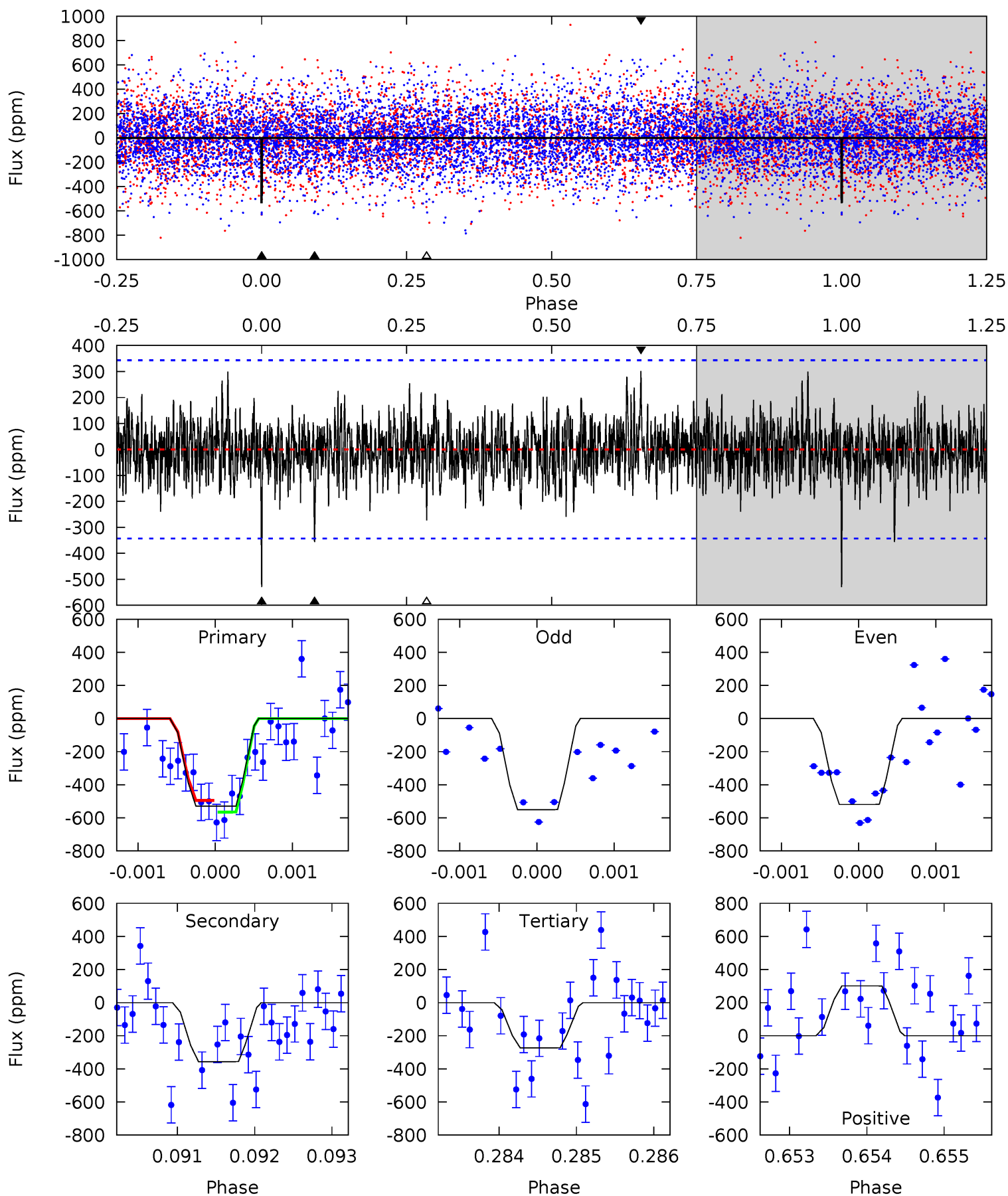
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.07	5.09	4.59	4.18	5.37	3.16	1.35	2.48	2.90	0.50	0.91	0.47	0.93	0.37	0.84



Alt Model-Shift Uniqueness Test

010621643-03, P = 64.299968 Days, E = 93.582093 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	5.60	4.29	4.74	5.40	3.20	1.27	4.04	3.60	1.31	0.87	0.23	0.97	0.36	0.55



Stellar Parameters For KIC 010621643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6423^{+160}_{-192}	$4.316^{+0.101}_{-0.203}$	$-0.060^{+0.250}_{-0.300}$	$1.247^{+0.418}_{-0.179}$	$1.172^{+0.185}_{-0.152}$	$0.851^{+0.351}_{-0.453}$
	+2%/-3%	+2%/-5%	+417%/-500%	+34%/-14%	+16%/-13%	+41%/-53%
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 010621643-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-280 ± 55	$19.18^{+22.81}_{-13.64}$	778^{+57}_{-46}	2933^{+1465}_{-541}	46^{+511}_{-37}
Alt.	-356 ± 64	$20.02^{+23.10}_{-14.07}$	775^{+57}_{-41}	2975^{+1485}_{-516}	53^{+542}_{-41}

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

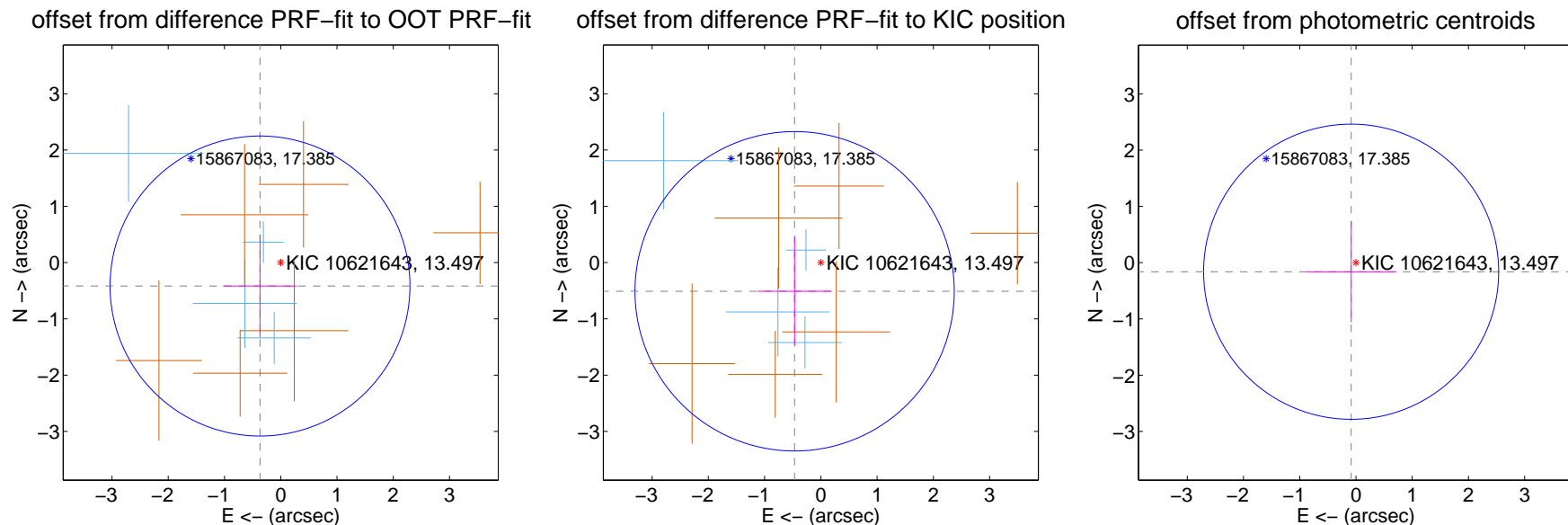
DV Centroid Data

Supplemental centroid analysis for 010621643-03. Kepler magnitude: 13.50. Transit SNR 10.84

There are 4 quarters with good PRF difference image offsets

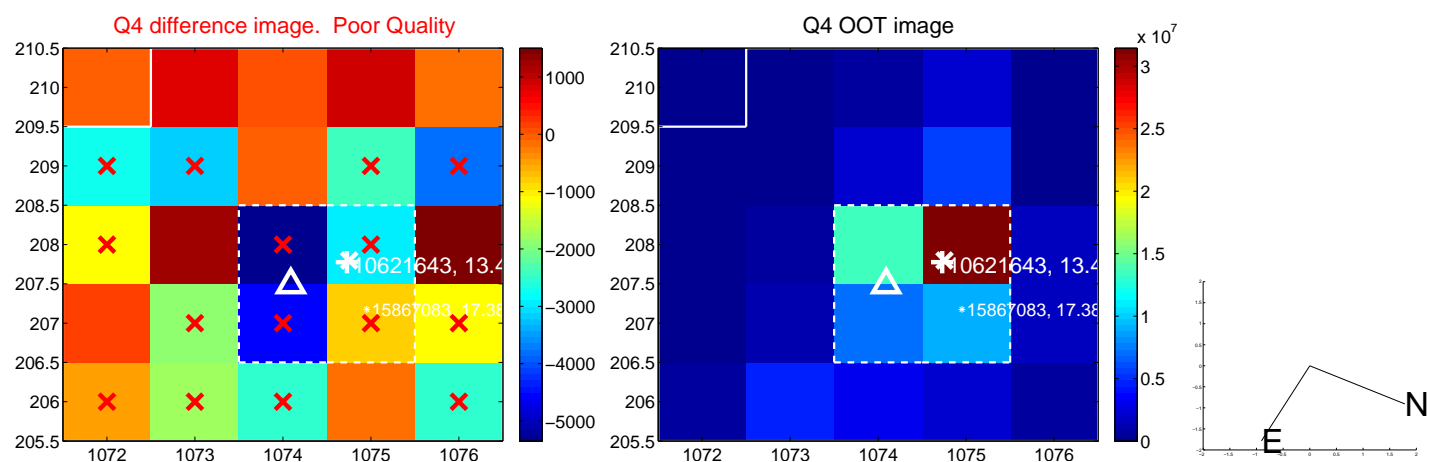
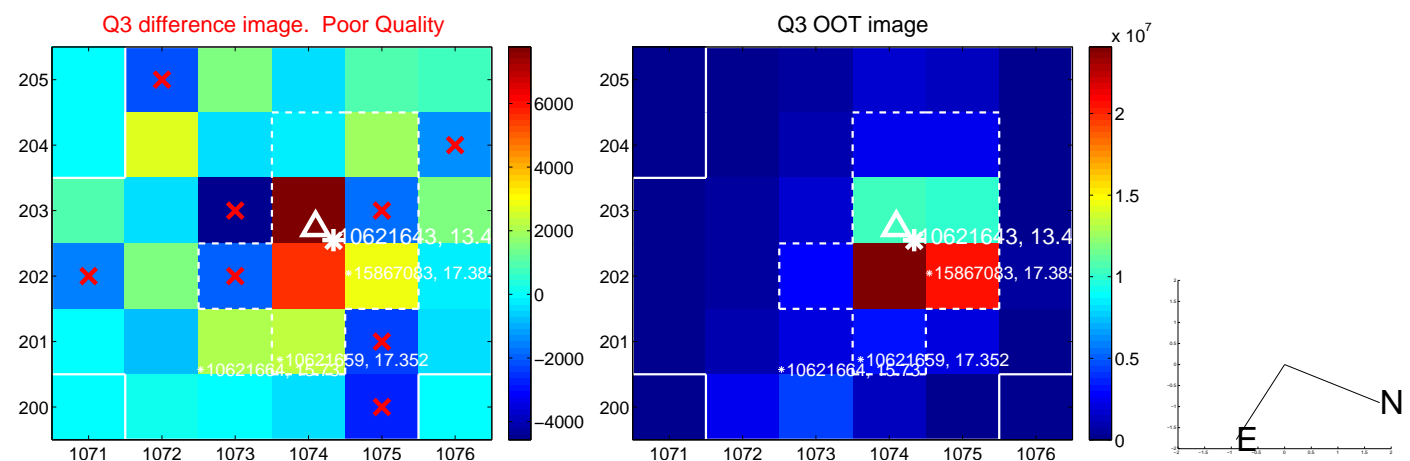
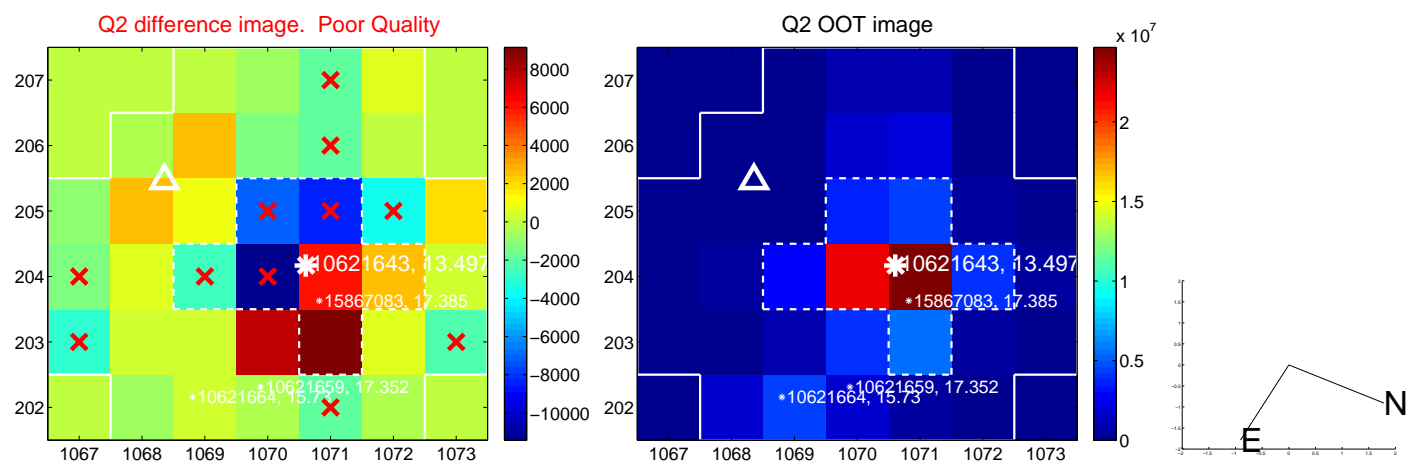
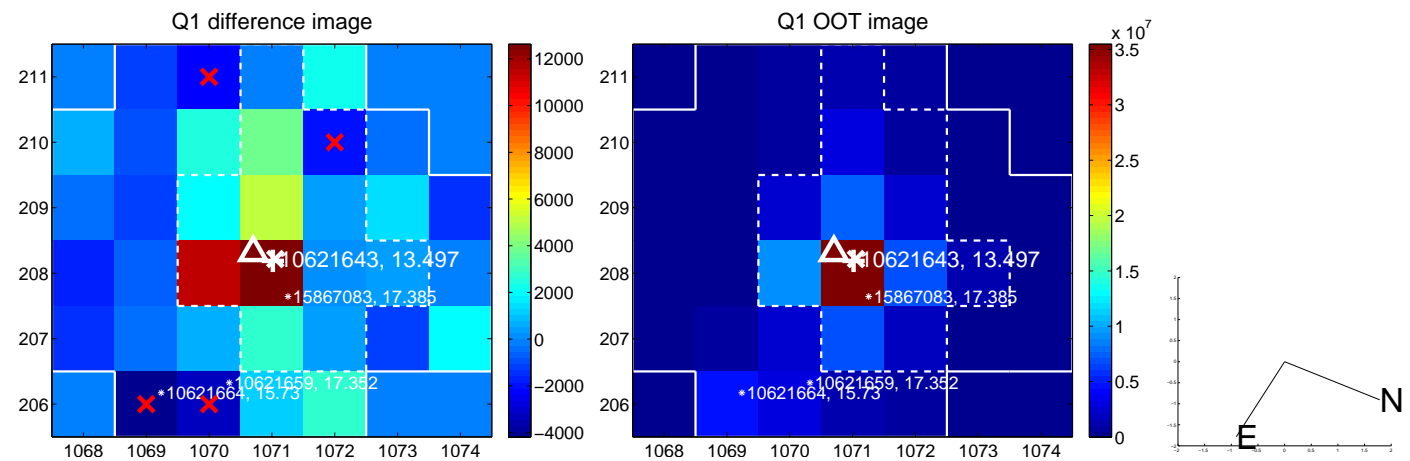
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.556 ± 0.888	0.63	0.369 ± 0.656	-0.416 ± 0.917
PRF-fit source offset from KIC position	0.691 ± 0.946	0.73	0.467 ± 0.660	-0.510 ± 0.957
photometric centroid source offset	0.18 ± 0.87	0.21	0.09 ± 0.80	-0.16 ± 0.89

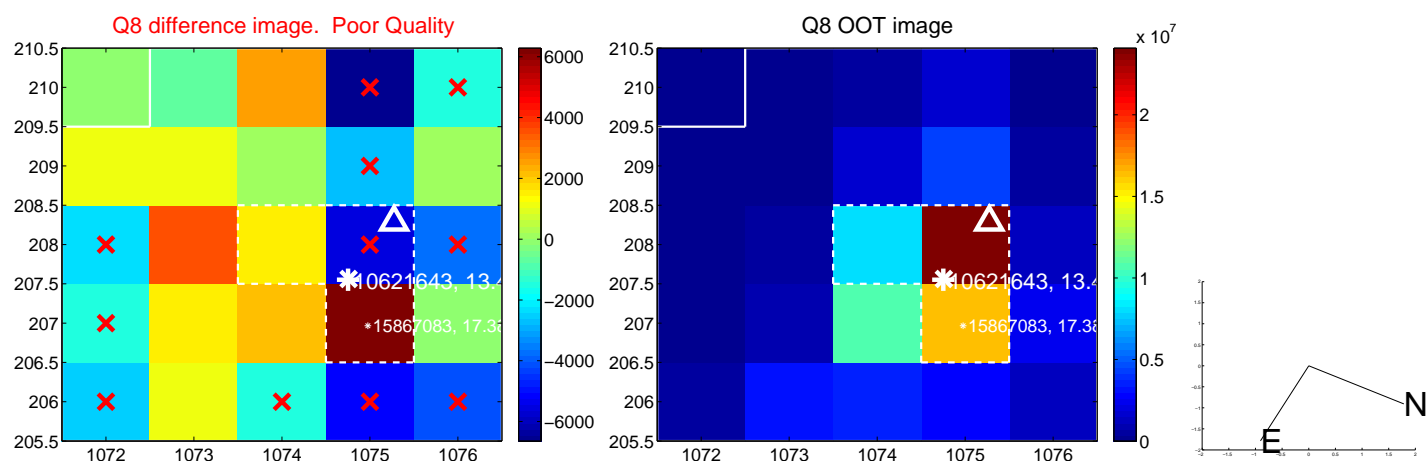
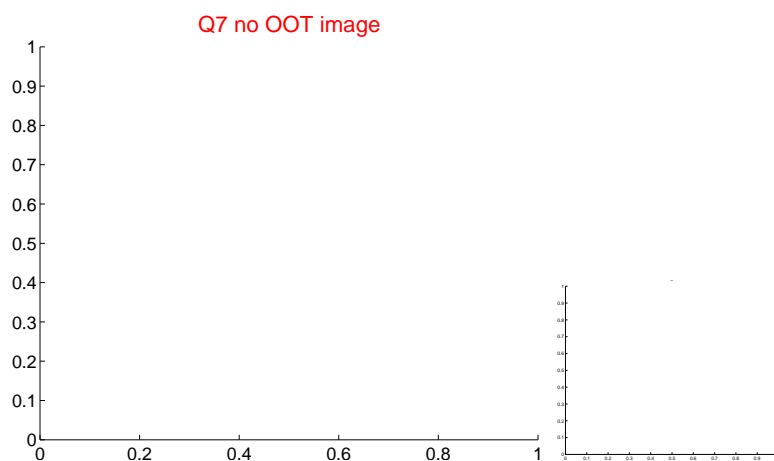
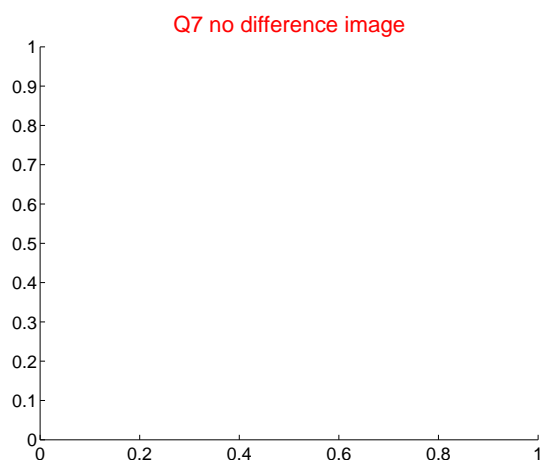
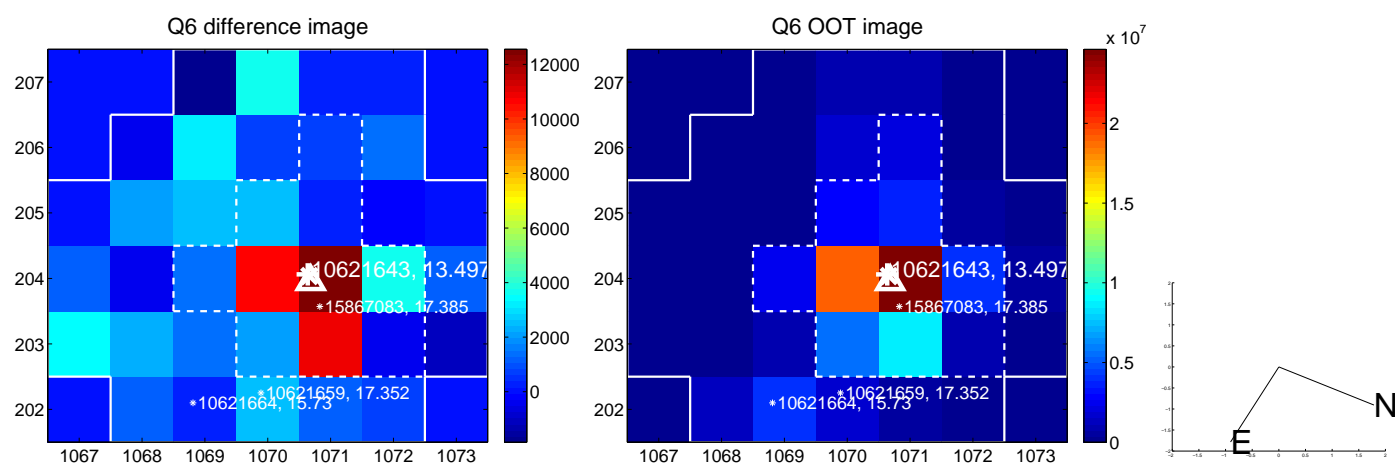
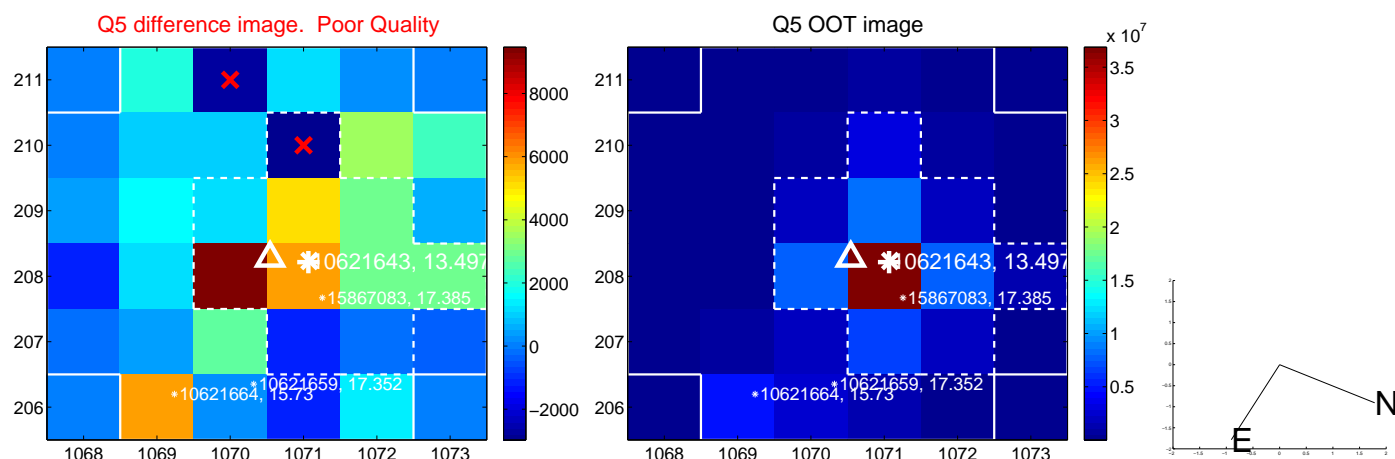


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

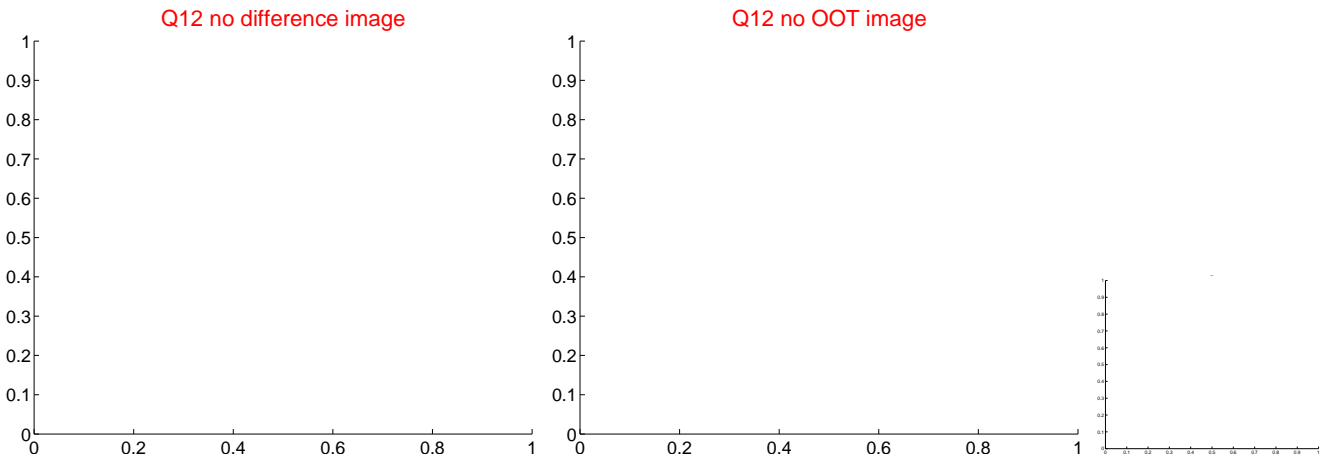
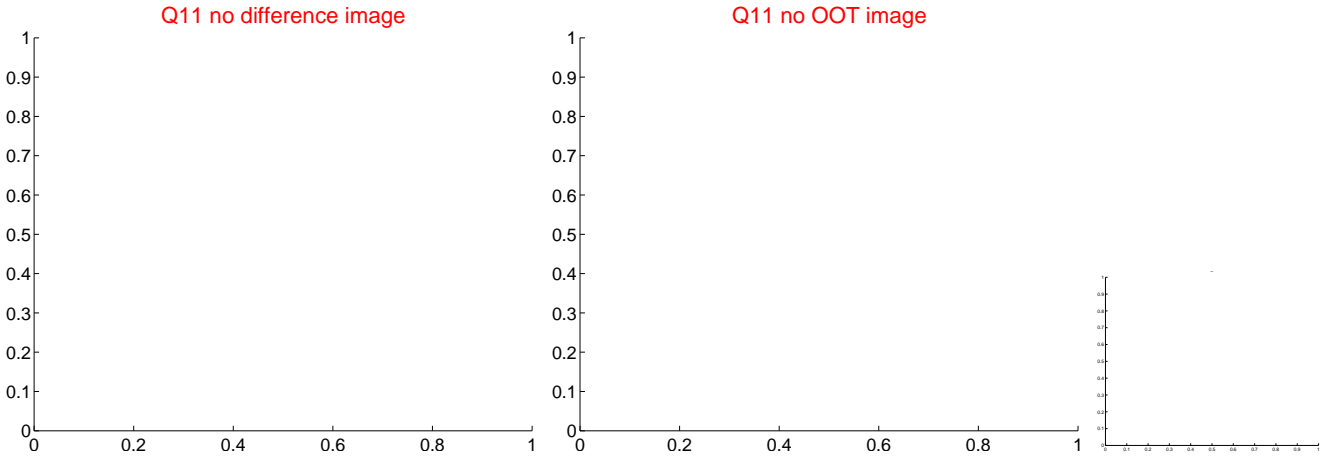
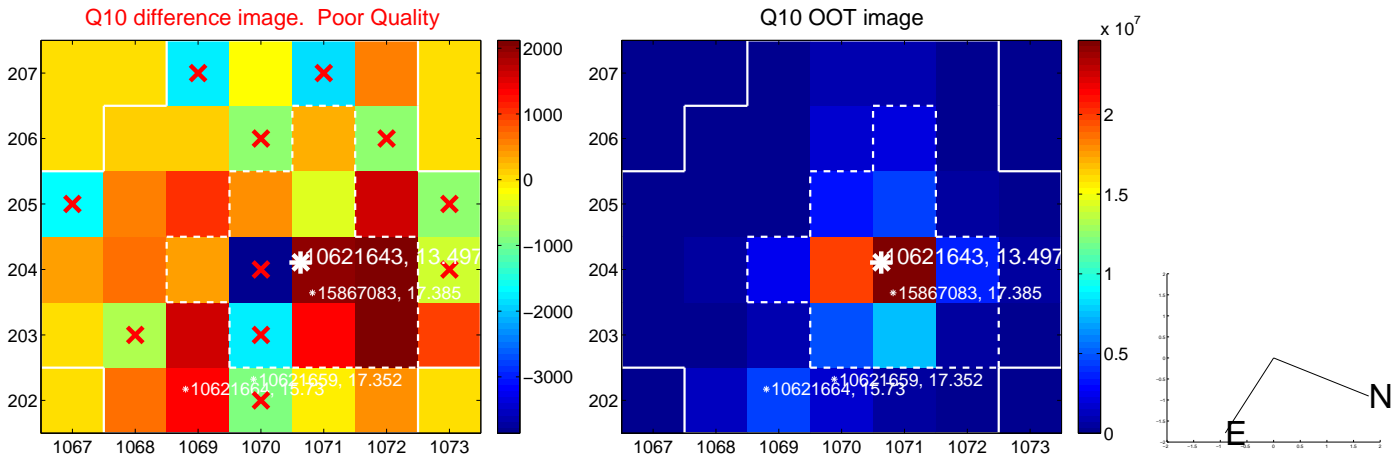
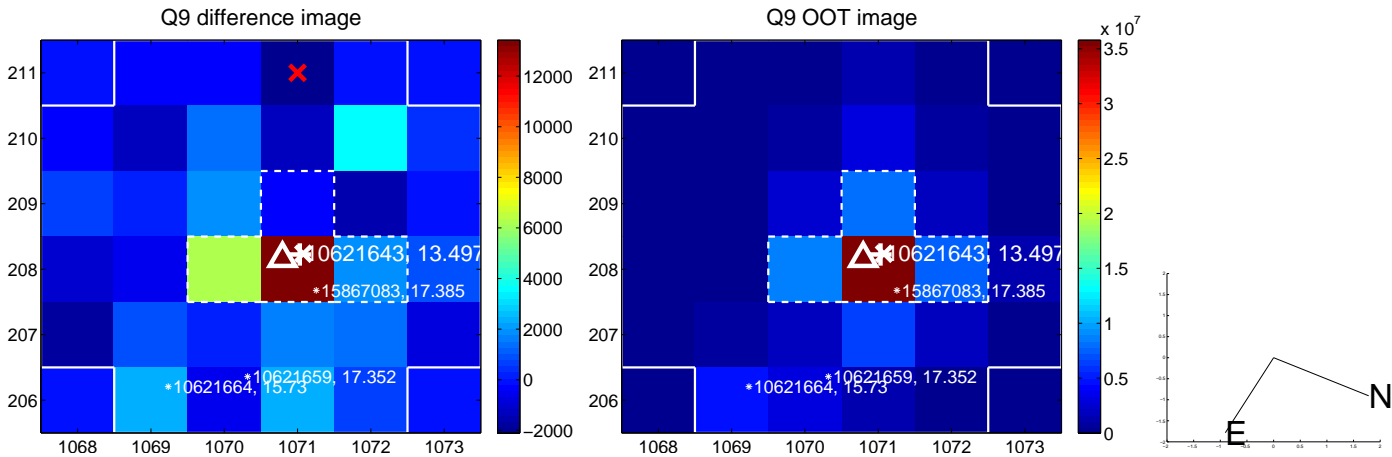
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



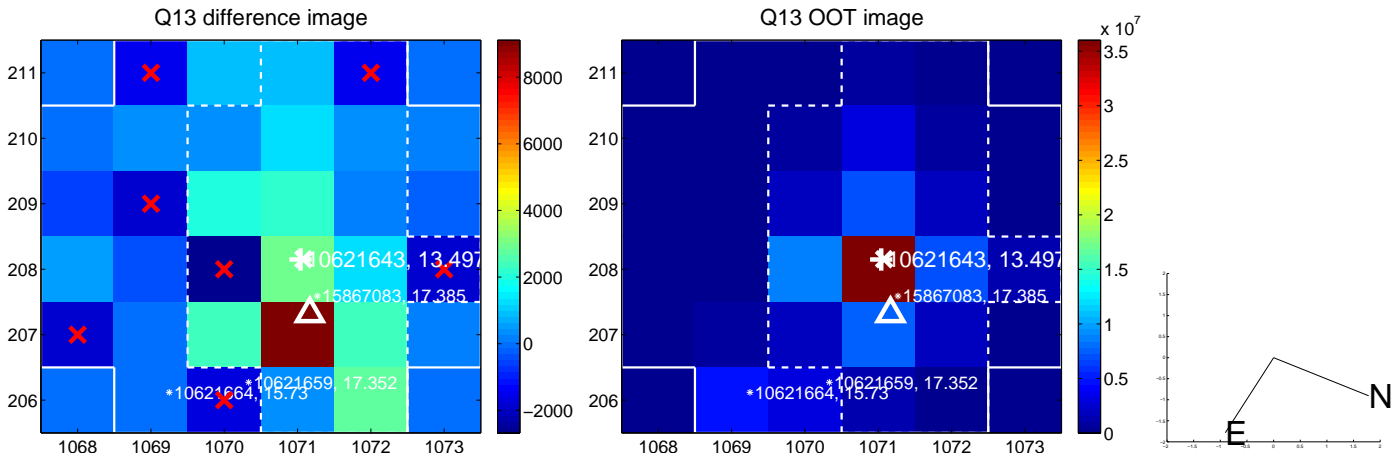
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



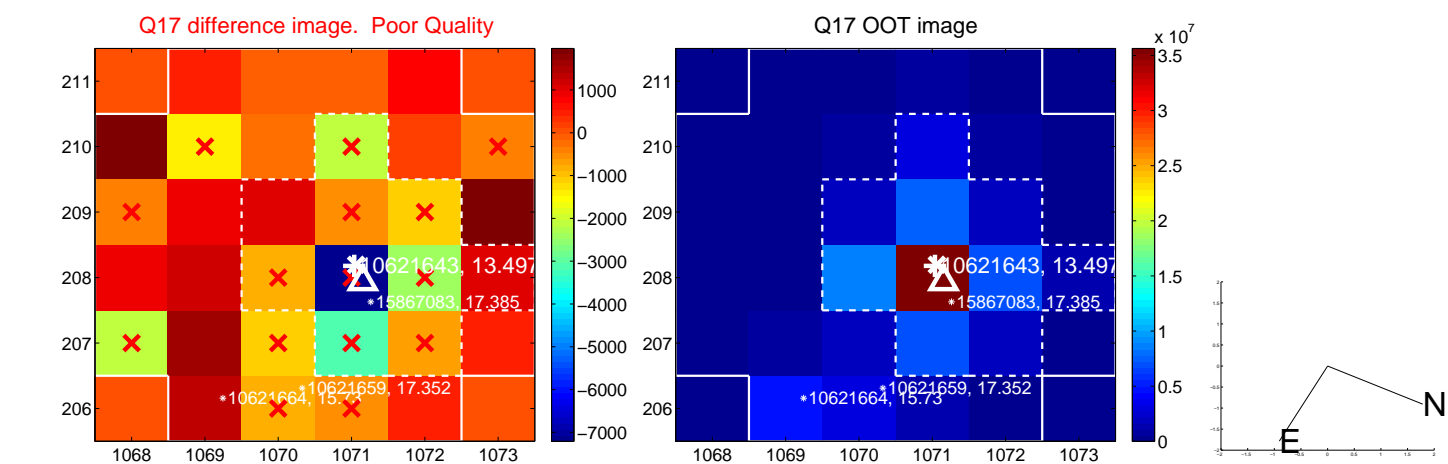
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



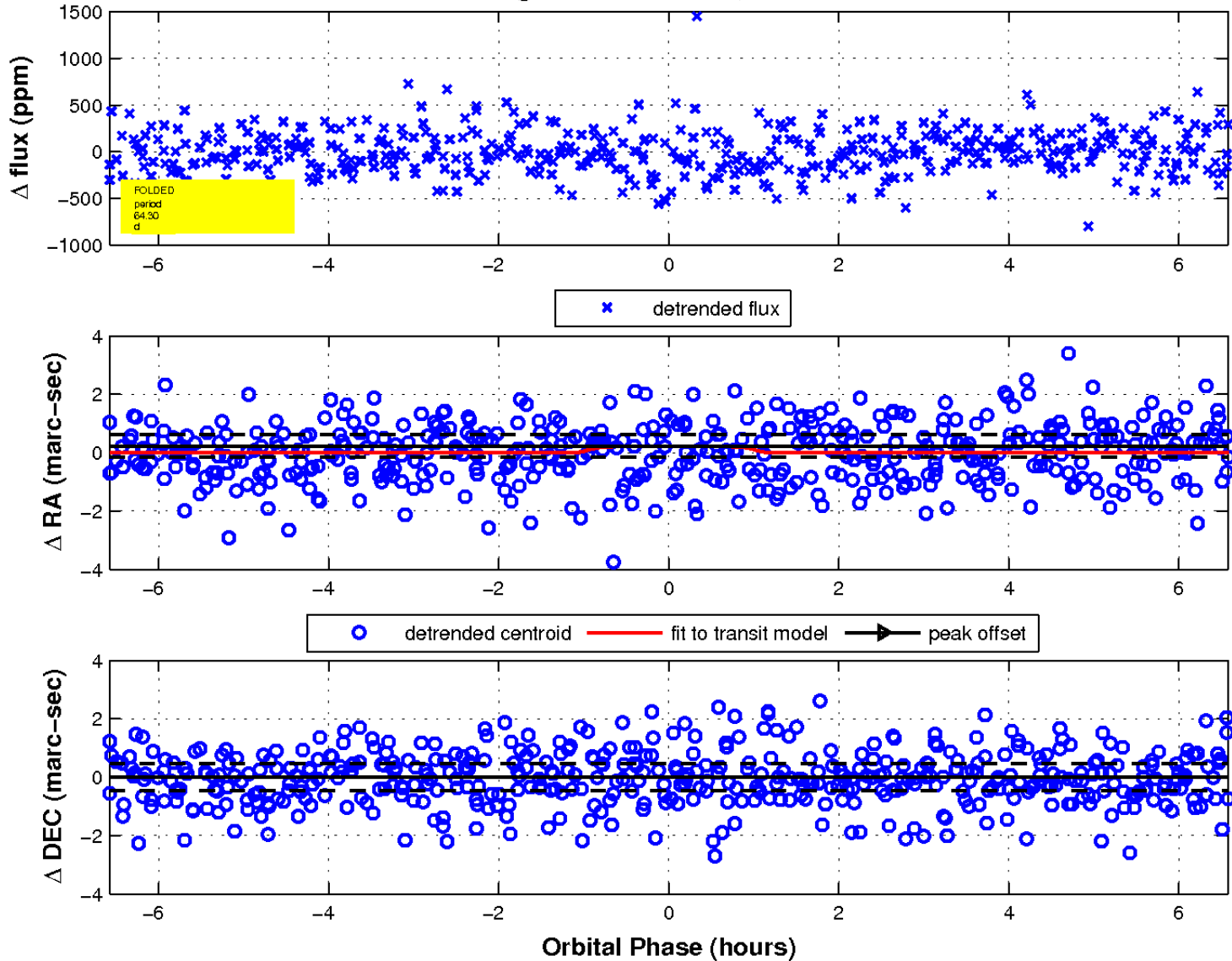
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

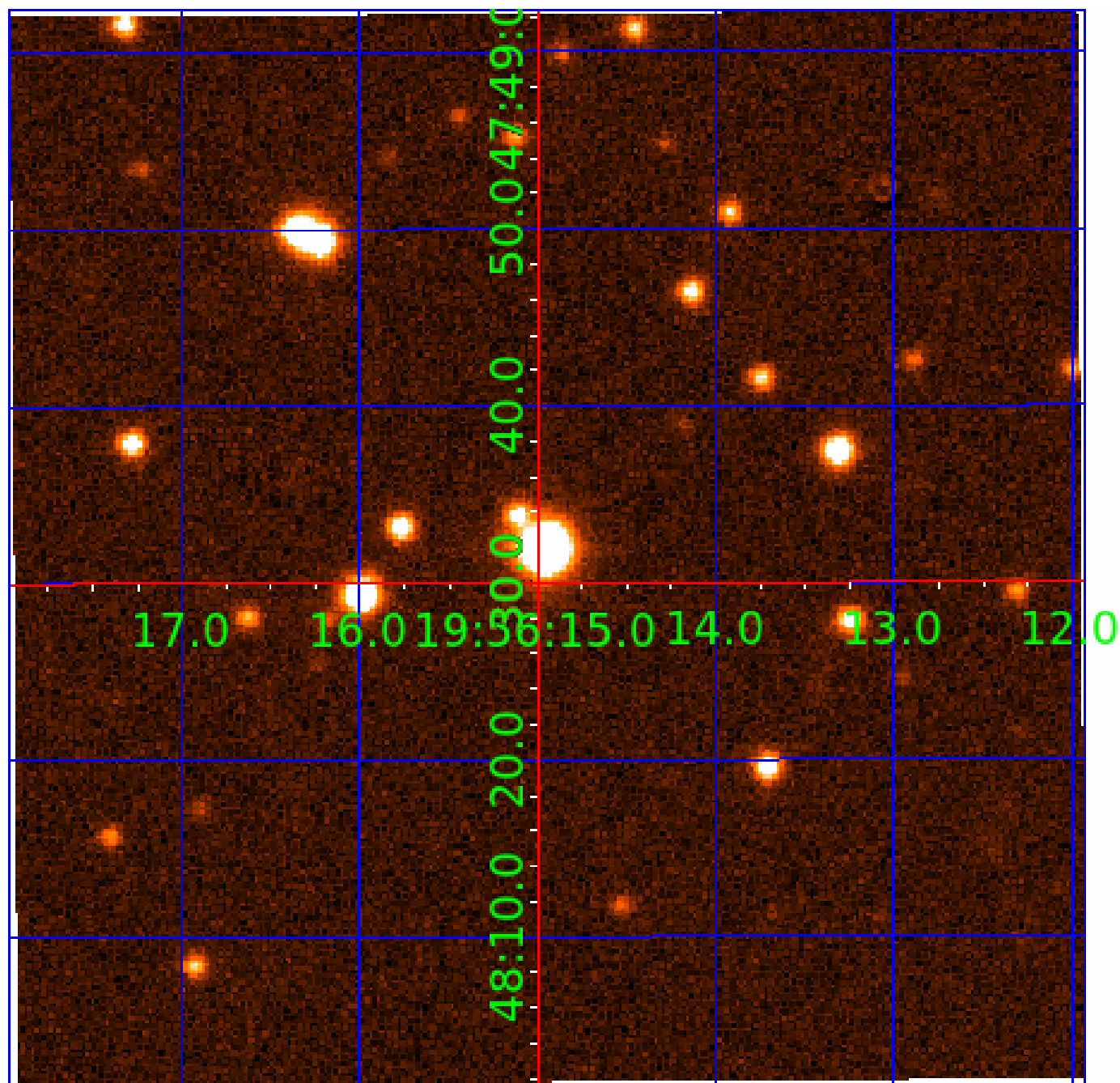


fluxWeightedCentroids, Planet 3 of 6



UKIRT Image

Declination



KIC 010621643

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})
010621643-01	OBS	No	1.480297	132.032461	7.2	9.802	9.6	2.6	1.25	6423	0.40	3295.78
010621643-03	OBS	No	64.299415	157.892604	395.4	2.197	9.6	10.8	1.25	6423	2.92	21.59
010621643-04	OBS	No	27.292892	143.557529	398.3	1.552	9.1	10.1	1.25	6423	2.89	67.66
010621643-05	OBS	No	247.228011	332.438755	251.2	7.684	8.1	8.6	1.25	6423	2.31	3.58
010621643-06	OBS	No	43.332094	135.930240	278.7	3.794	8.6	8.9	1.25	6423	2.35	36.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010621643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010621643-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—CENT_FEW_MEAS
010621643-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

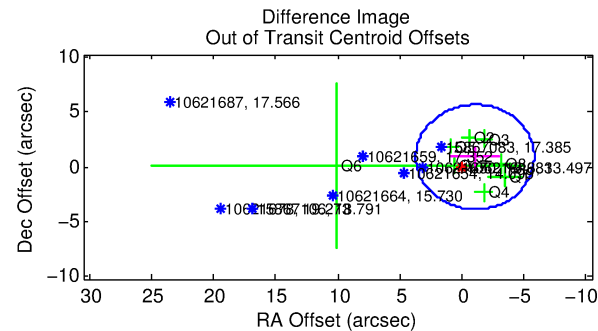
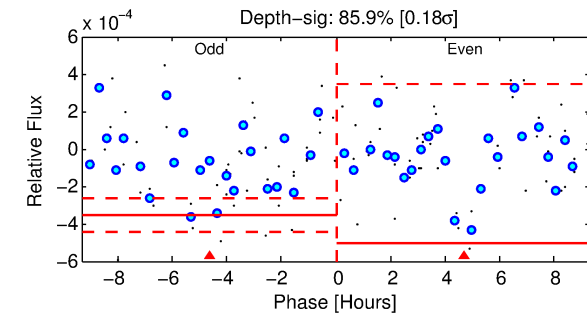
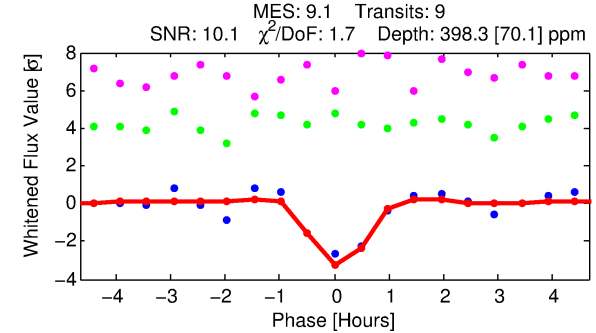
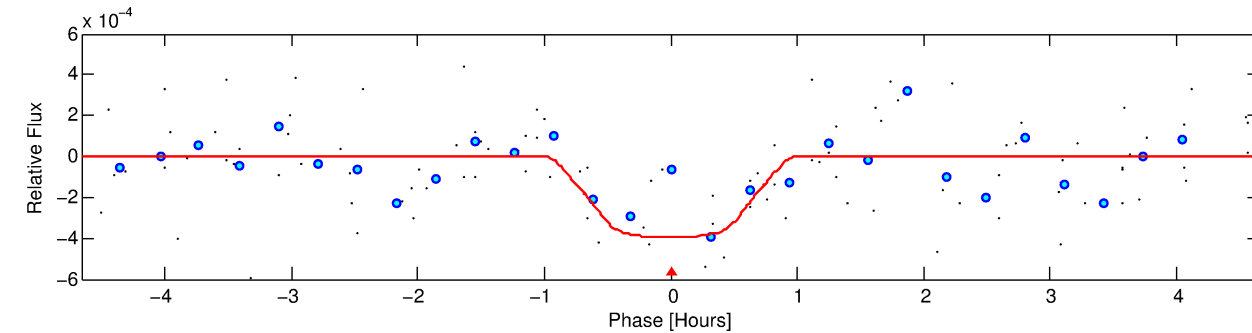
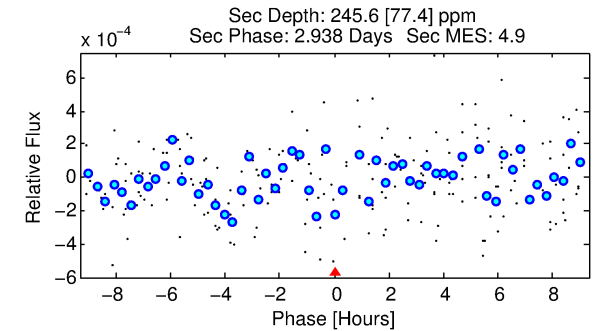
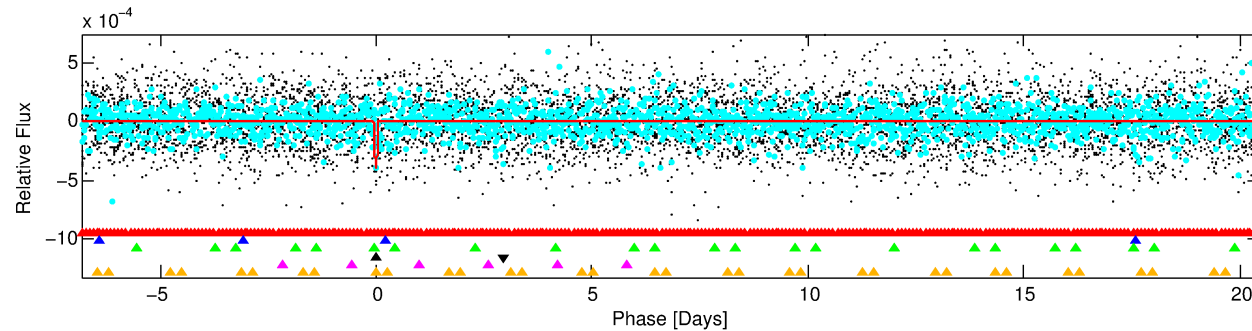
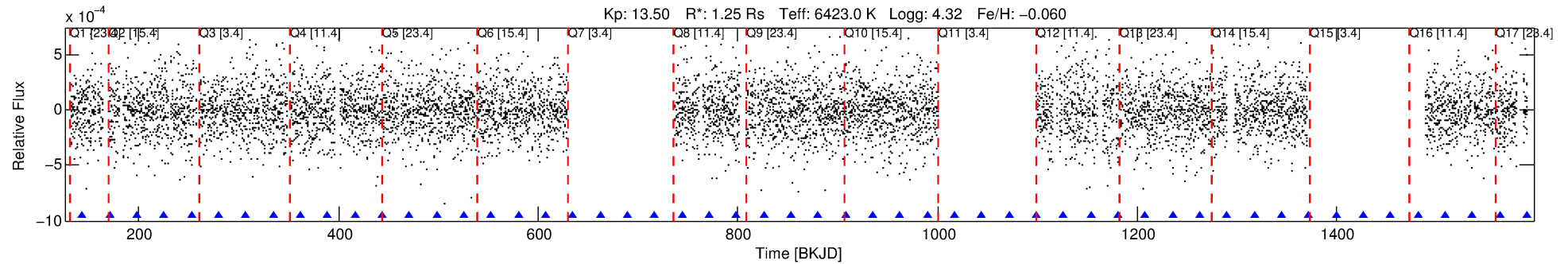
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010621643-04

No Significant Match Found

DV One-Page Summary

KIC: 10621643 Candidate: 4 of 6 Period: 27.293 d



DV Fit Results:

Period = 27.29289 [0.00020] d
Epoch = 143.5575 [0.0062] BKJD
Rp/R* = 0.0212 [0.0268]
a/R* = 68.42 [475.14]
b = 0.89 [1.73]
Seff = 67.66 [27.18]
Teq = 731 [73] K
Rp = 2.89 [3.77] Re
a = 0.1872 [0.0510] AU
Ag = 567.22 [1458.81] [0.39σ]
Teffp = 5518 [3512] K [1.36σ]

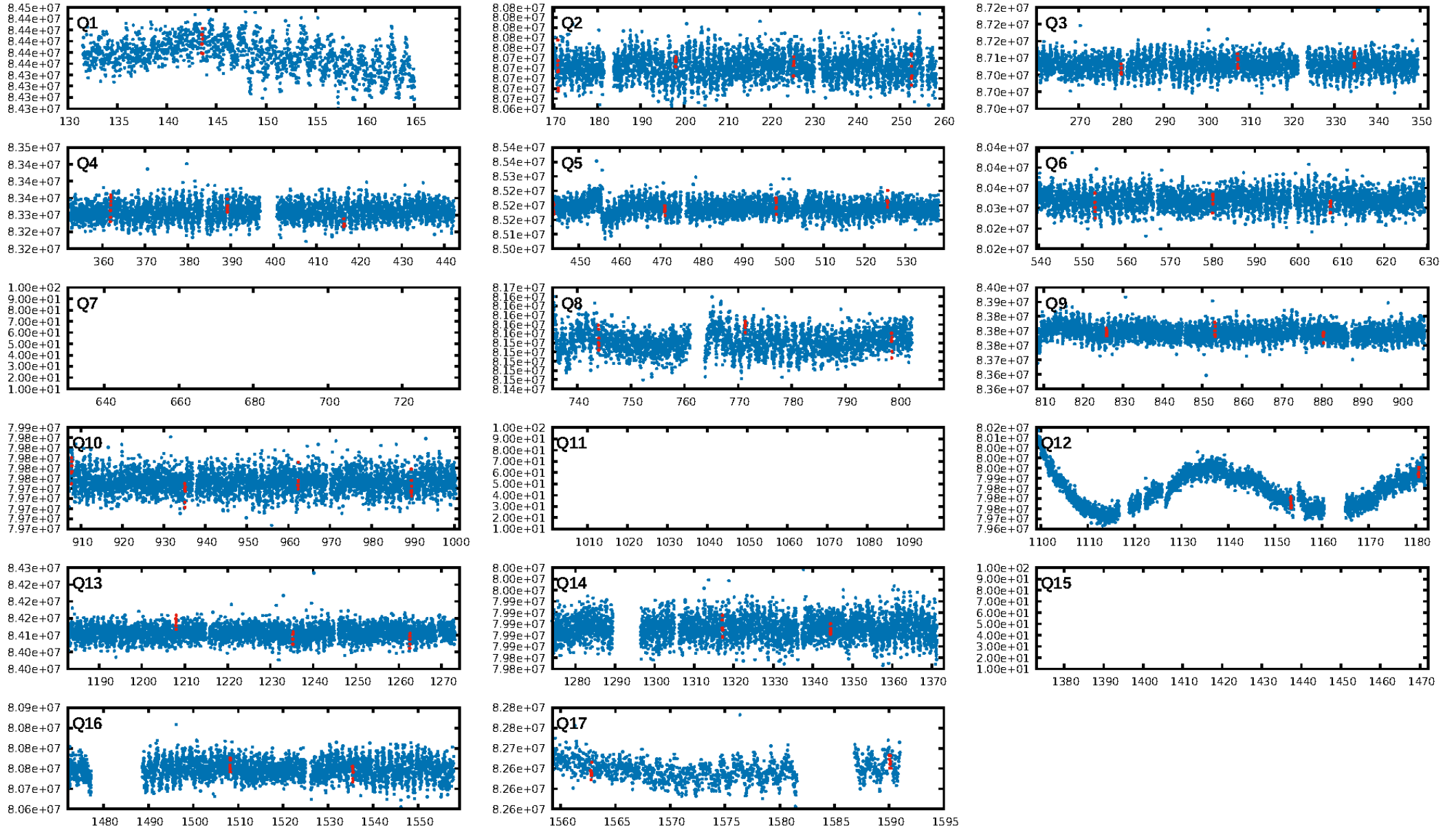
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [62.42σ]
LongPeriod-sig: 100.0% [93.91σ]
ModelChiSquare2-sig: 95.5%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 2.11e-08
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 1.099
Centroid-sig: 32.7%
Centroid-so: 1.311 arcsec [2.03σ]
OotOffset-rm: 1.384 arcsec [0.87σ]
OotOffset-st: 2/1/2/3 [8]
KicOffset-rm: 1.311 arcsec [0.83σ]
KicOffset-st: 2/1/2/3 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.71 [10/14]

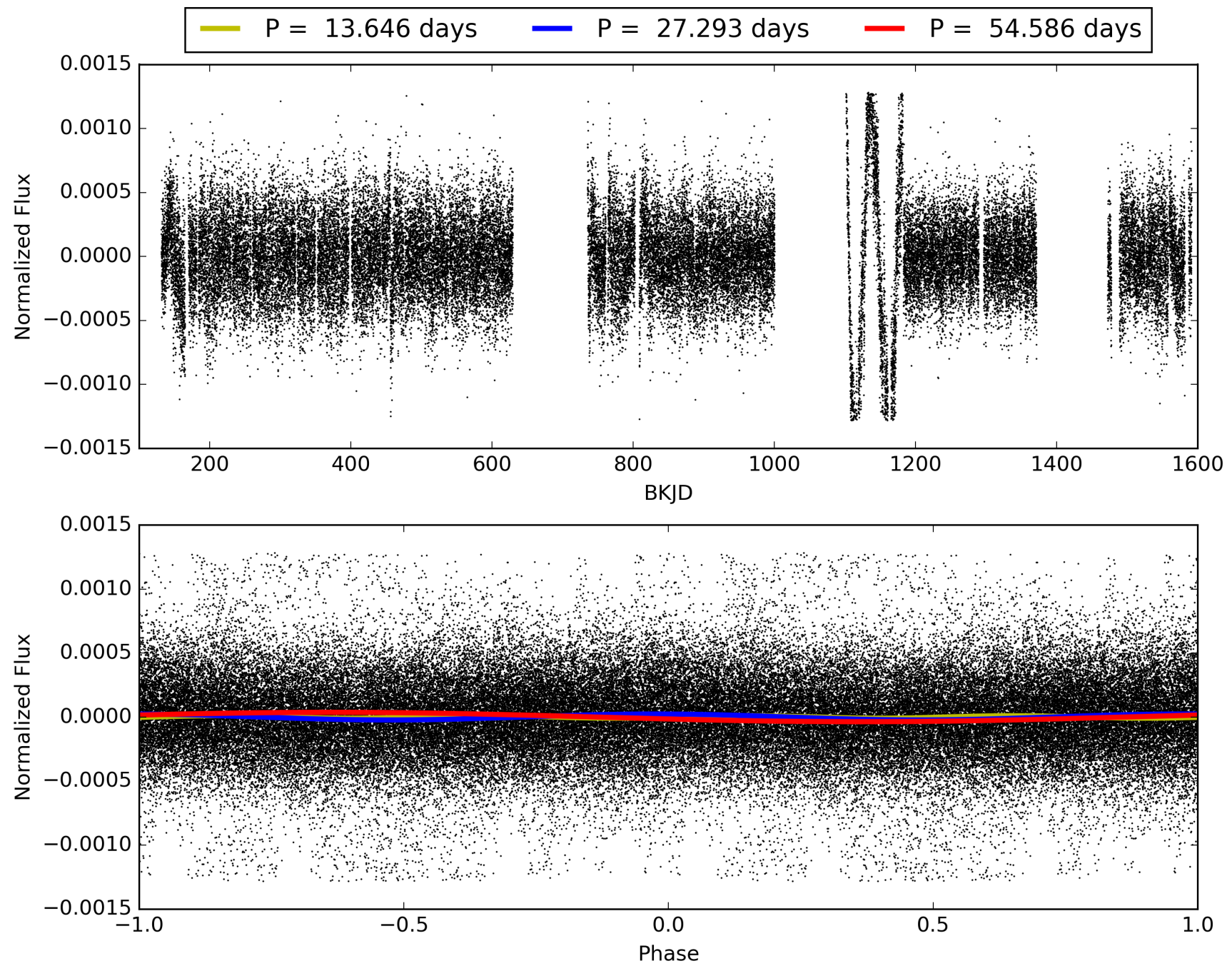
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:03:20 Z

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

TCE 010621643-04, PDC Light Curves

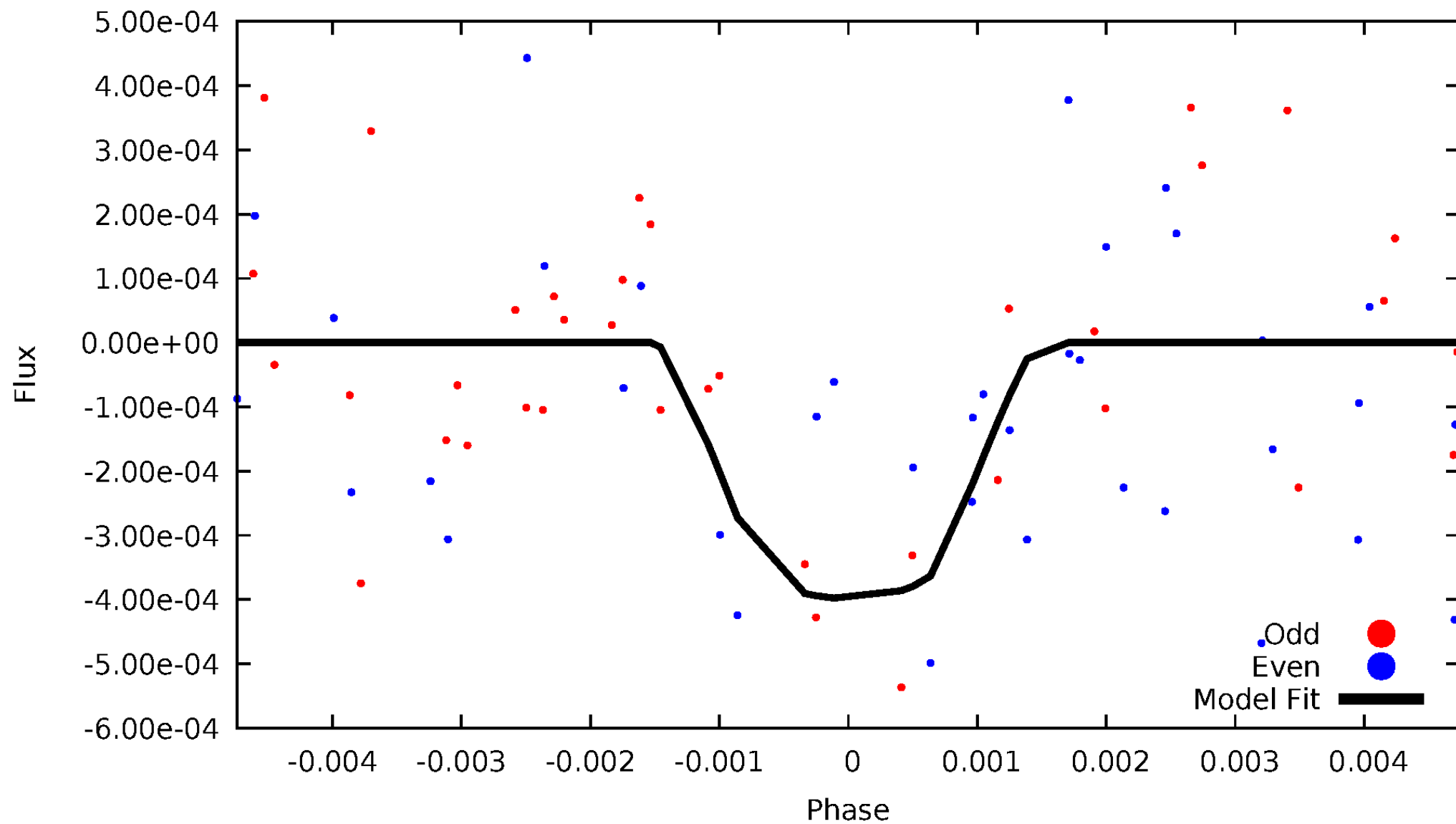


TCE 010621643-04



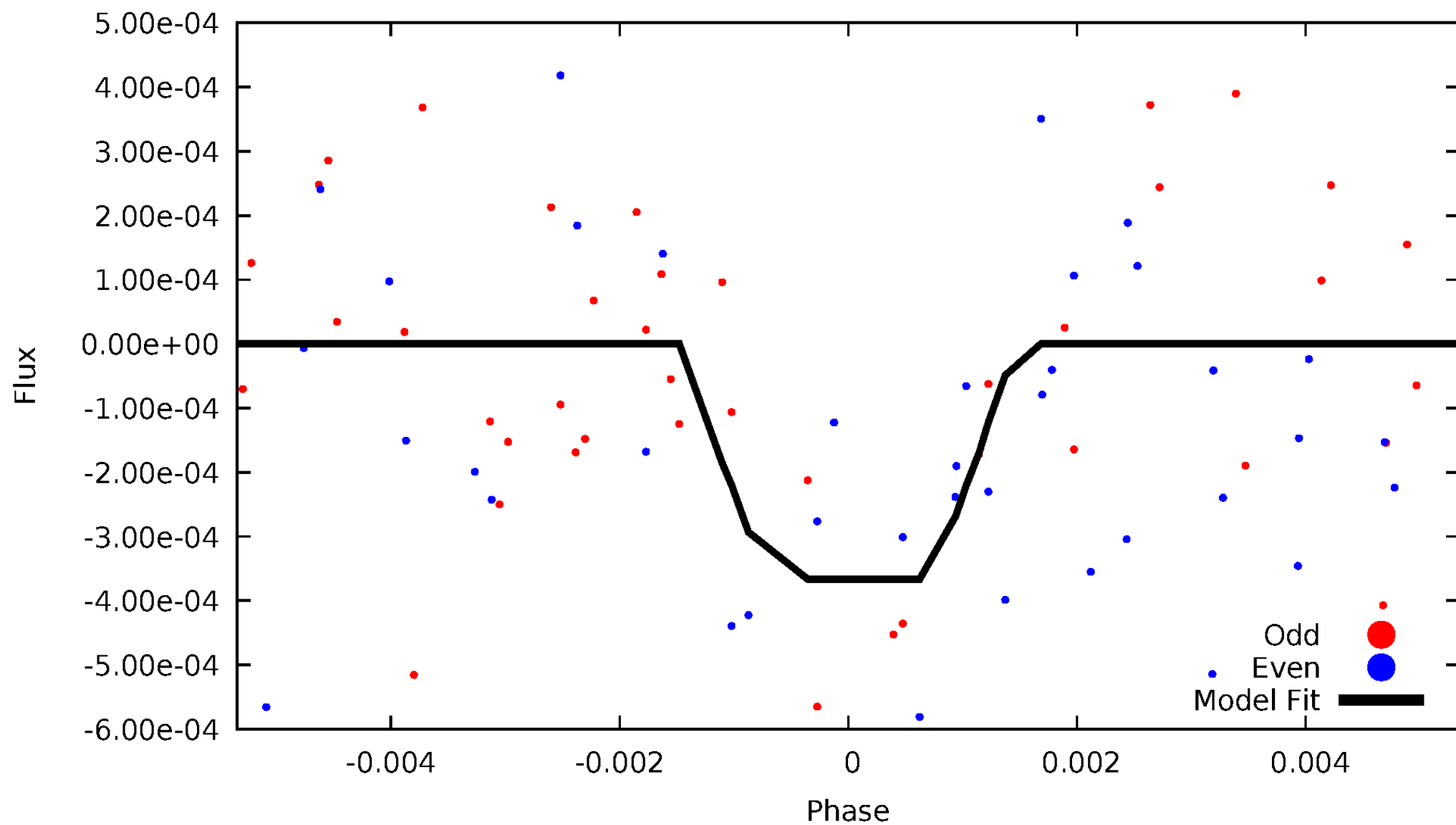
DV Odd/Even

TCE 010621643-04



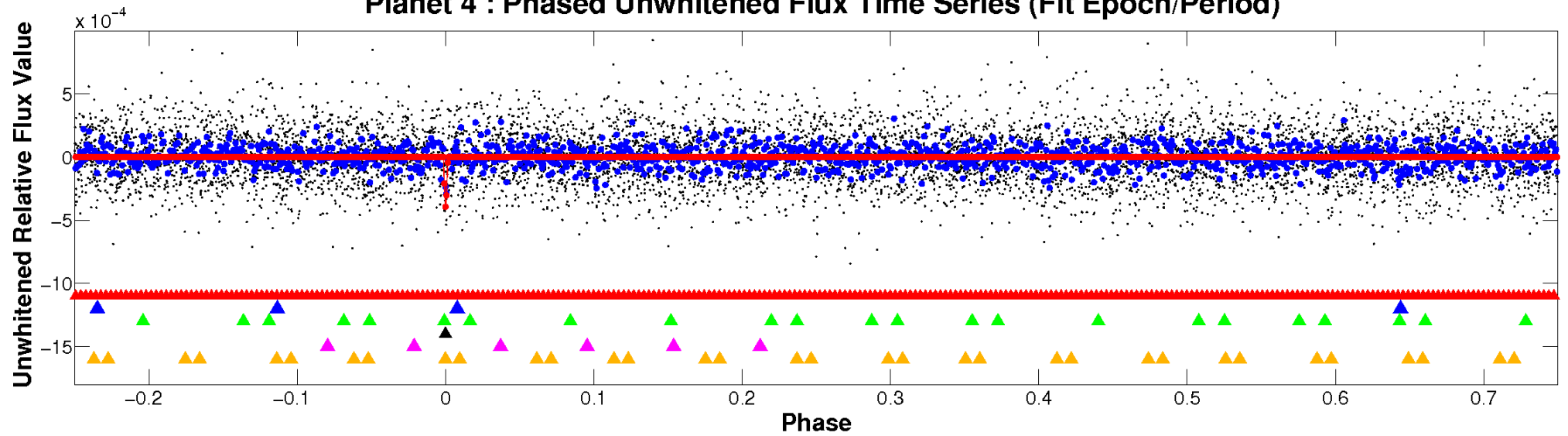
ALT Odd/Even

TCE 010621643-04

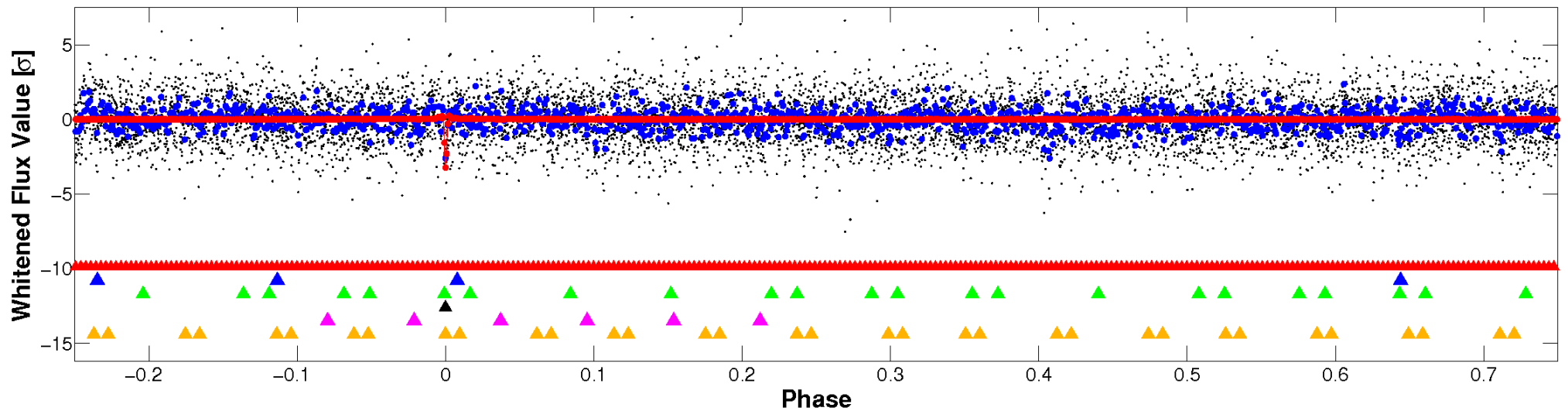


Non-Whitened Vs. Whitened Light Curve

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

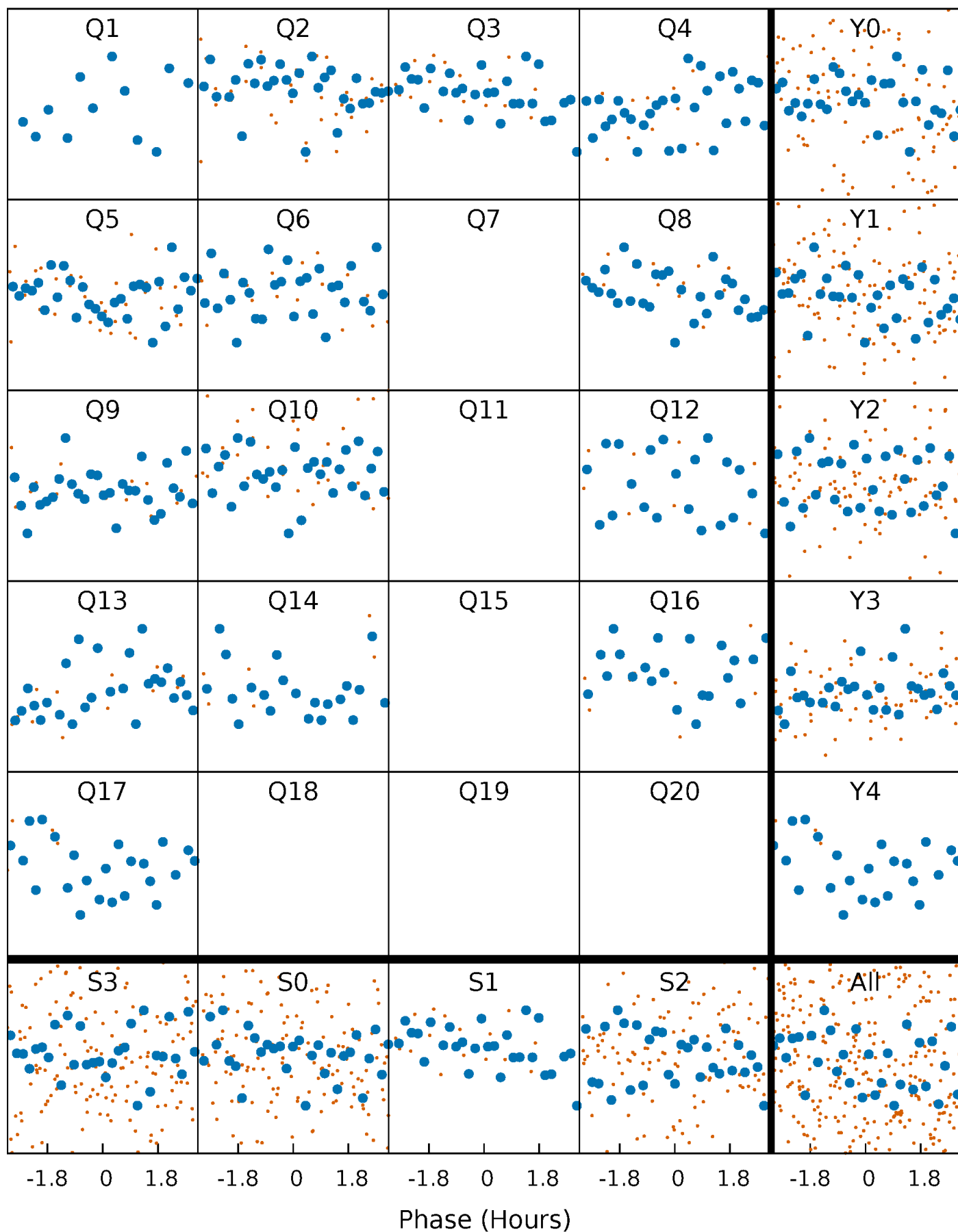


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



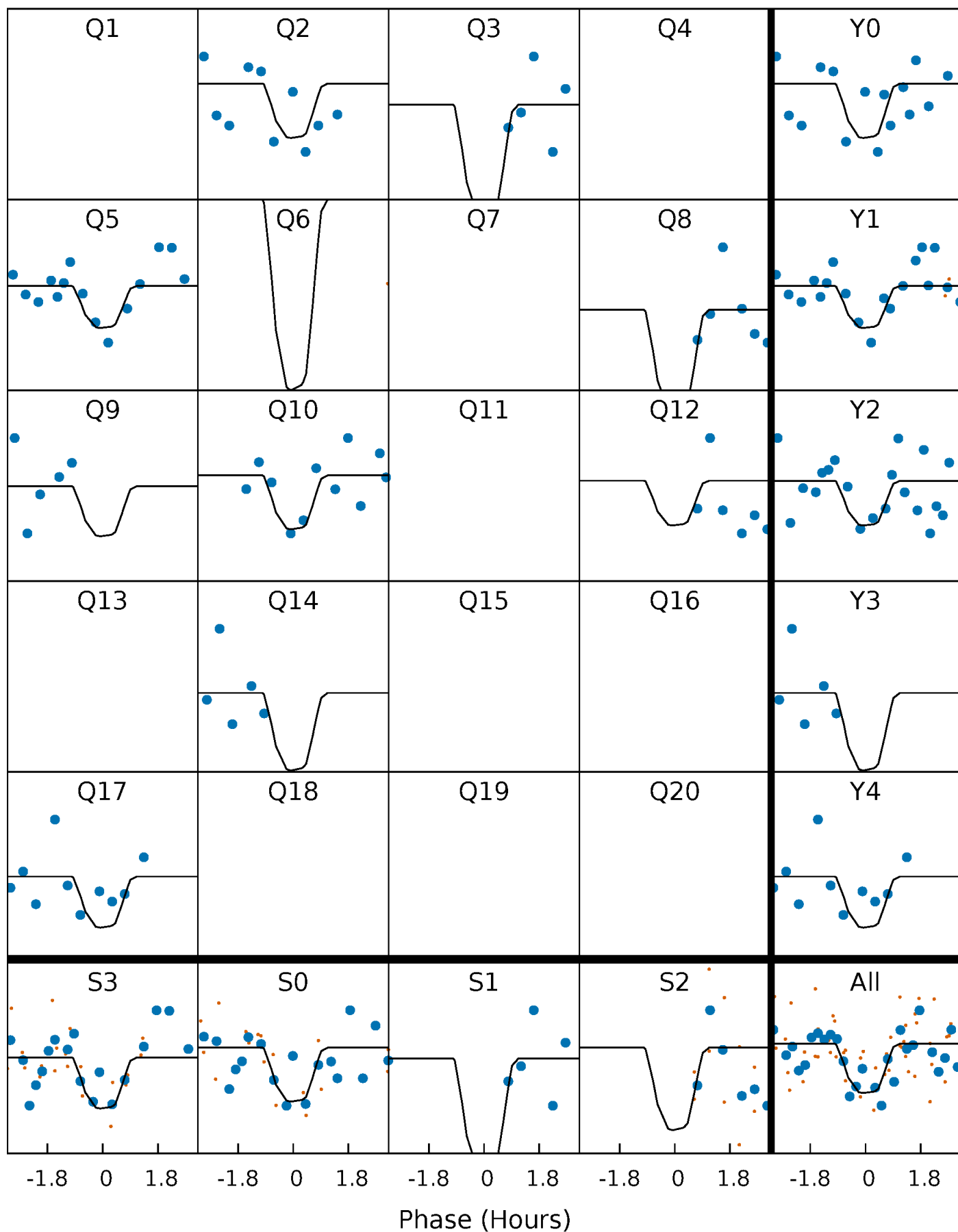
PDC Quarter-Phased Transit Curves

TCE 010621643-04 P= 27.292892 Days $T_0=143.557529$ (BKJD)



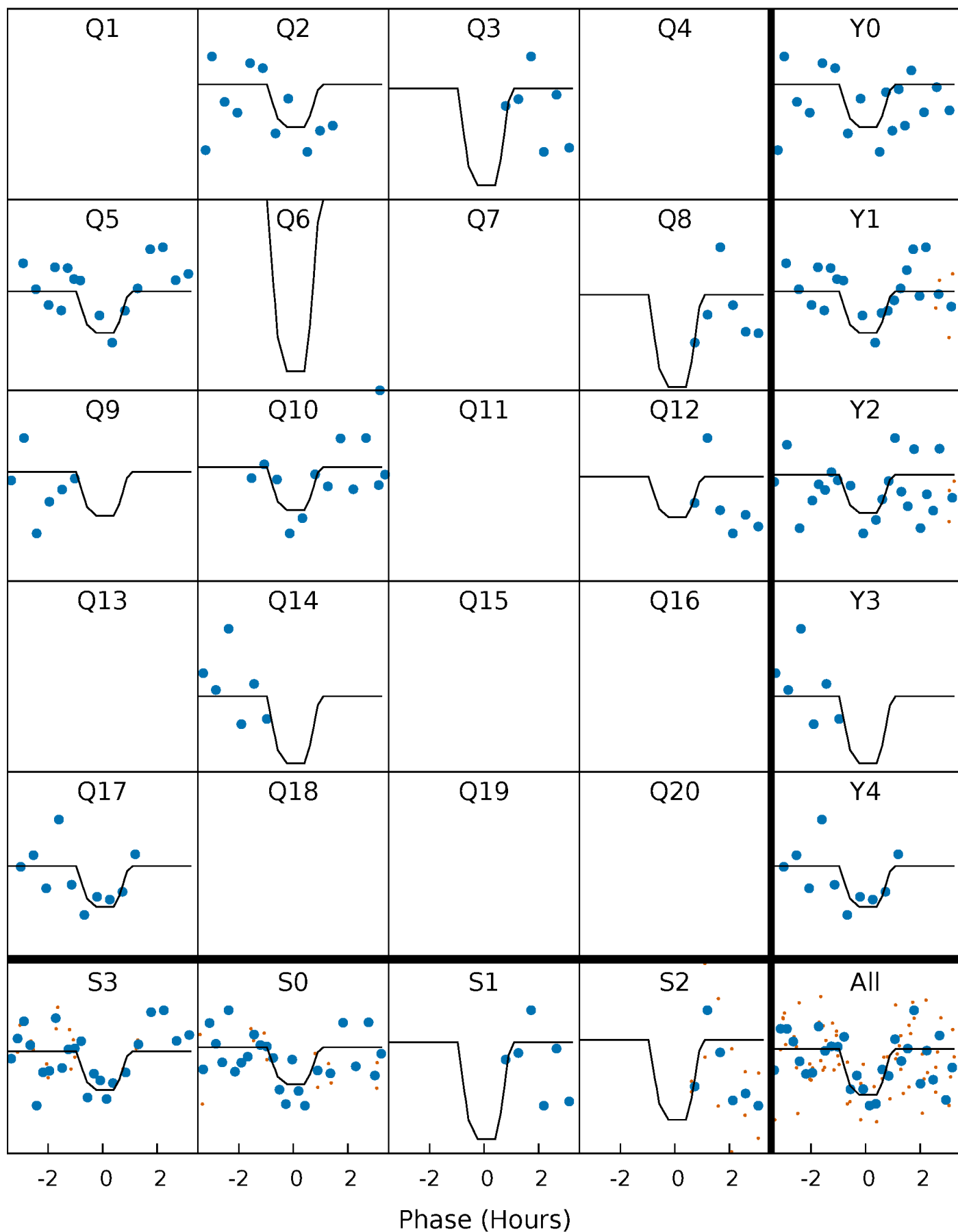
DV Quarter-Phased Transit Curves

TCE 010621643-04 P= 27.292892 Days $T_0=143.557529$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

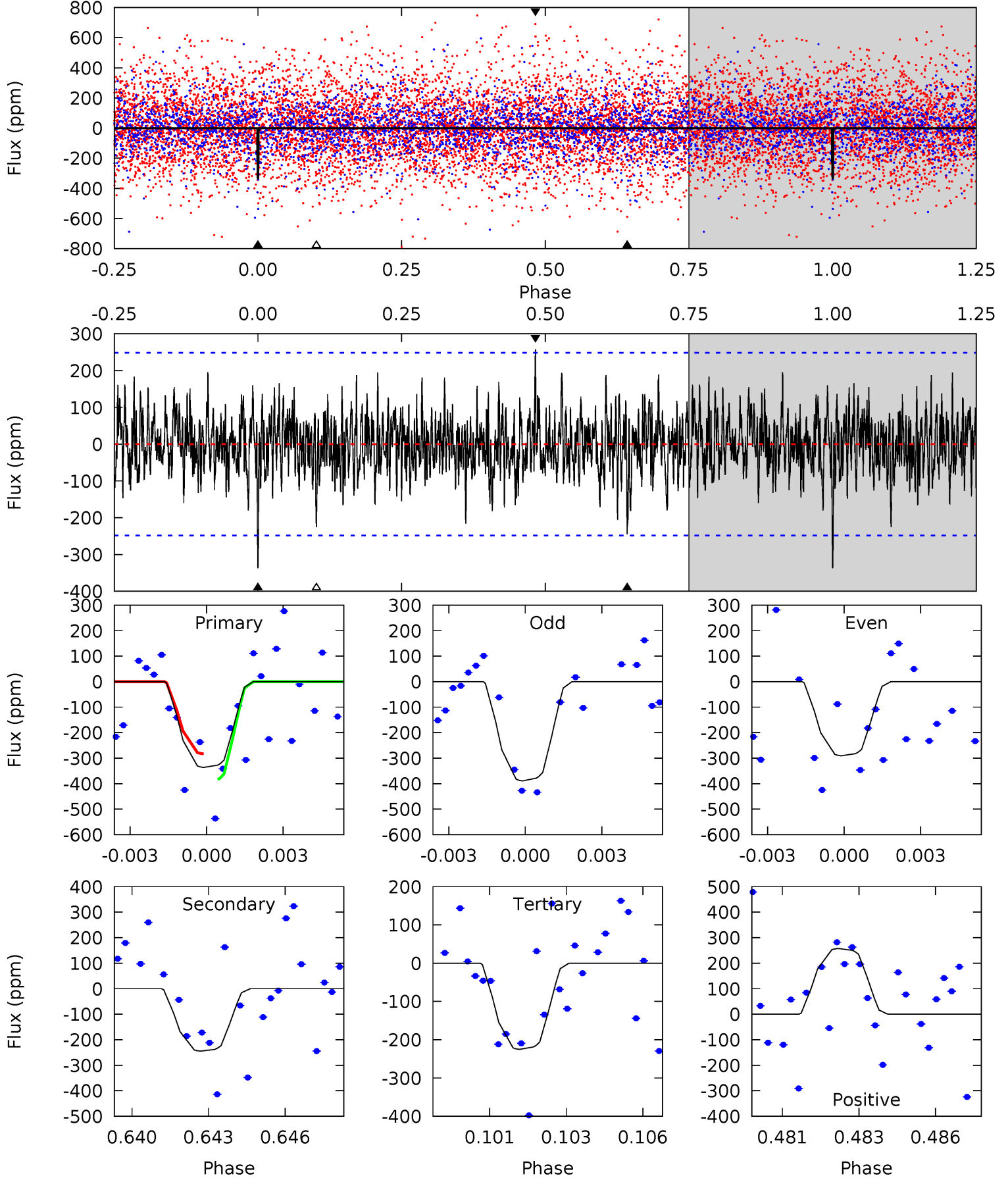
TCE 010621643-04 P= 27.292898 Days $T_0=143.557890$ (BKJD)



DV Model-Shift Uniqueness Test

010621643-04, P = 27.292892 Days, E = 116.264637 Days

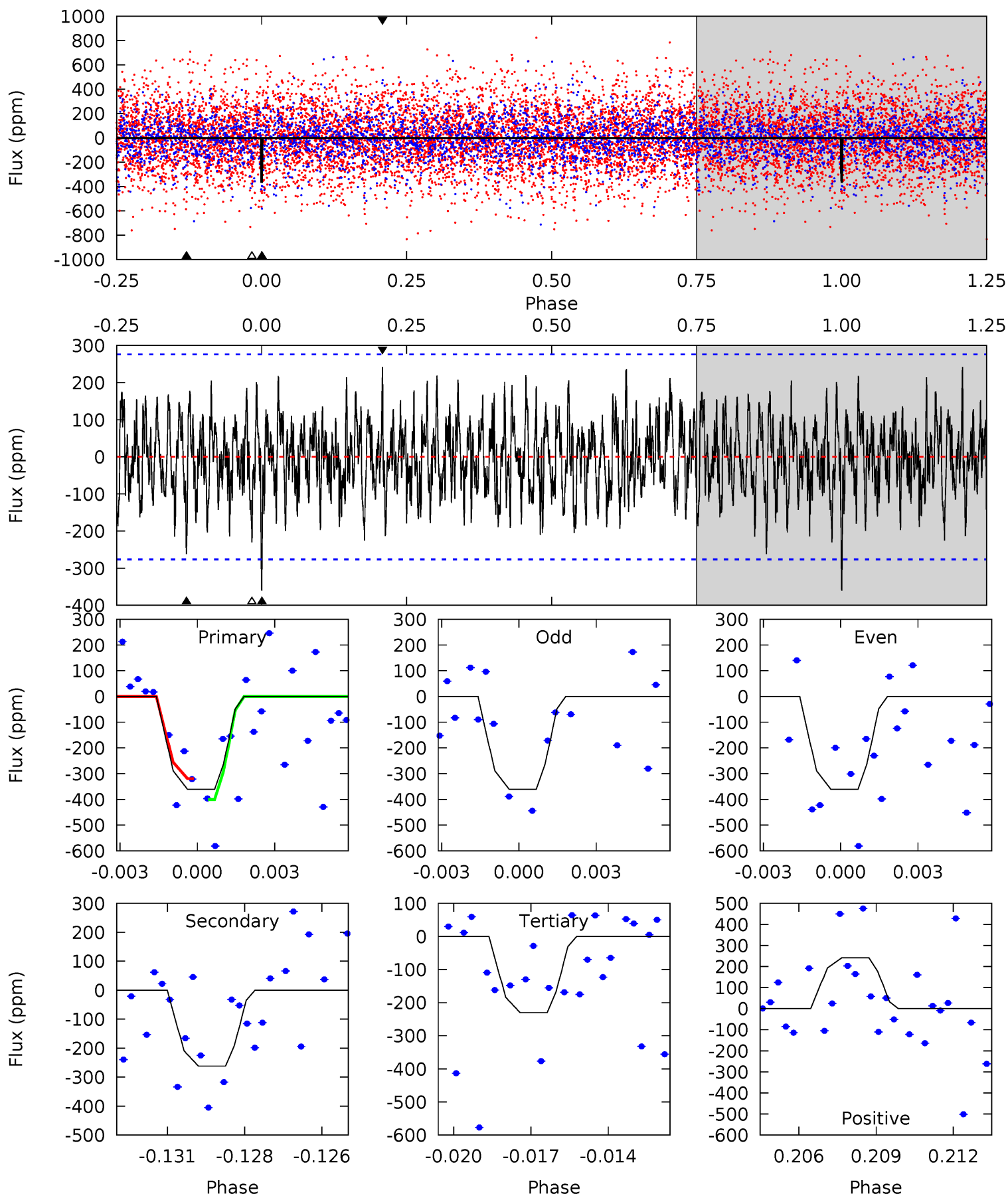
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.13	5.19	4.77	5.46	5.27	2.99	1.41	2.36	1.67	0.41	-0.27	1.02	0.97	0.43	1.05



Alt Model-Shift Uniqueness Test

010621643-04, P = 27.292898 Days, E = 116.264992 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.88	4.99	4.39	4.61	5.27	2.99	1.63	2.49	2.27	0.61	0.39	0.00	0.96	0.40	0.76



Stellar Parameters For KIC 010621643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6423^{+160}_{-192}	$4.316^{+0.101}_{-0.203}$	$-0.060^{+0.250}_{-0.300}$	$1.247^{+0.418}_{-0.179}$	$1.172^{+0.185}_{-0.152}$	$0.851^{+0.351}_{-0.453}$
	+2%/-3%	+2%/-5%	+417%/-500%	+34%/-14%	+16%/-13%	+41%/-53%
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 010621643-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-245 ± 47	$4.00^{+3.36}_{-2.67}$	1034^{+78}_{-55}	4829^{+3879}_{-983}	294^{+2280}_{-211}
Alt.	-262 ± 52	$3.64^{+3.16}_{-2.42}$	1036^{+77}_{-55}	5179^{+4158}_{-1164}	372^{+2814}_{-271}

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

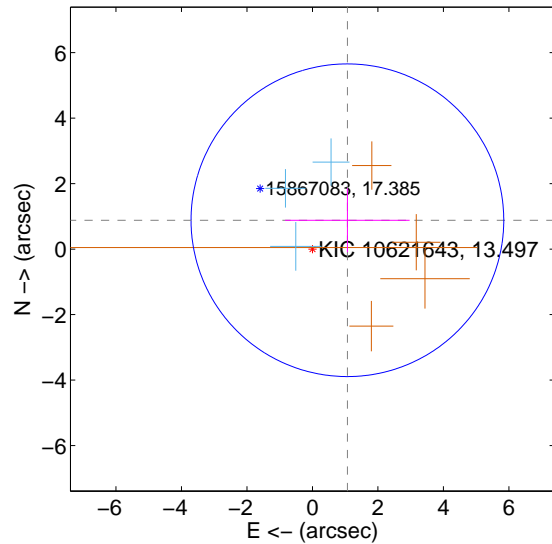
Supplemental centroid analysis for 010621643-04. Kepler magnitude: 13.50. Transit SNR 10.05

There are 3 quarters with good PRF difference image offsets

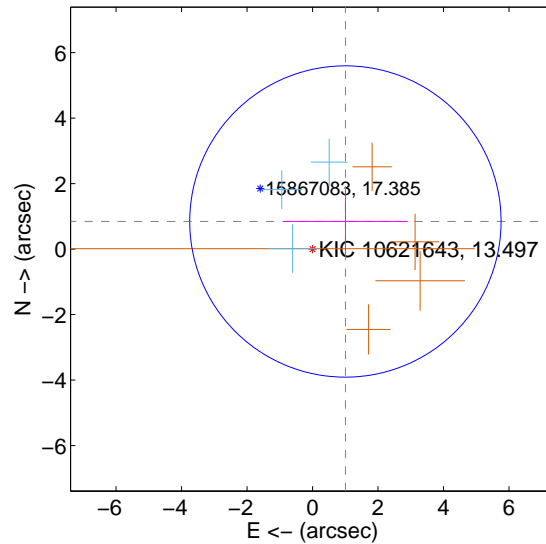
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.384 ± 1.591	0.87	-1.067 ± 1.900	0.881 ± 0.975
PRF-fit source offset from KIC position	1.311 ± 1.584	0.83	-1.004 ± 1.900	0.843 ± 0.975
photometric centroid source offset	1.31 ± 0.65	2.03	1.31 ± 0.64	0.09 ± 0.71

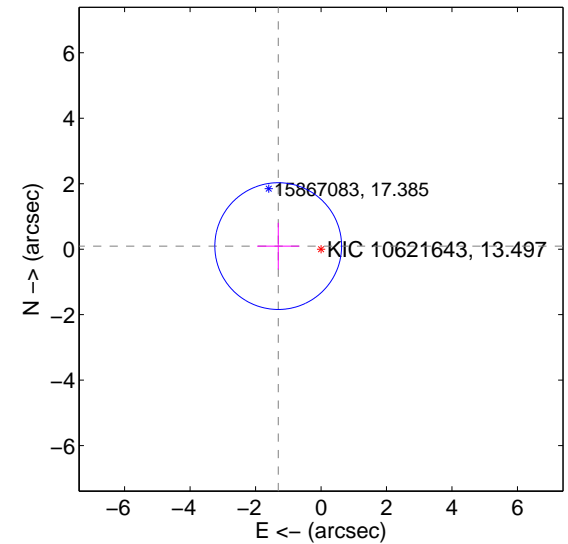
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

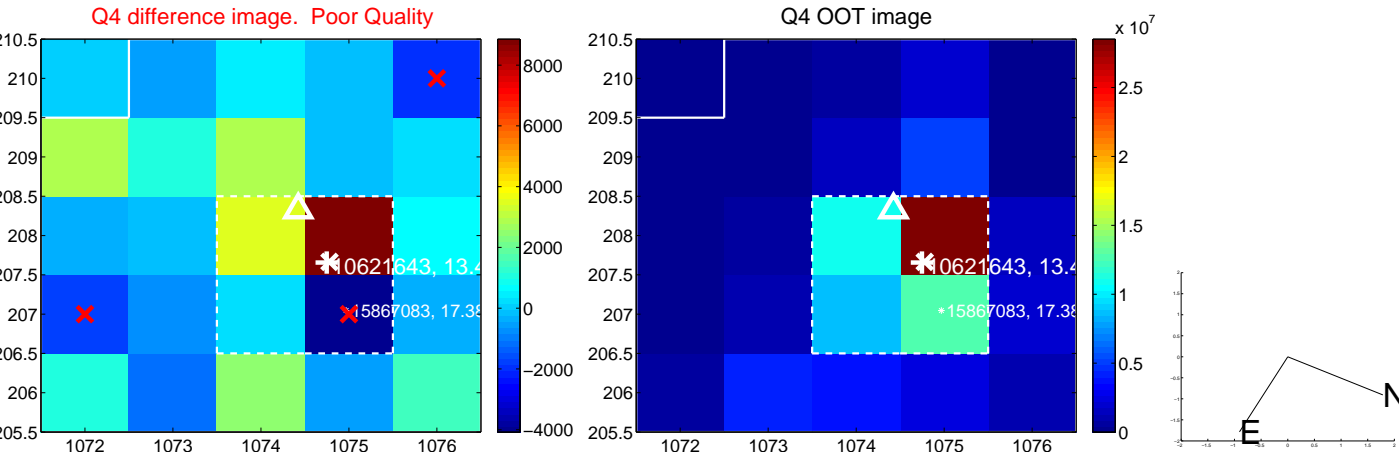
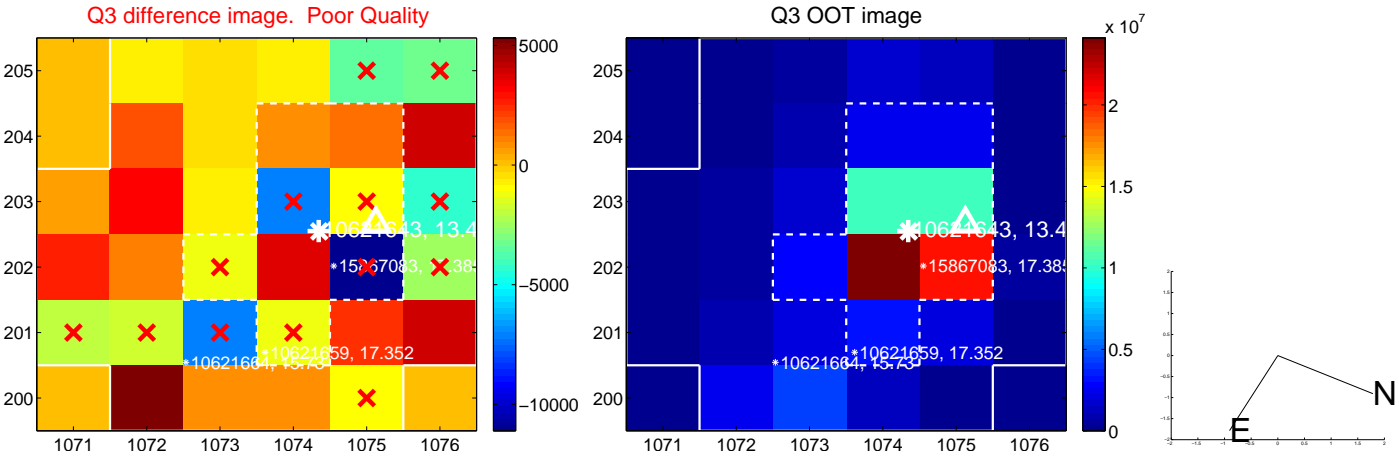
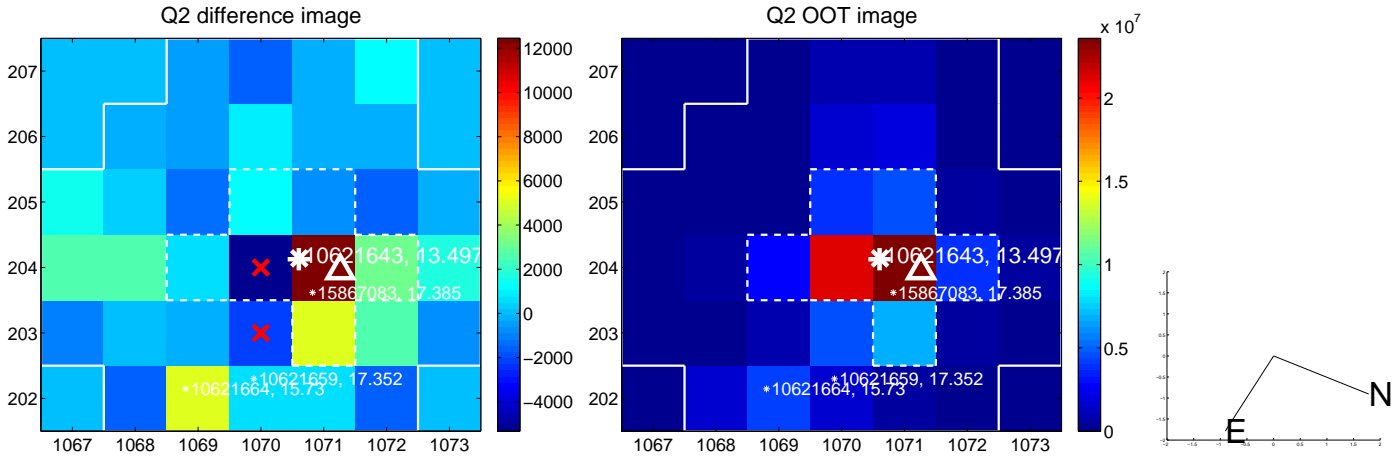
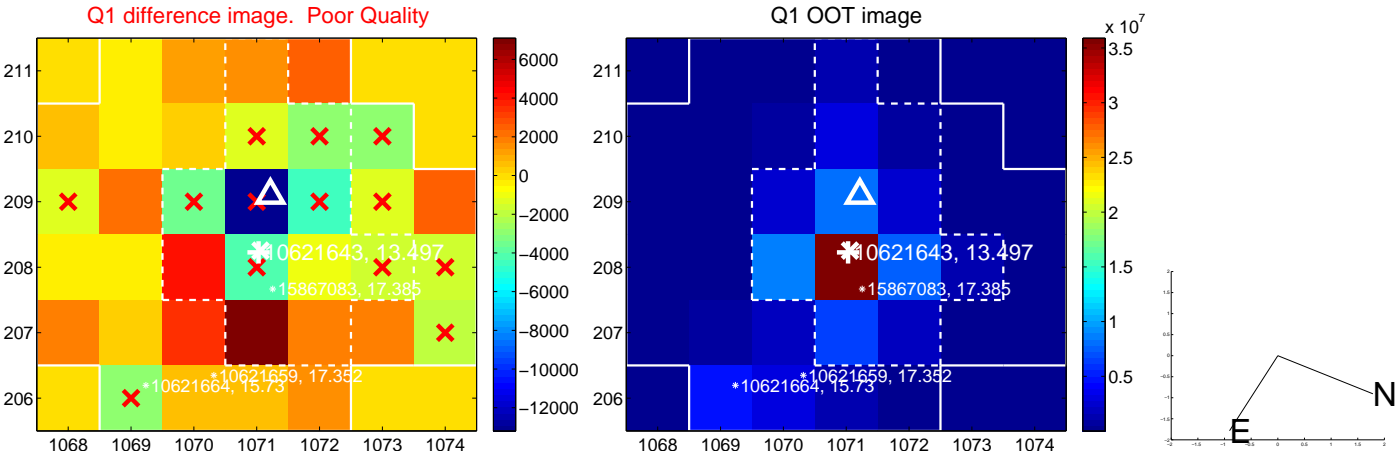


offset from photometric centroids

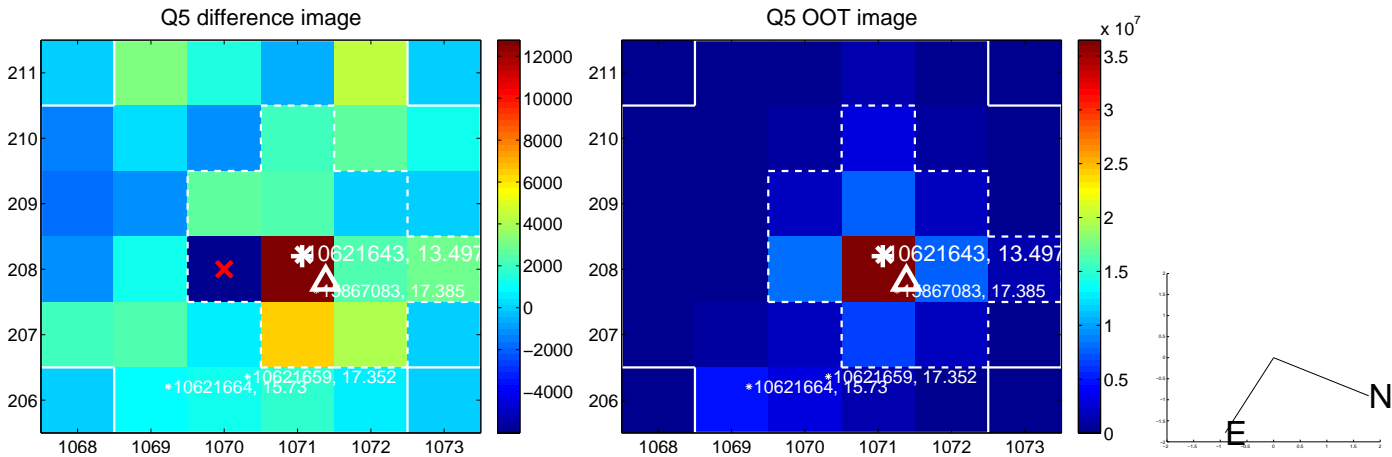


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

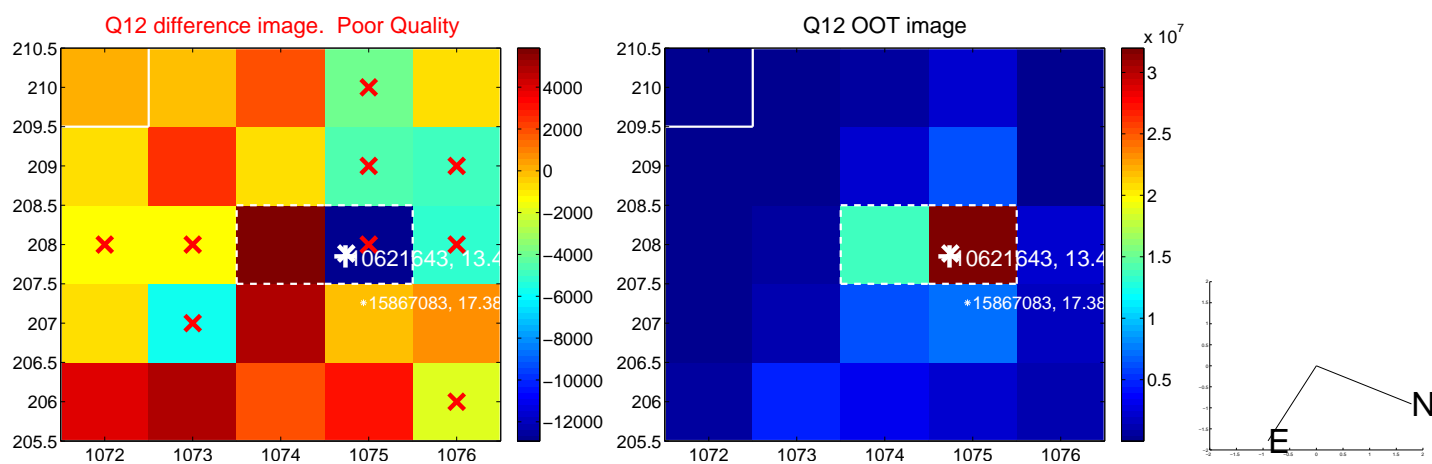
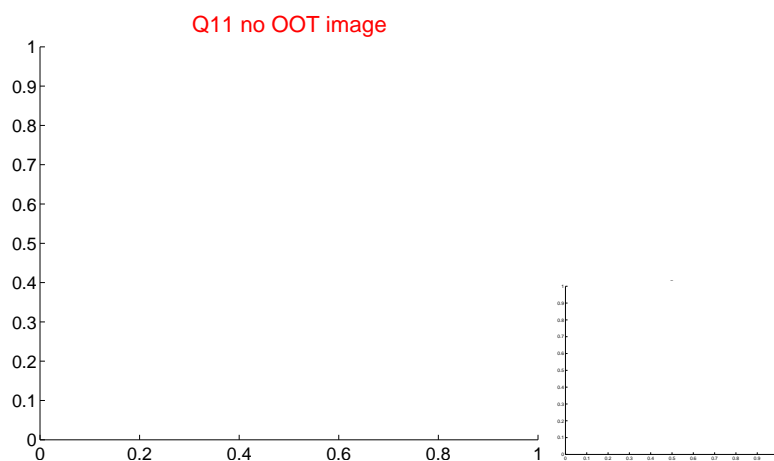
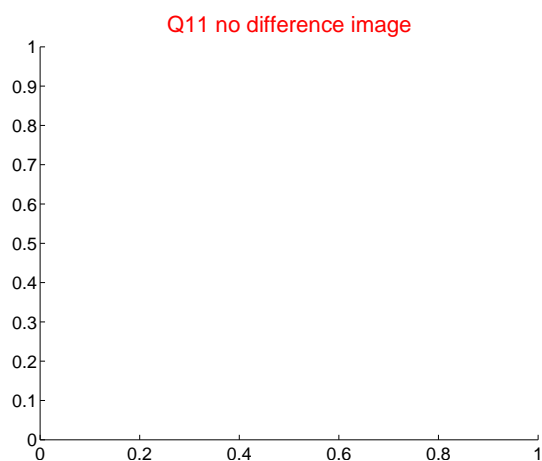
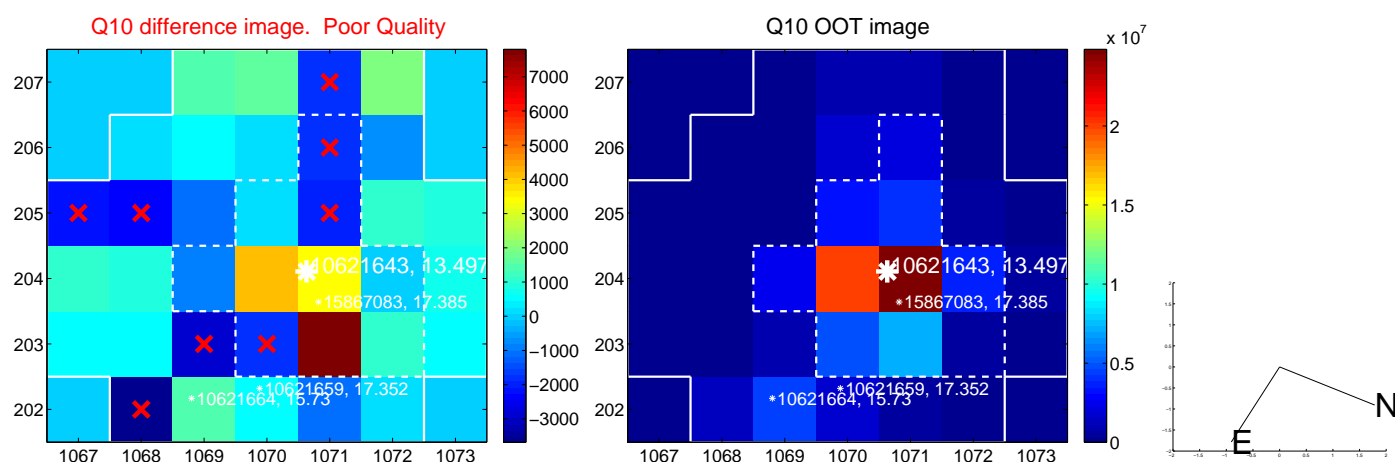
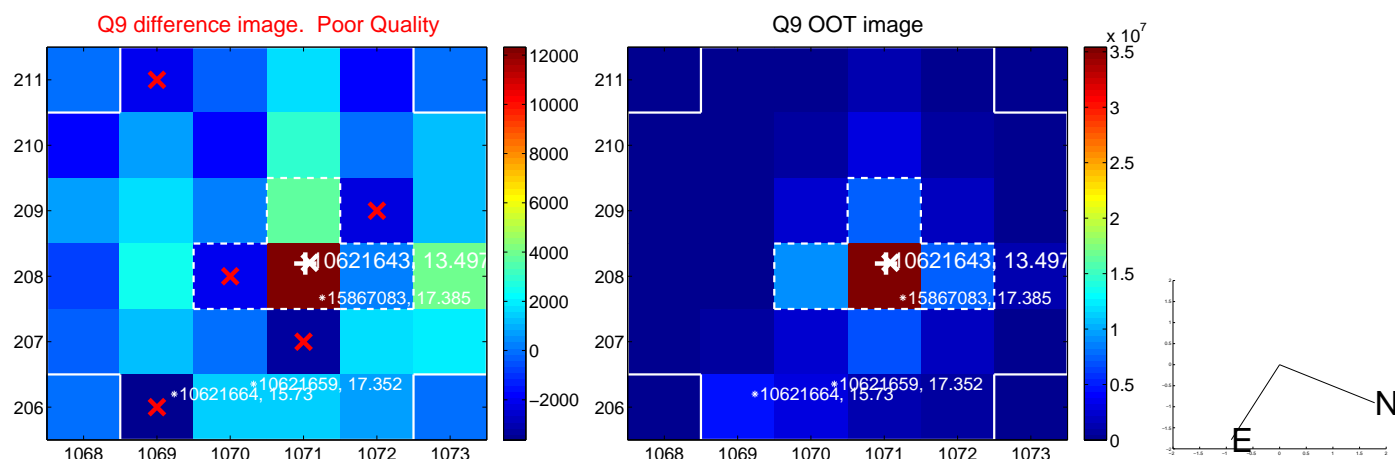
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



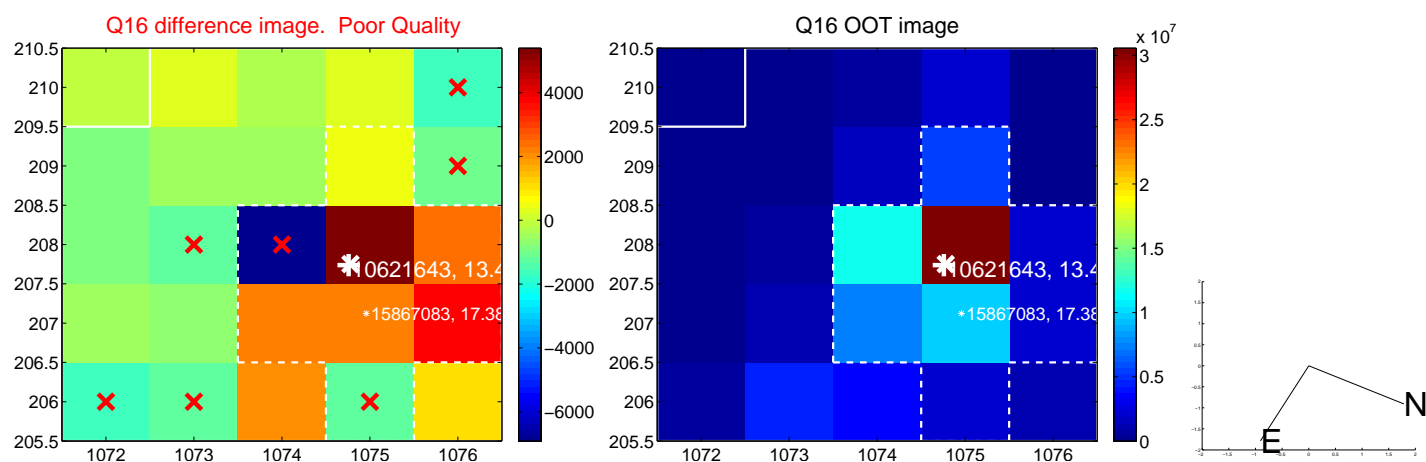
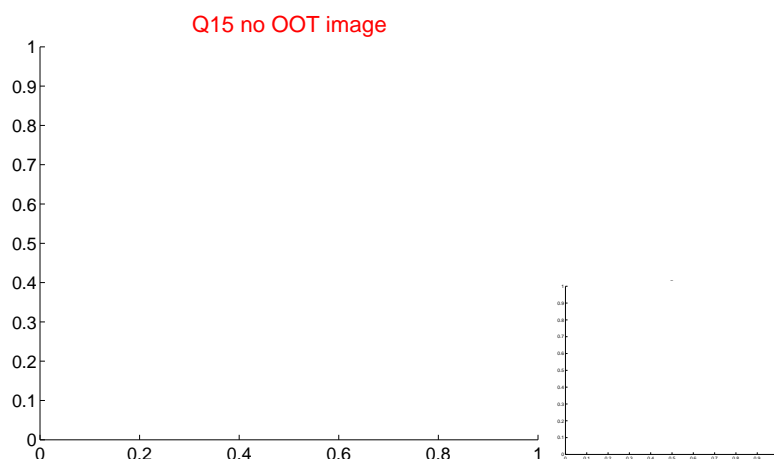
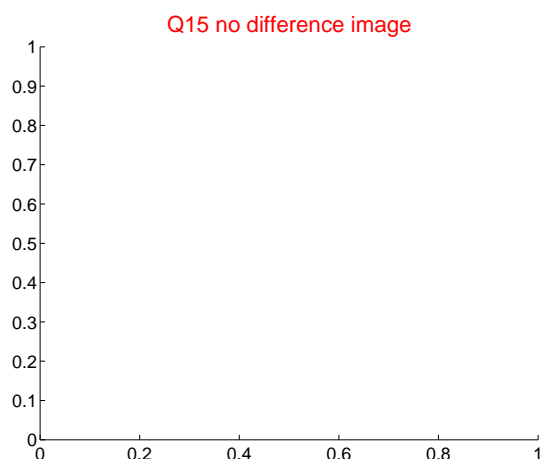
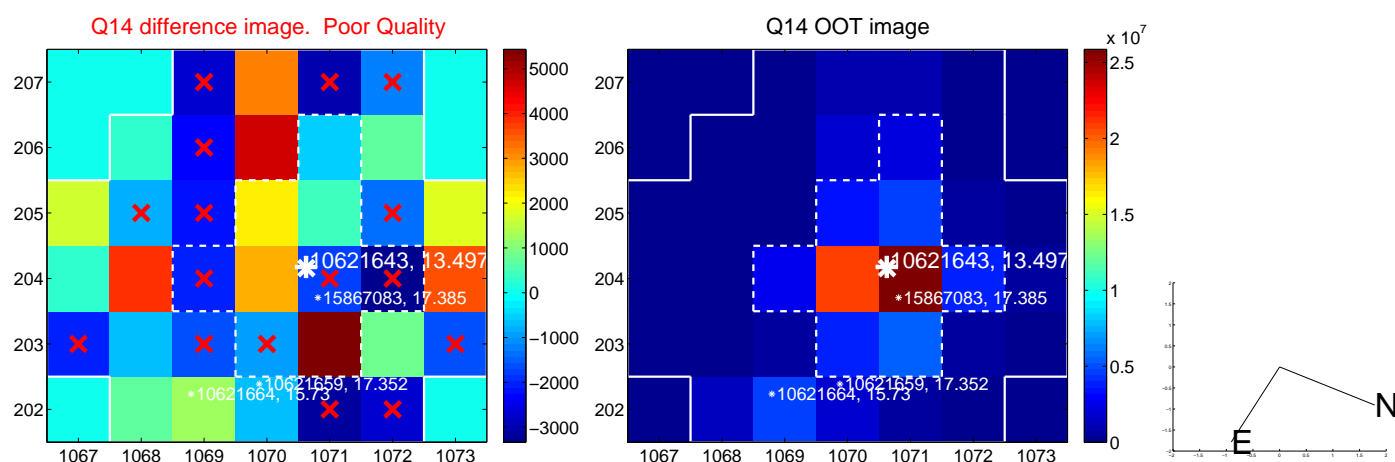
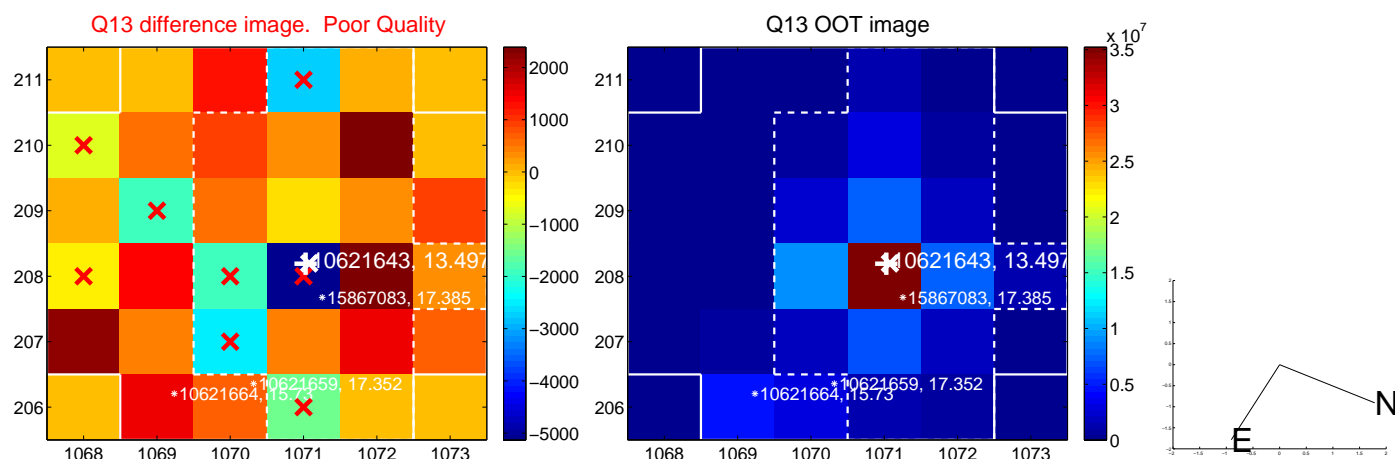
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



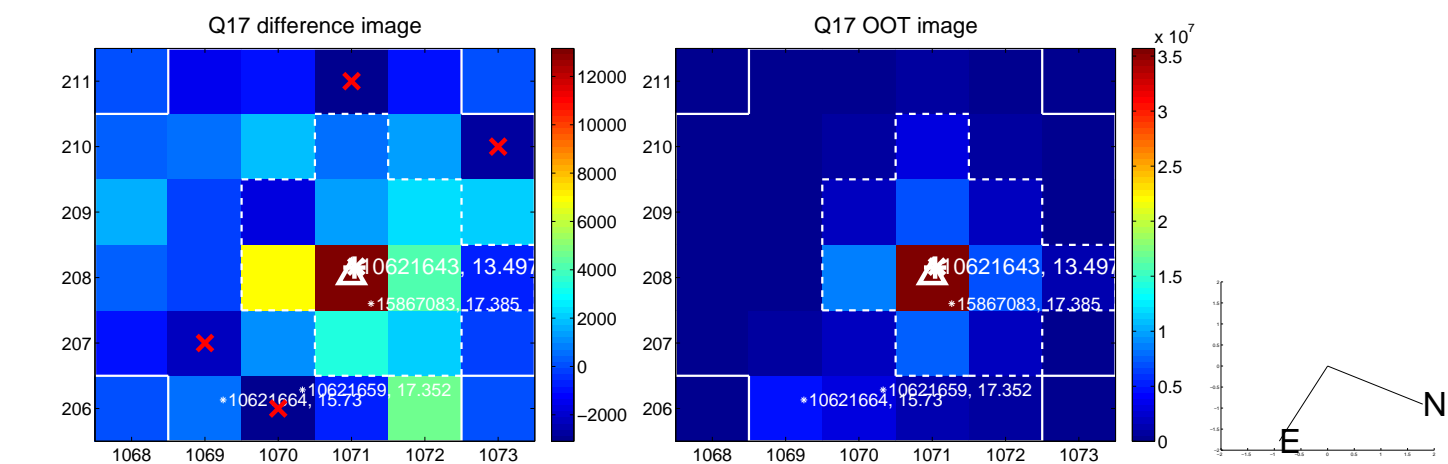
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



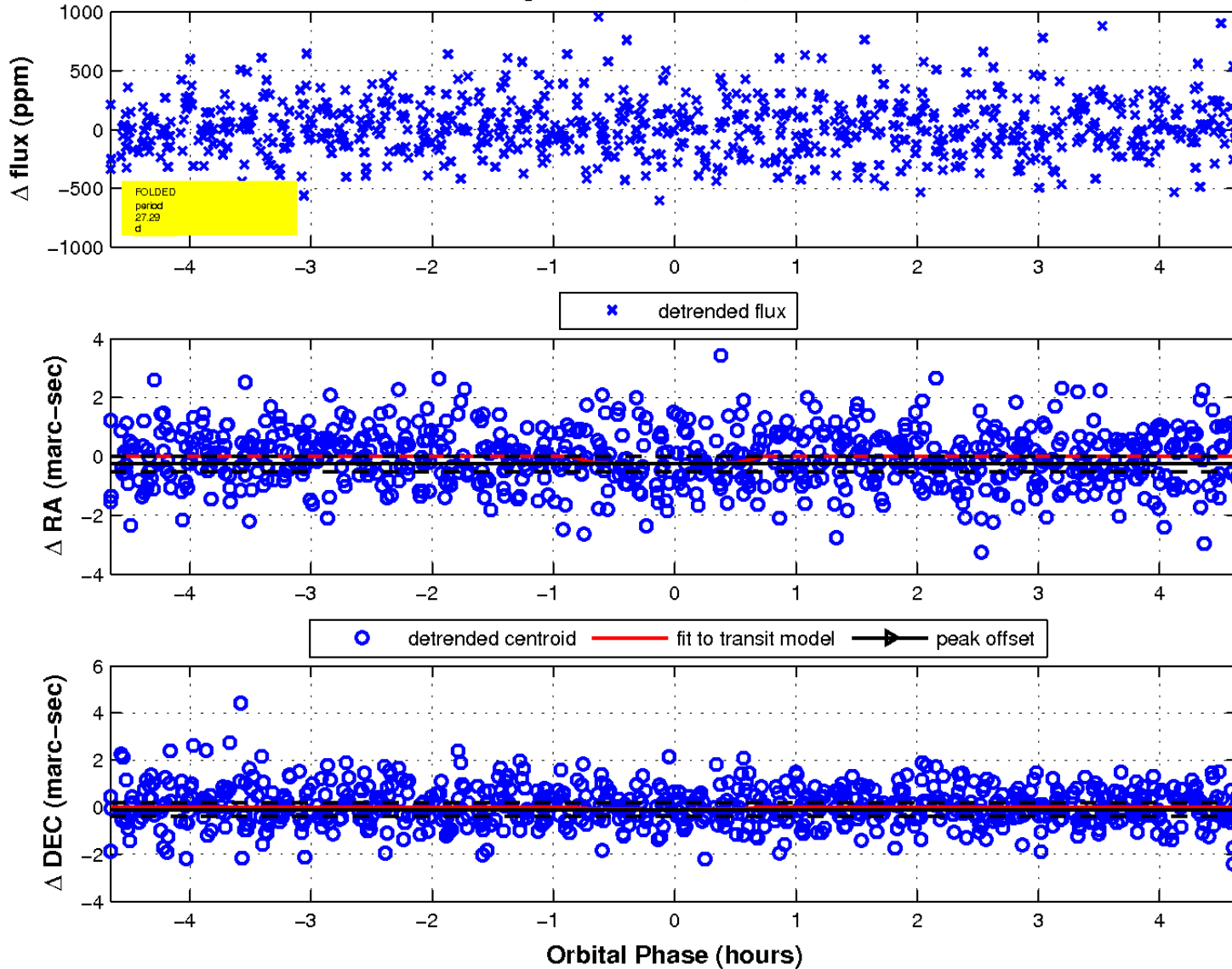
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

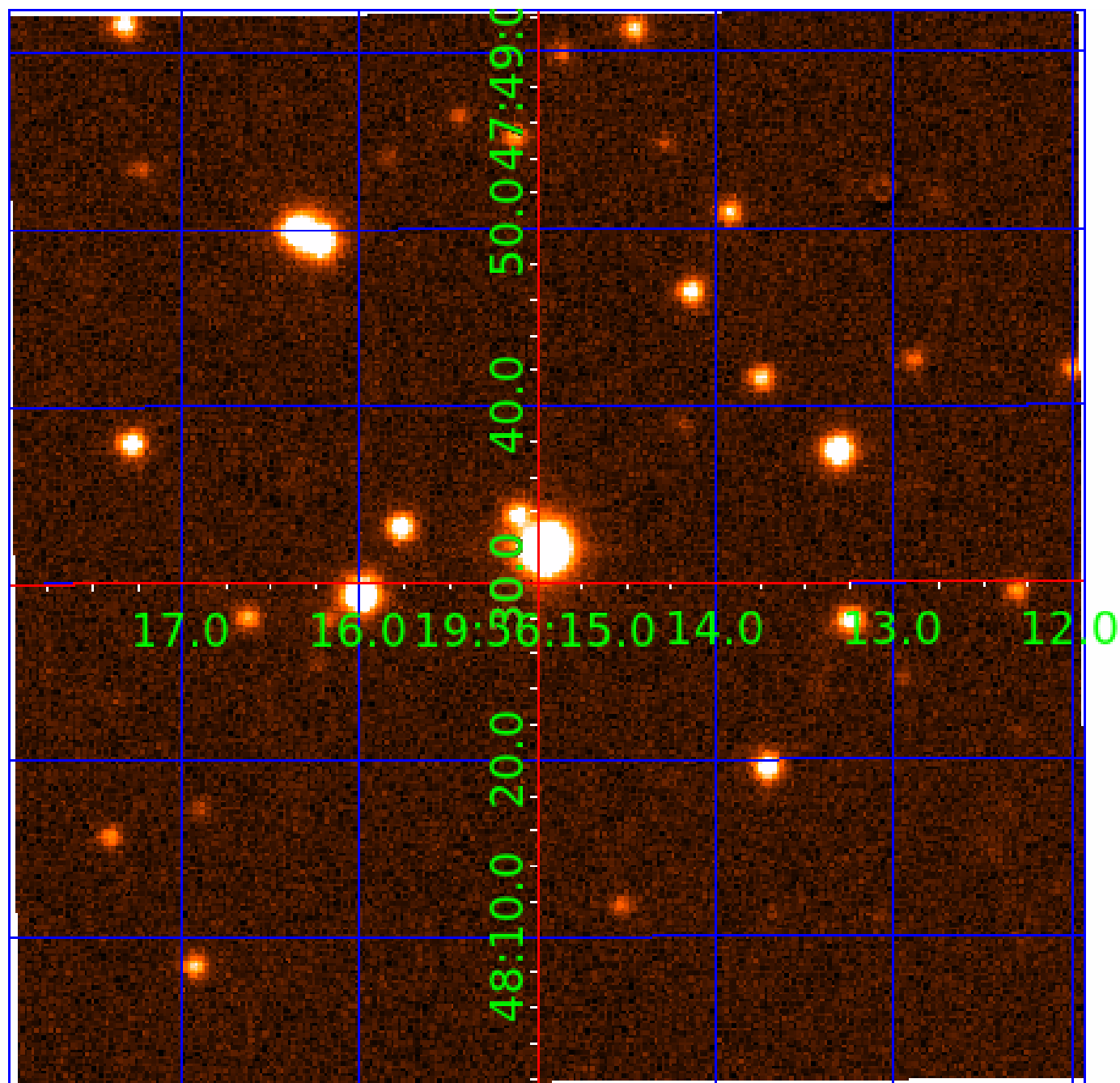


fluxWeightedCentroids, Planet 4 of 6



UKIRT Image

Declination



KIC 010621643

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})
010621643-01	OBS	No	1.480297	132.032461	7.2	9.802	9.6	2.6	1.25	6423	0.40	3295.78
010621643-03	OBS	No	64.299415	157.892604	395.4	2.197	9.6	10.8	1.25	6423	2.92	21.59
010621643-04	OBS	No	27.292892	143.557529	398.3	1.552	9.1	10.1	1.25	6423	2.89	67.66
010621643-05	OBS	No	247.228011	332.438755	251.2	7.684	8.1	8.6	1.25	6423	2.31	3.58
010621643-06	OBS	No	43.332094	135.930240	278.7	3.794	8.6	8.9	1.25	6423	2.35	36.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010621643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010621643-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
010621643-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

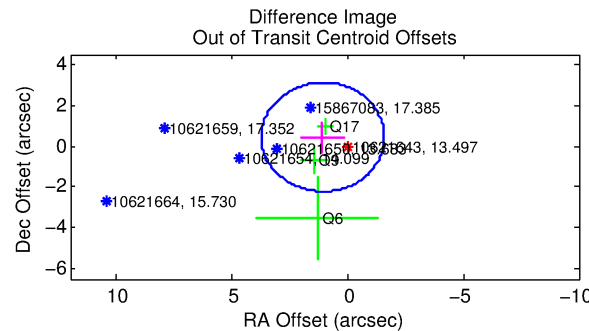
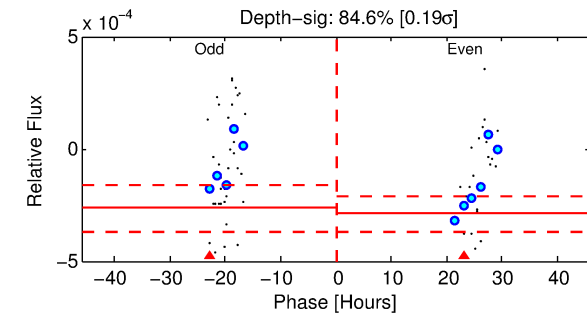
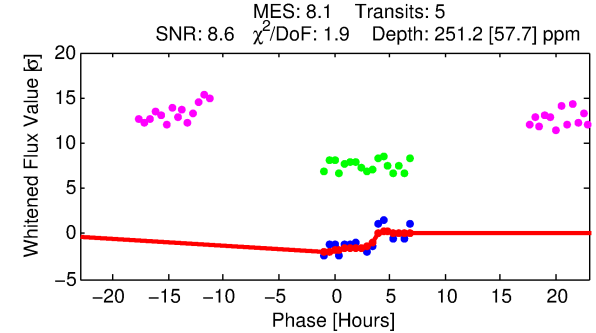
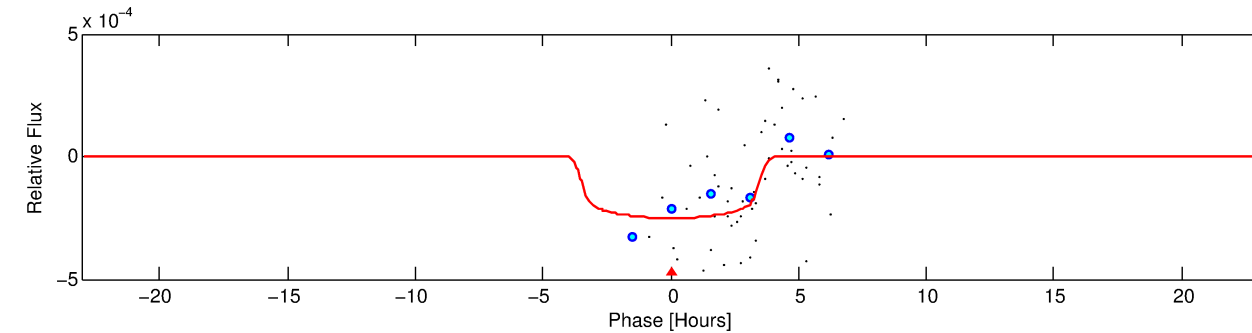
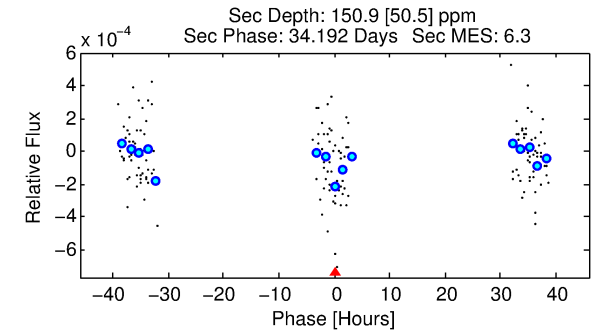
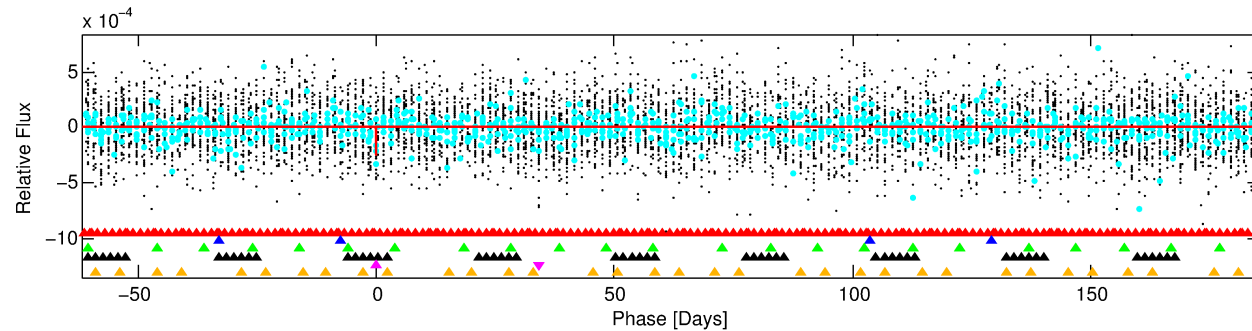
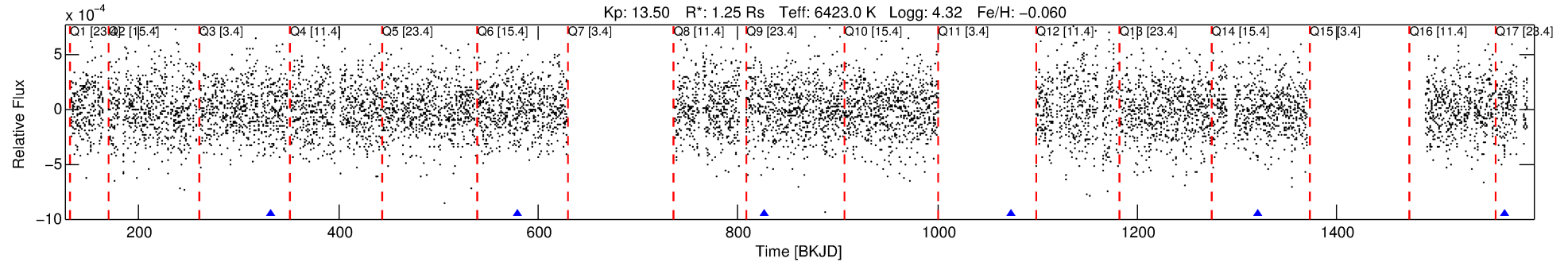
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010621643-05

No Significant Match Found

DV One-Page Summary

KIC: 10621643 Candidate: 5 of 6 Period: 247.228 d



DV Fit Results:

Period = 247.22801 [0.00645] d
Epoch = 332.4388 [0.1252] BKJD
Rp/R* = 0.0170 [0.0074]
a/R* = 117.46 [328.29]
b = 0.90 [0.46]
Seff = 3.58 [1.44]
Teff = 351 [35] K
Rp = 2.31 [1.27] Re
a = 0.8135 [0.2216] AU
Ag = 10308.12 [10395.67] [0.99σ]
Teffp = 5466 [1285] K [3.98σ]

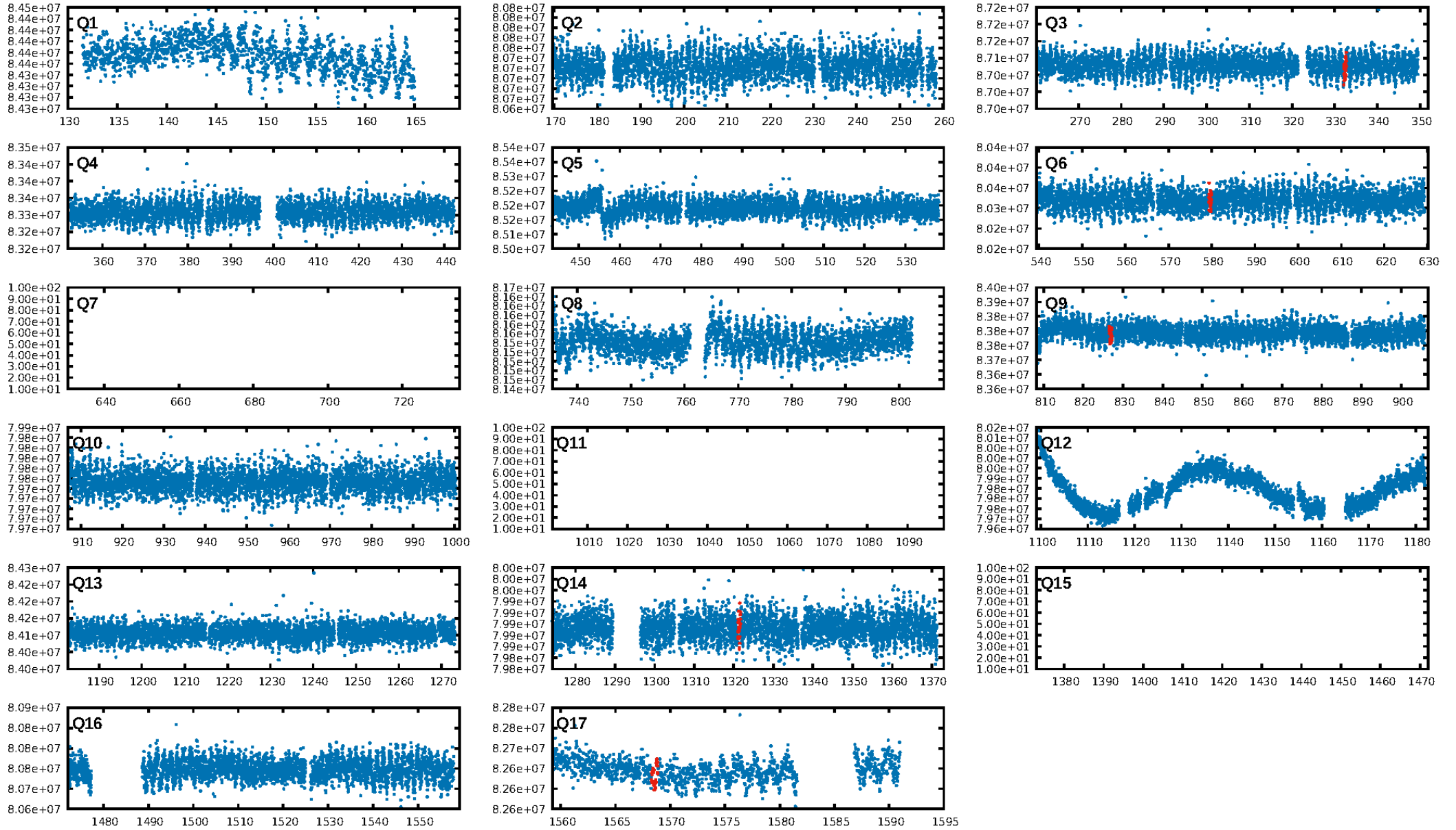
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [549.36σ]
LongPeriod-sig: 100.0% [135.53σ]
ModelChiSquare2-sig: 13.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.42e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.8686
Centroid-sig: 12.8%
Centroid-so: 1.412 arcsec [1.04σ]
OotOffset-rm: 1.172 arcsec [1.32σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 1.240 arcsec [1.38σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/5]

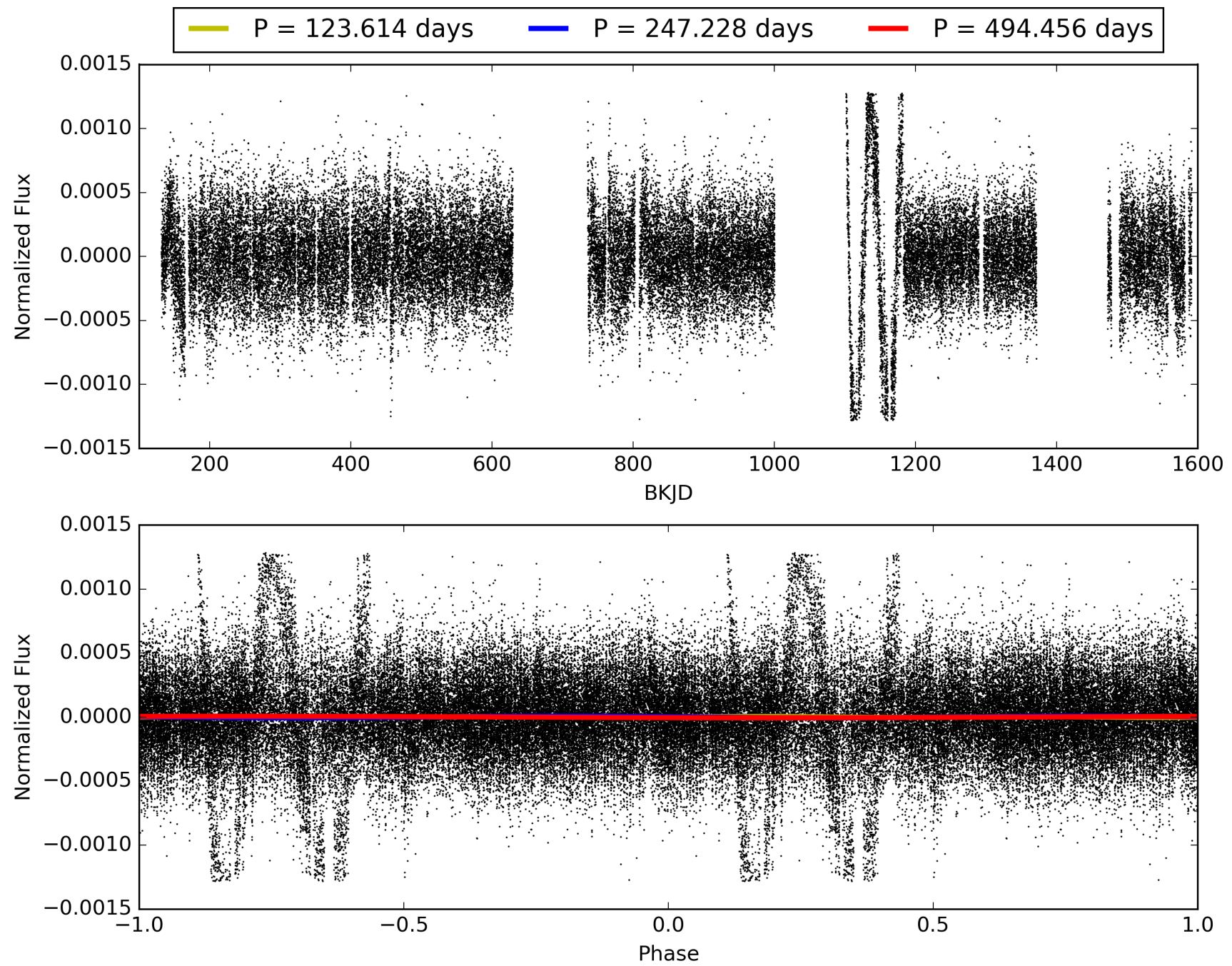
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:03:24 Z

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

TCE 010621643-05, PDC Light Curves

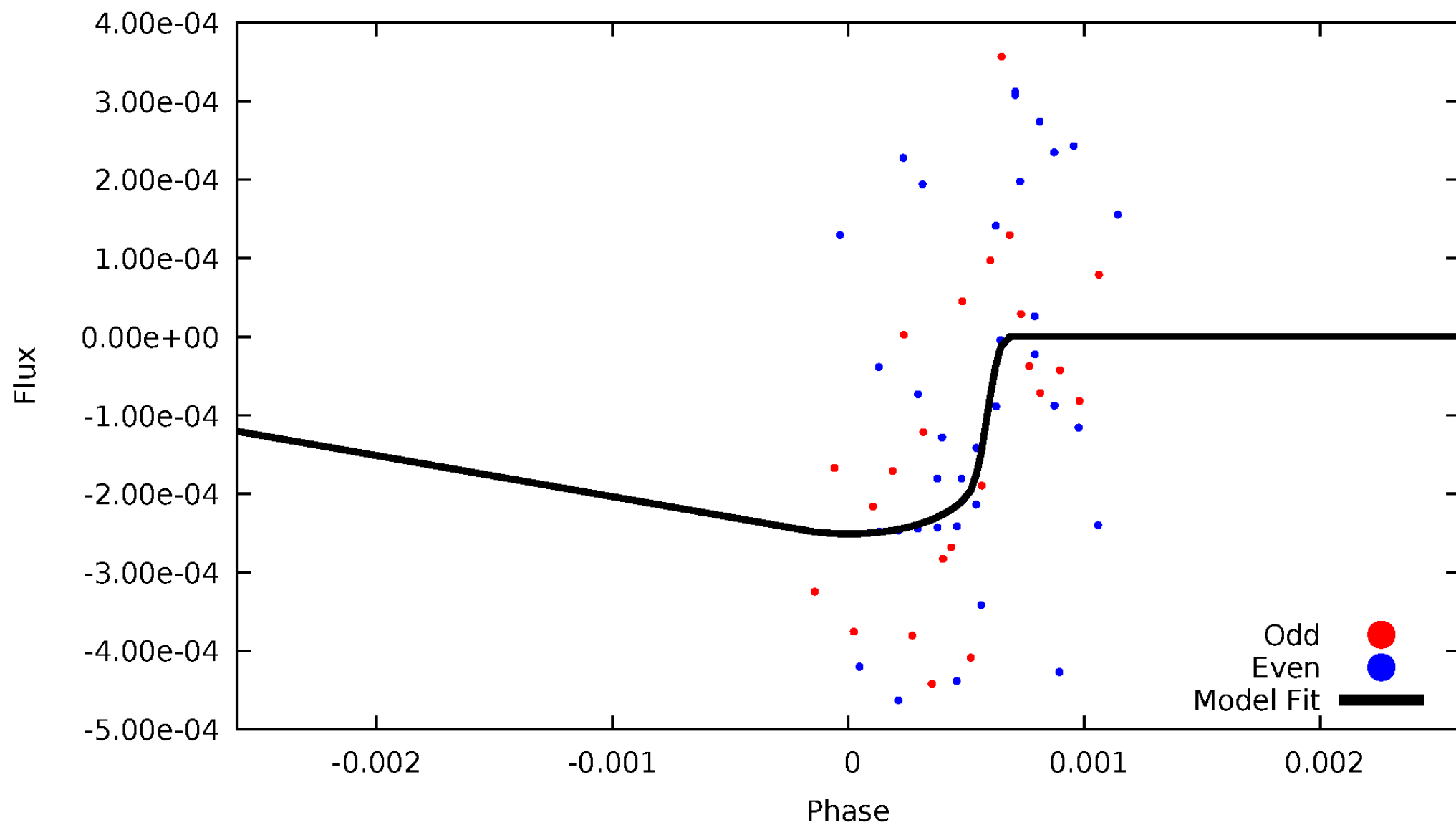


TCE 010621643-05



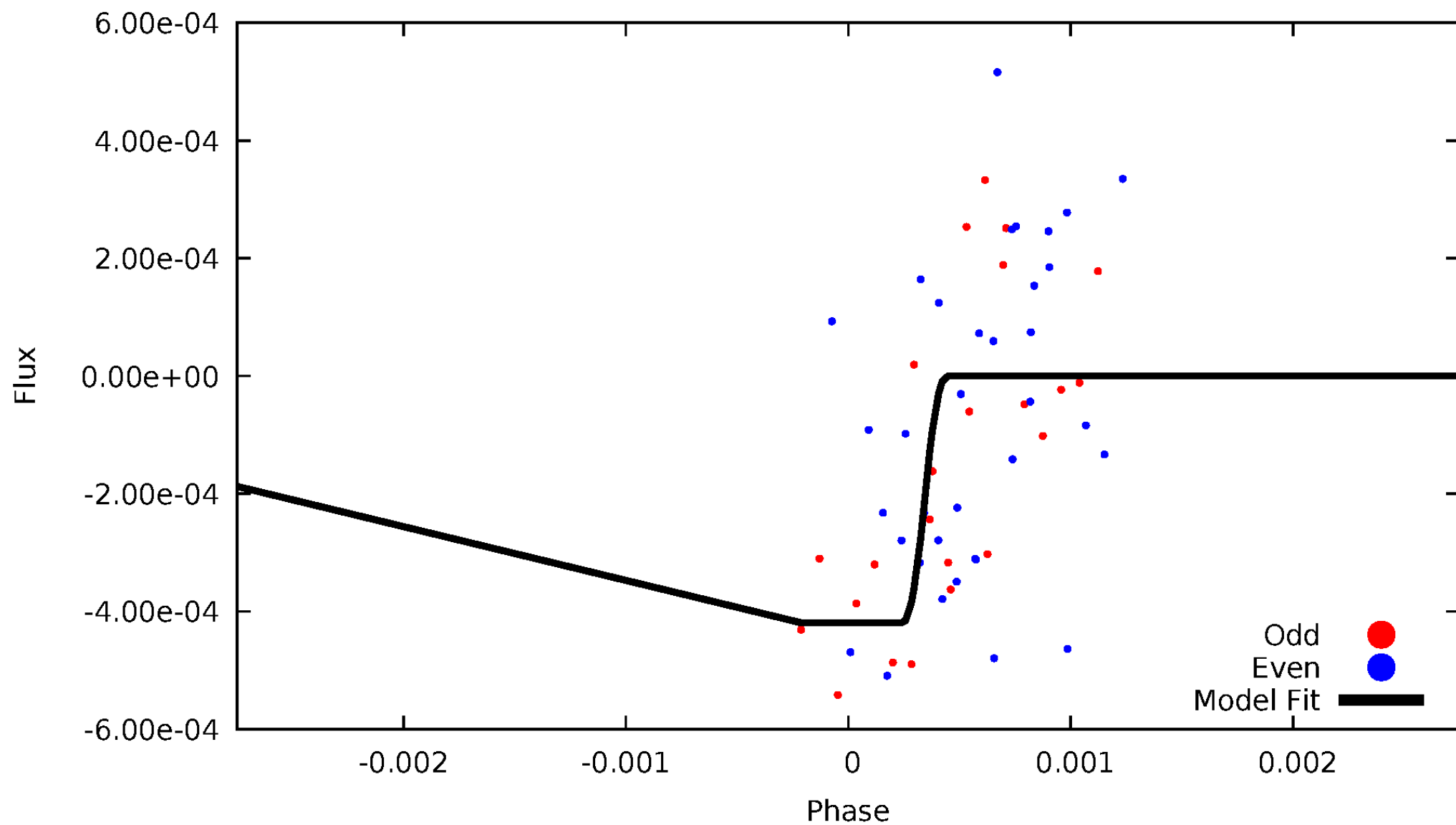
DV Odd/Even

TCE 010621643-05



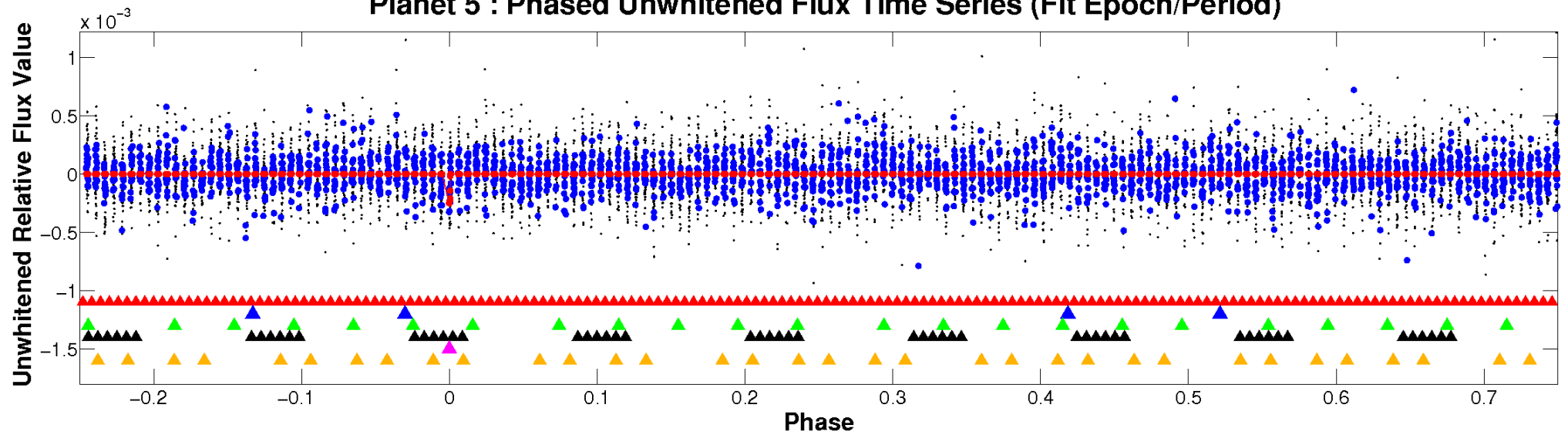
ALT Odd/Even

TCE 010621643-05

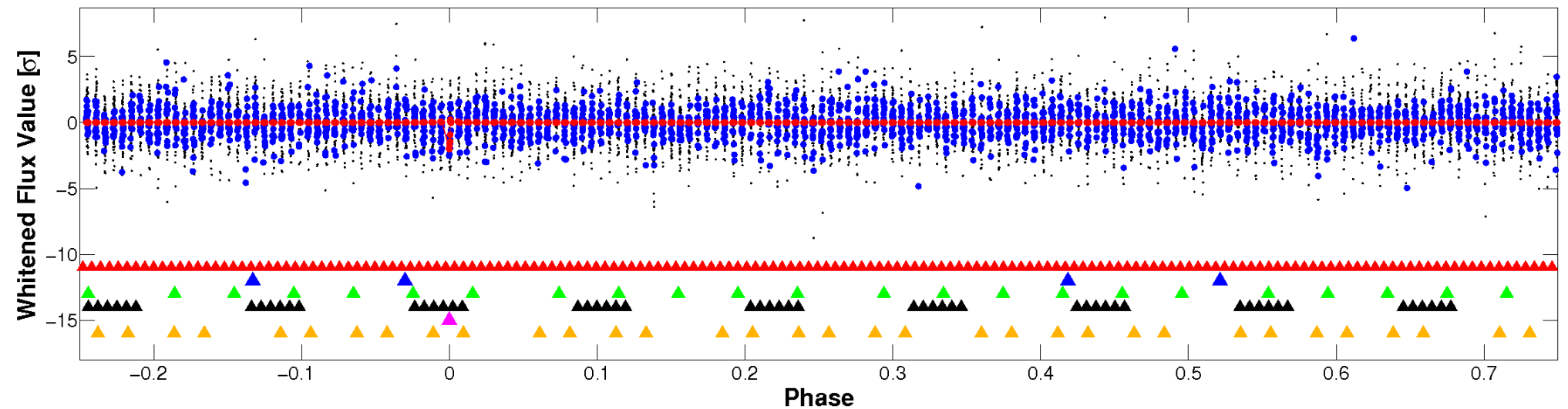


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

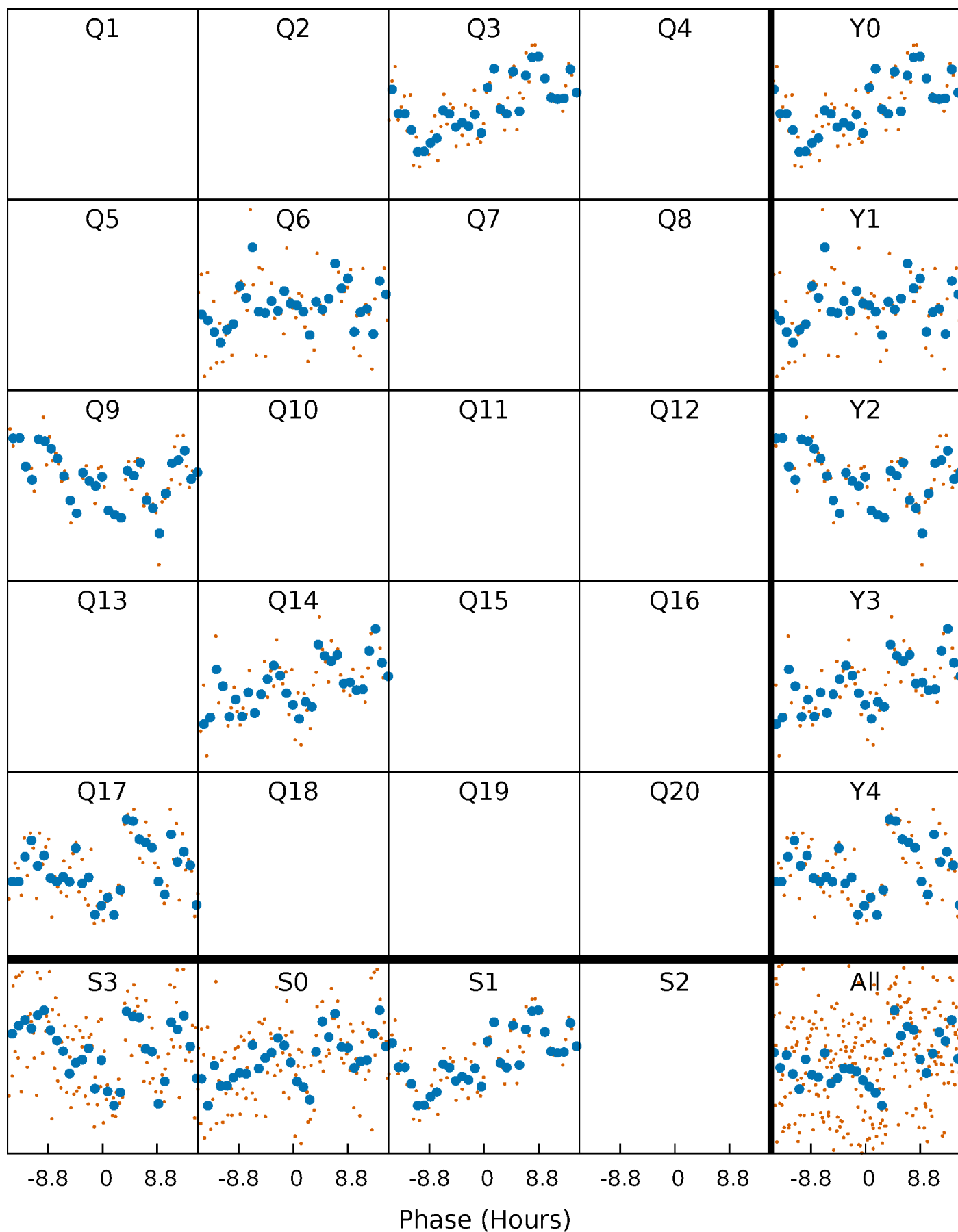


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



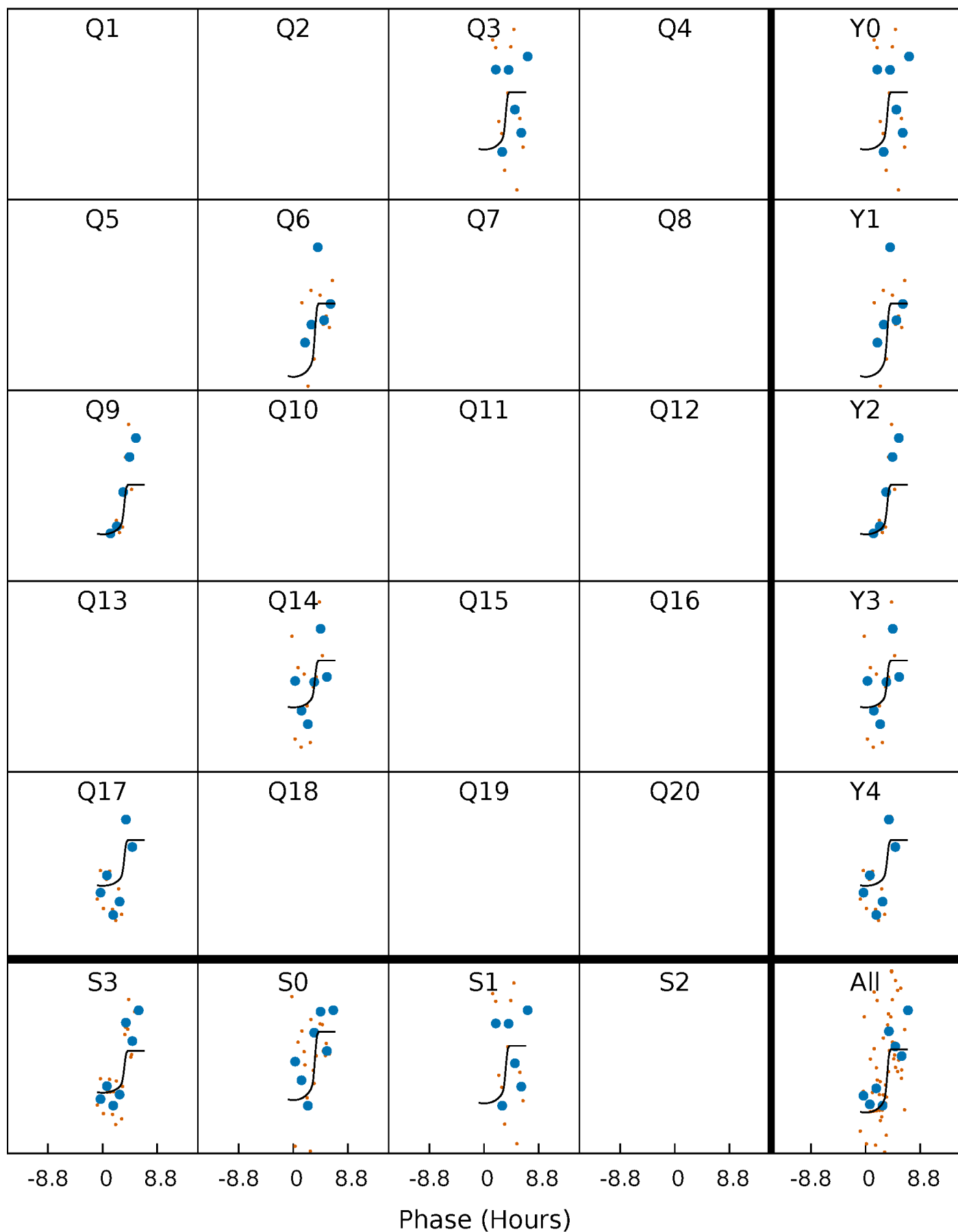
PDC Quarter-Phased Transit Curves

TCE 010621643-05 $P=247.228011$ Days $T_0=332.438755$ (BKJD)



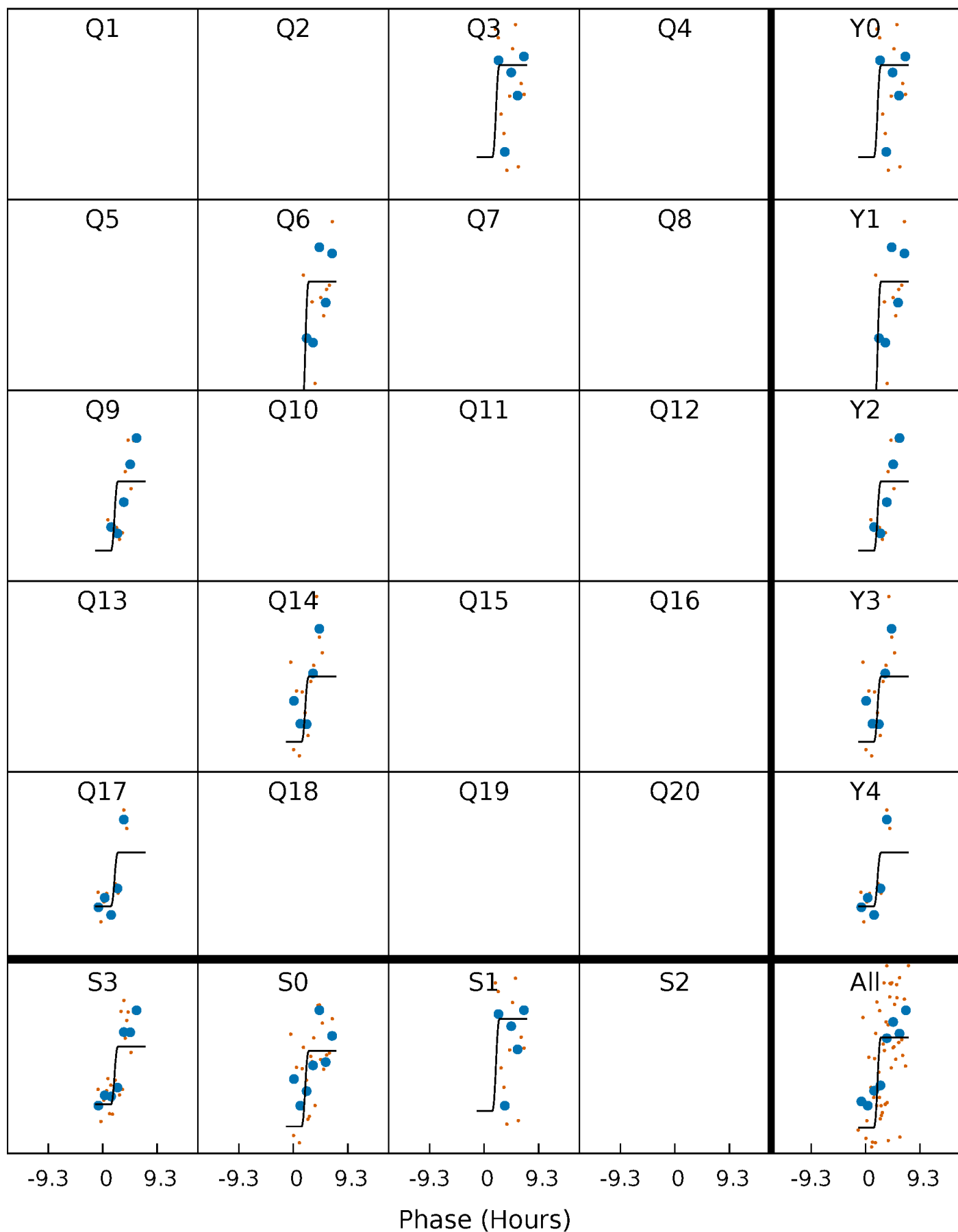
DV Quarter-Phased Transit Curves

TCE 010621643-05 $P=247.228011$ Days $T_0=332.438755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

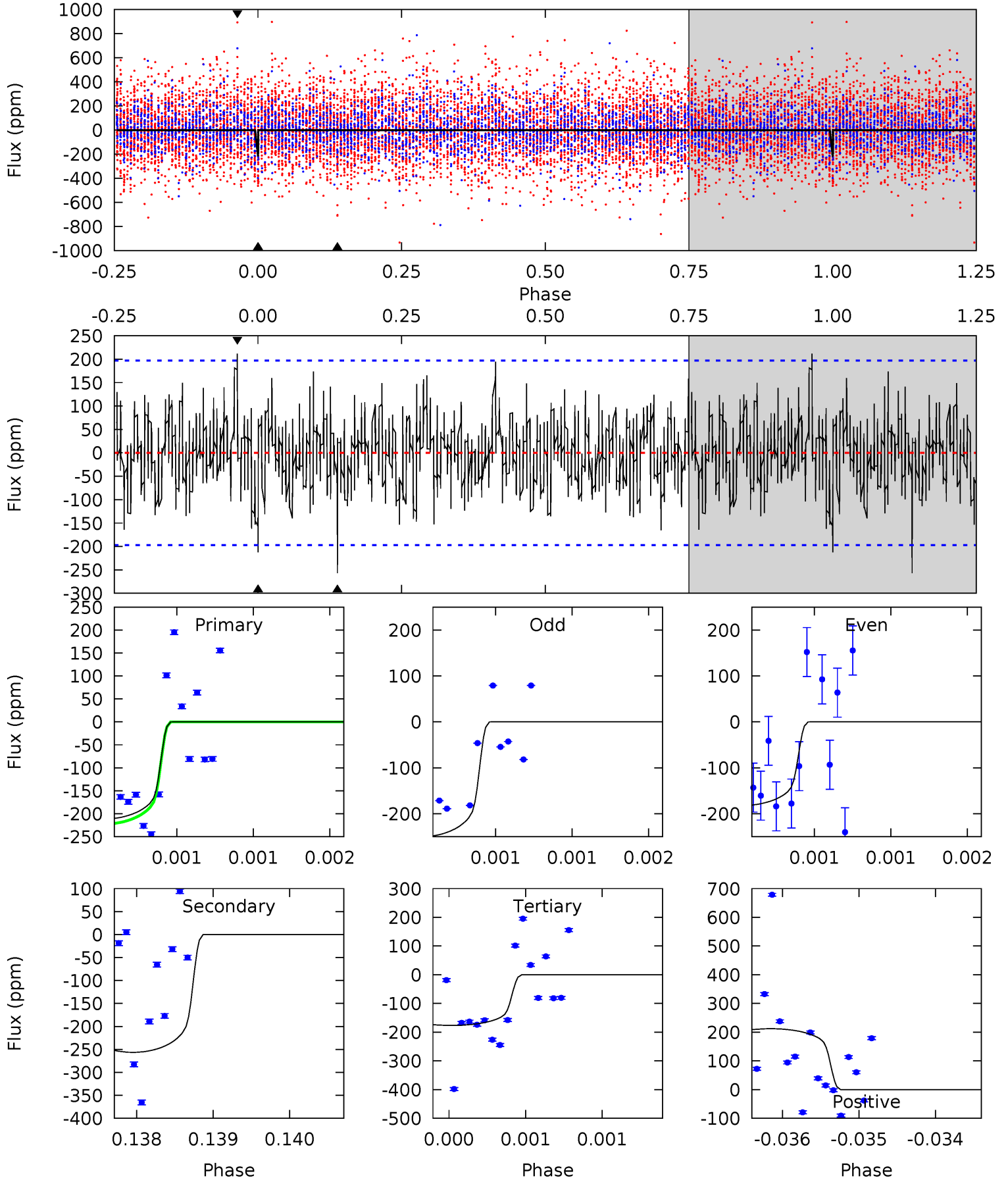
TCE 010621643-05 P=247.236045 Days $T_0=332.415913$ (BKJD)



DV Model-Shift Uniqueness Test

010621643-05, P = 247.228011 Days, E = 85.210744 Days

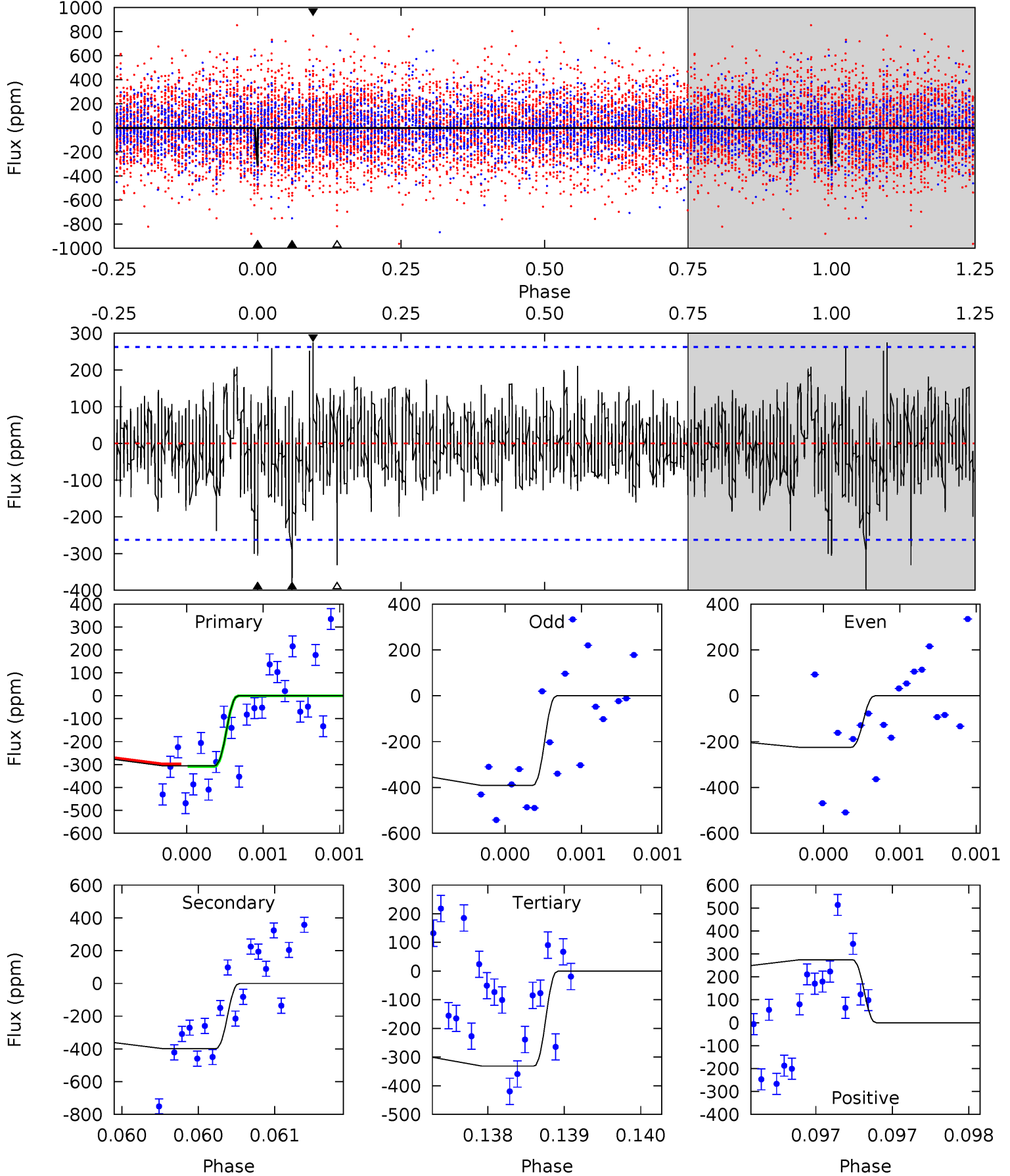
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.92	7.16	4.93	5.92	5.50	3.37	1.62	0.99	0.00	2.23	1.24	0.92	0.81	0.45	0.47



Alt Model-Shift Uniqueness Test

010621643-05, P = 247.236045 Days, E = 85.179868 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.43	8.39	6.97	5.78	5.52	3.41	1.53	-0.54	0.65	1.42	2.61	1.73	0.63	0.41	0.08



Stellar Parameters For KIC 010621643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6423^{+160}_{-192}	$4.316^{+0.101}_{-0.203}$	$-0.060^{+0.250}_{-0.300}$	$1.247^{+0.418}_{-0.179}$	$1.172^{+0.185}_{-0.152}$	$0.851^{+0.351}_{-0.453}$
	+2%/-3%	+2%/-5%	+417%/-500%	+34%/-14%	+16%/-13%	+41%/-53%
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 010621643-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-256 ± 36	$2.40^{+1.10}_{-1.01}$	495^{+38}_{-26}	6190^{+2289}_{-1000}	16419^{+29523}_{-8839}
Alt.	-399 ± 48	$2.83^{+1.09}_{-1.05}$	494^{+38}_{-25}	6380^{+1879}_{-922}	17698^{+26624}_{-8613}

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

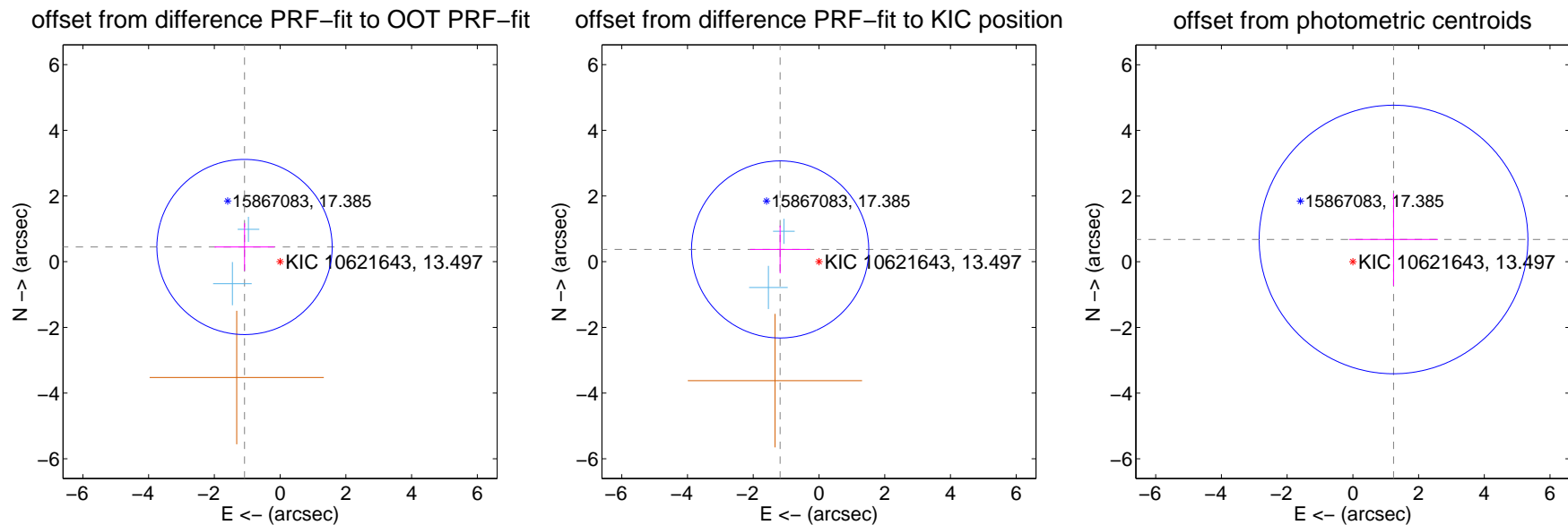
DV Centroid Data

Supplemental centroid analysis for 010621643-05. Kepler magnitude: 13.50. Transit SNR 8.58

There are 2 quarters with good PRF difference image offsets

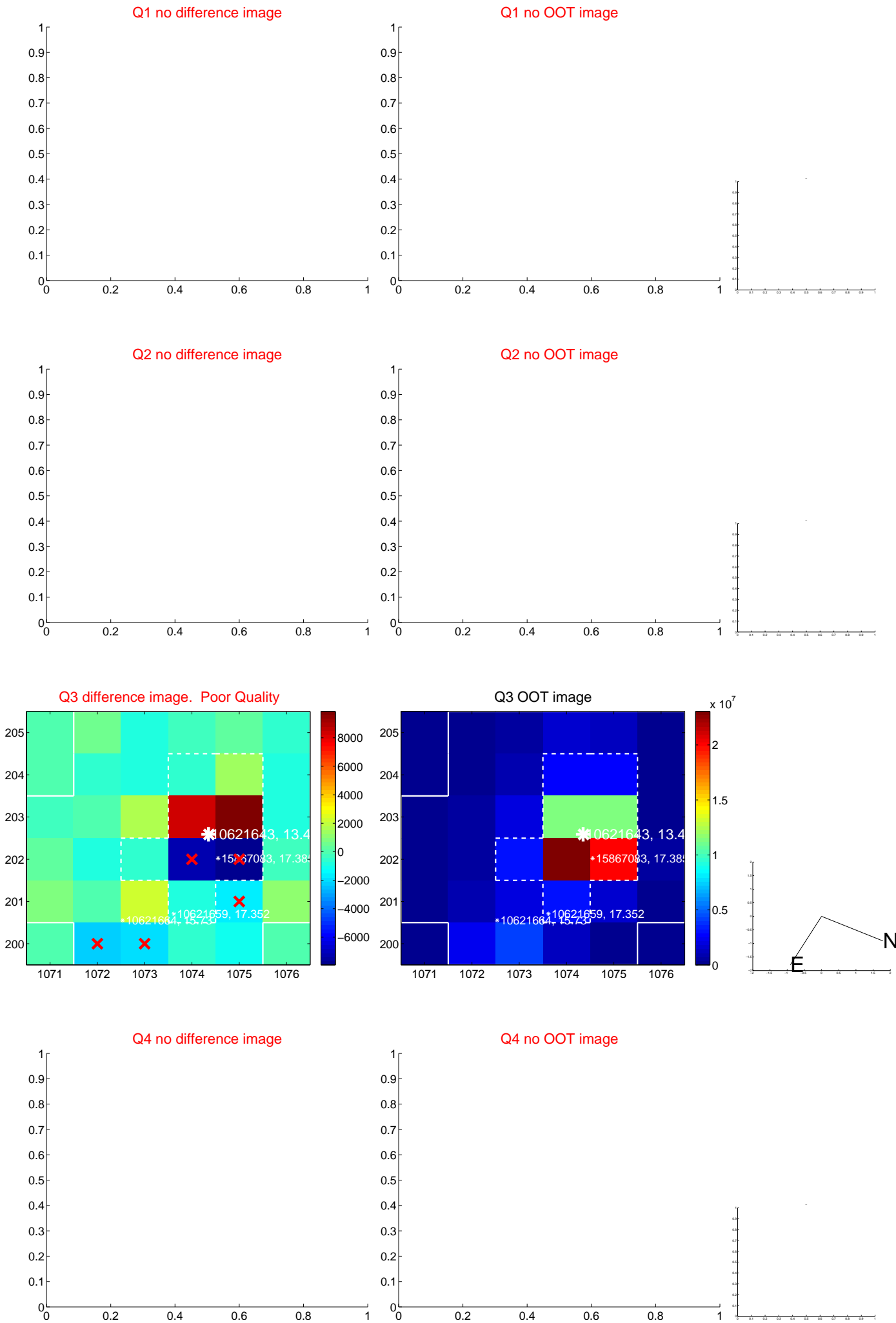
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.172 ± 0.889	1.32	1.083 ± 0.914	0.448 ± 0.727
PRF-fit source offset from KIC position	1.240 ± 0.899	1.38	1.183 ± 0.914	0.373 ± 0.727
photometric centroid source offset	1.41 ± 1.36	1.04	-1.24 ± 1.35	0.68 ± 1.40



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.

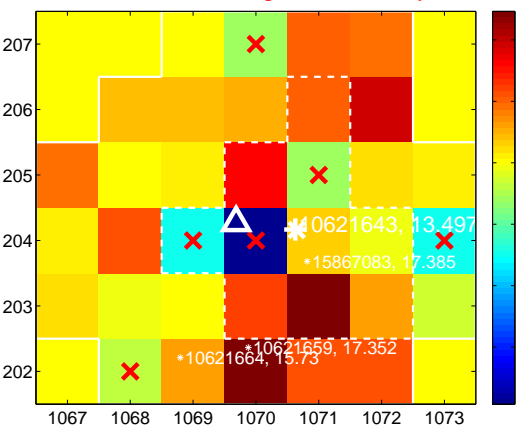
Q5 no difference image



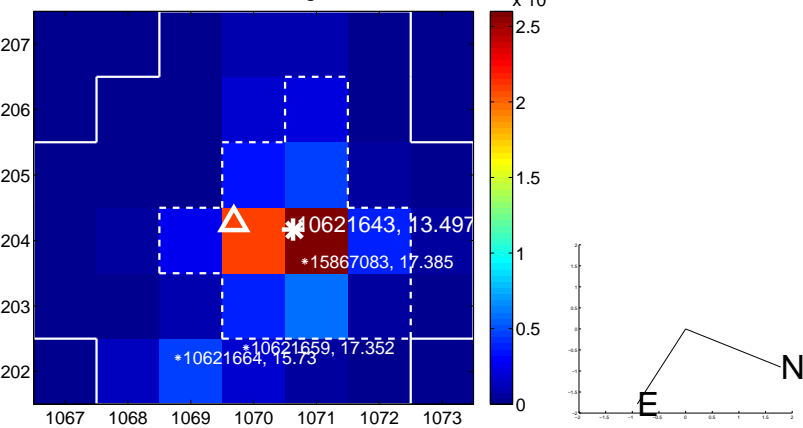
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



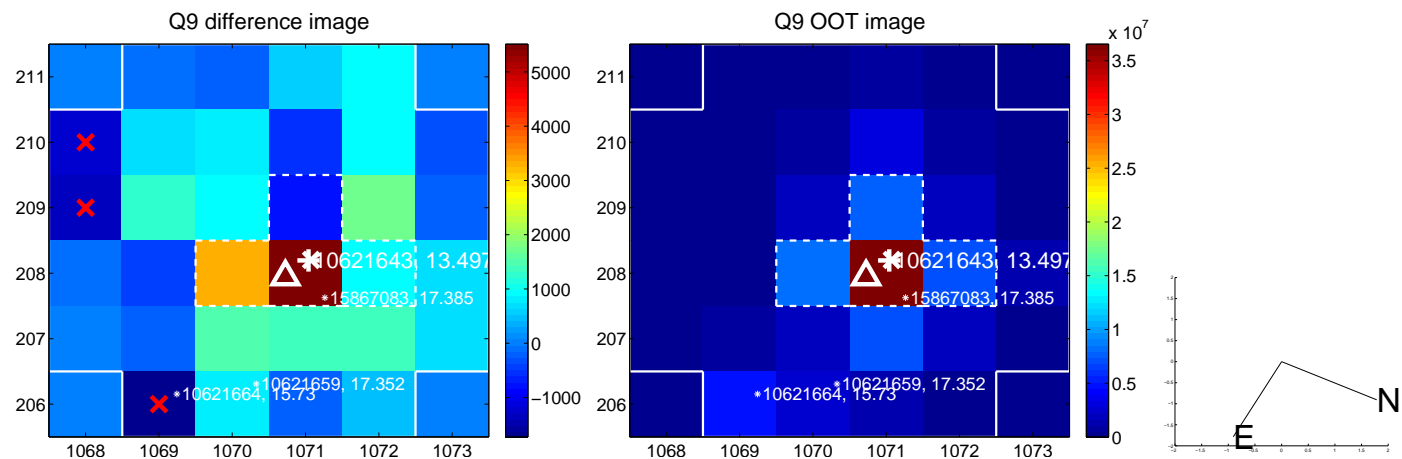
Q8 no difference image



Q8 no OOT image

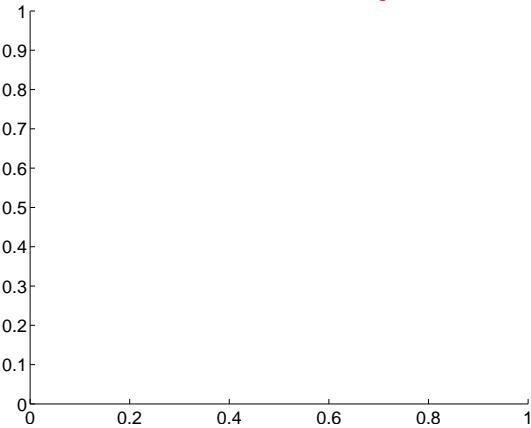


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

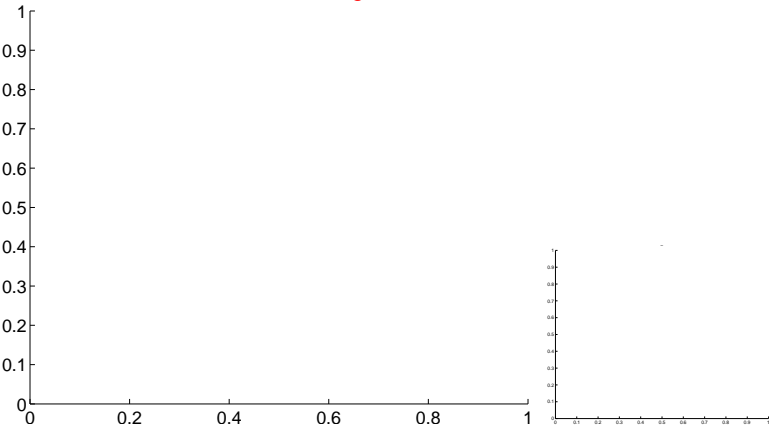


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

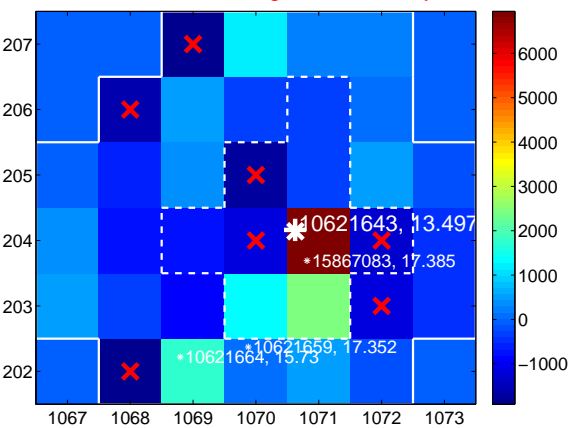
Q13 no difference image



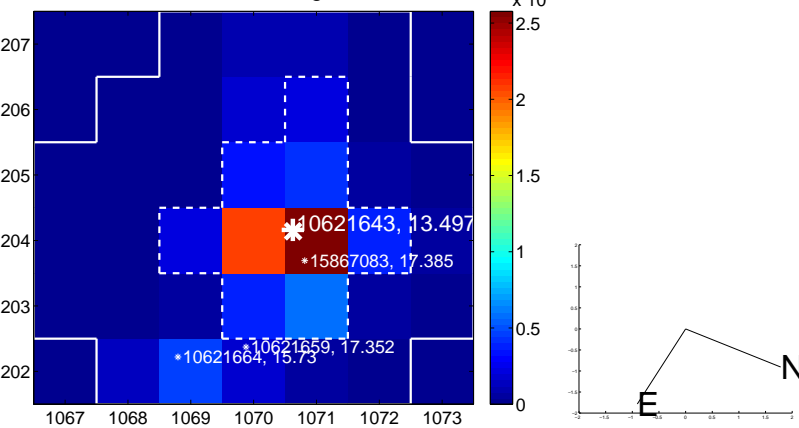
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



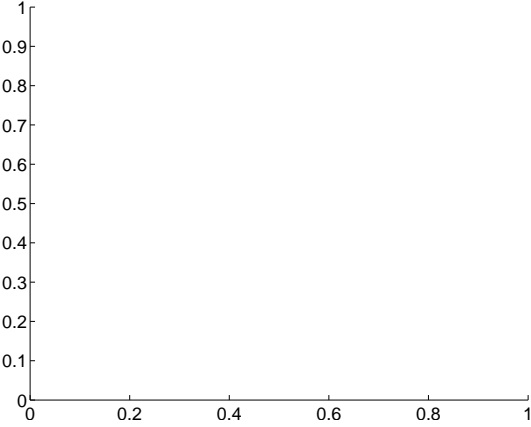
Q15 no difference image



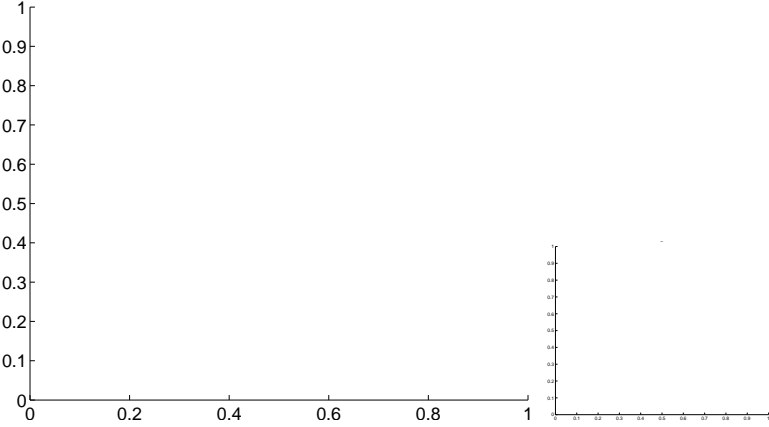
Q15 no OOT image



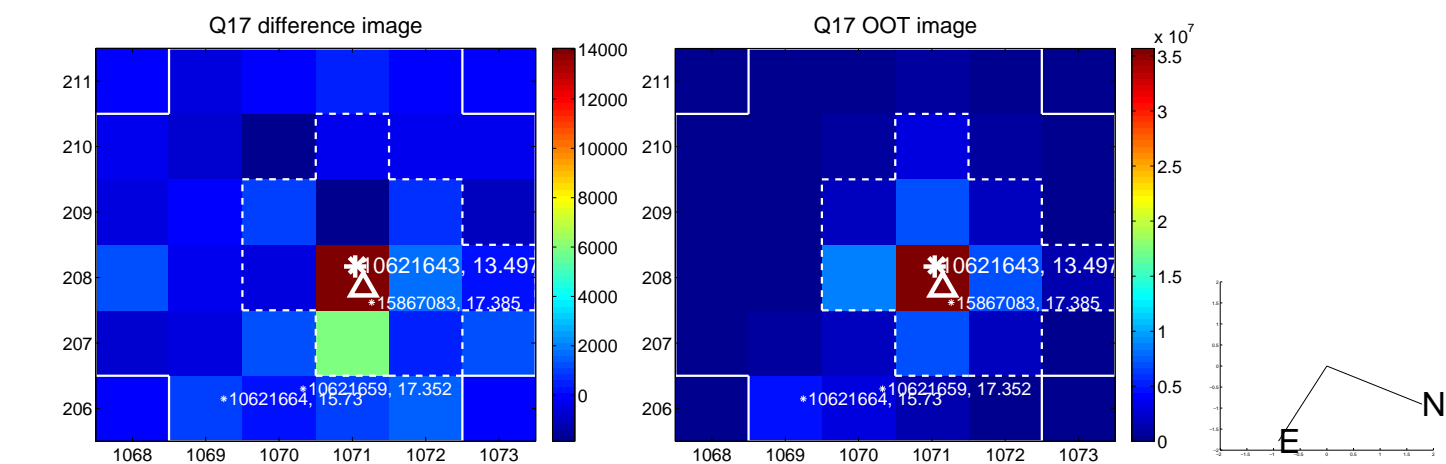
Q16 no difference image



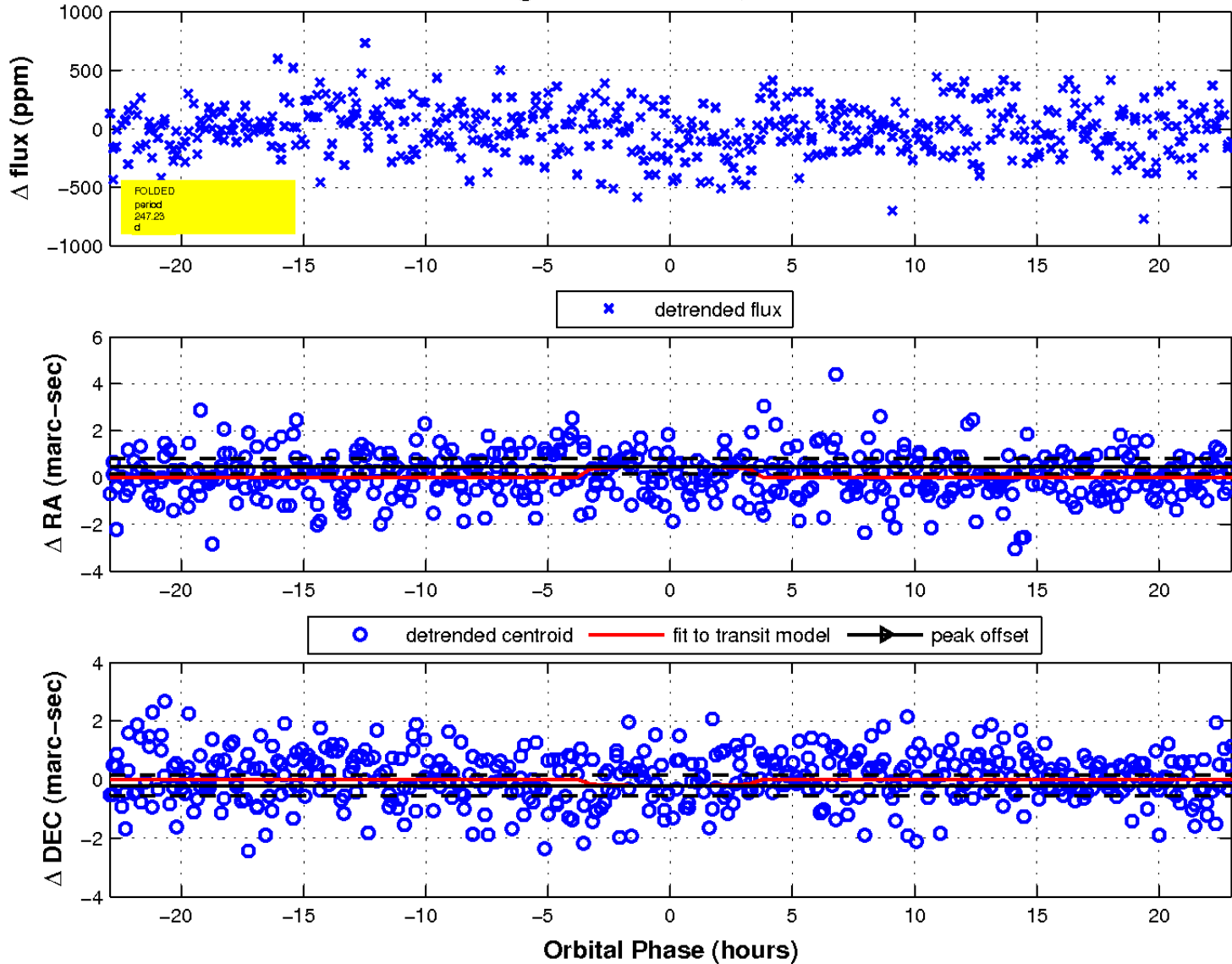
Q16 no OOT image



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

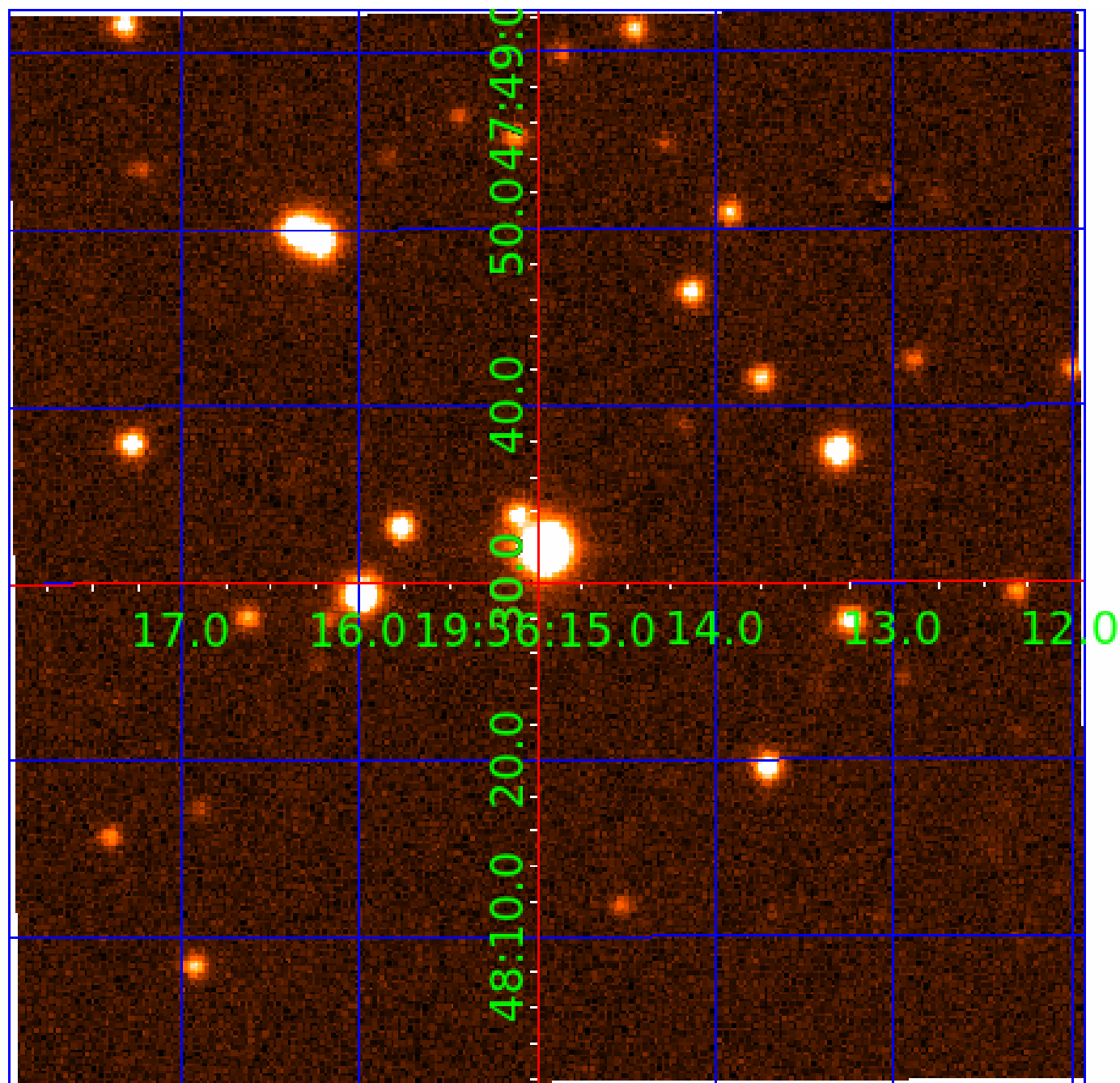


fluxWeightedCentroids, Planet 5 of 6



UKIRT Image

Declination



KIC 010621643

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})
010621643-01	OBS	No	1.480297	132.032461	7.2	9.802	9.6	2.6	1.25	6423	0.40	3295.78
010621643-03	OBS	No	64.299415	157.892604	395.4	2.197	9.6	10.8	1.25	6423	2.92	21.59
010621643-04	OBS	No	27.292892	143.557529	398.3	1.552	9.1	10.1	1.25	6423	2.89	67.66
010621643-05	OBS	No	247.228011	332.438755	251.2	7.684	8.1	8.6	1.25	6423	2.31	3.58
010621643-06	OBS	No	43.332094	135.930240	278.7	3.794	8.6	8.9	1.25	6423	2.35	36.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010621643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010621643-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010621643-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—CENT_FEW_MEAS
010621643-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

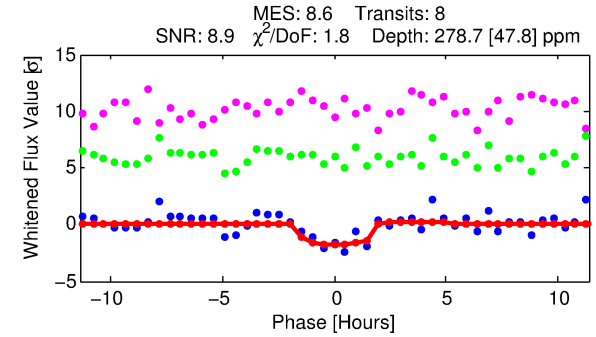
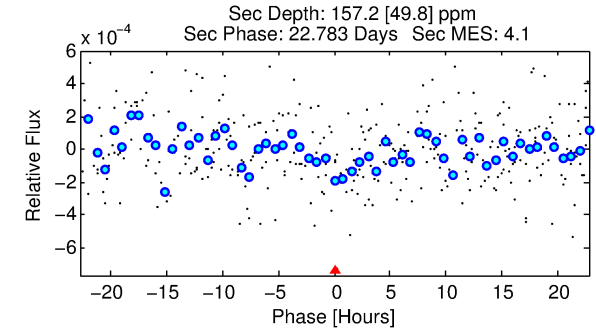
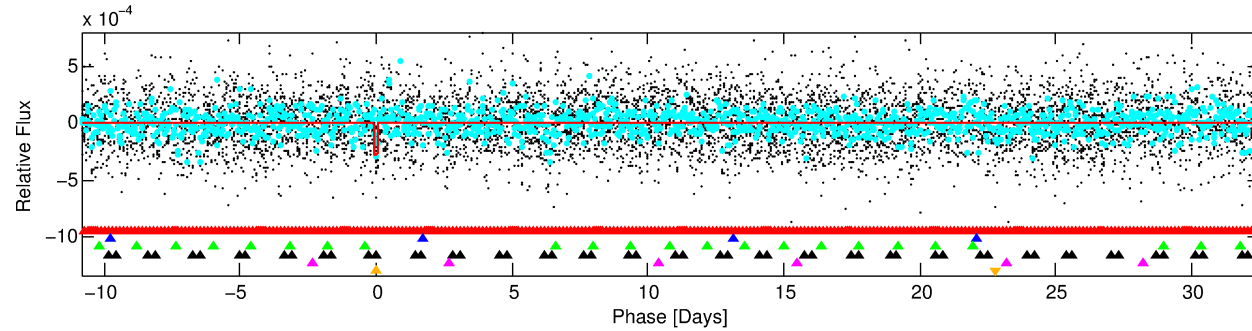
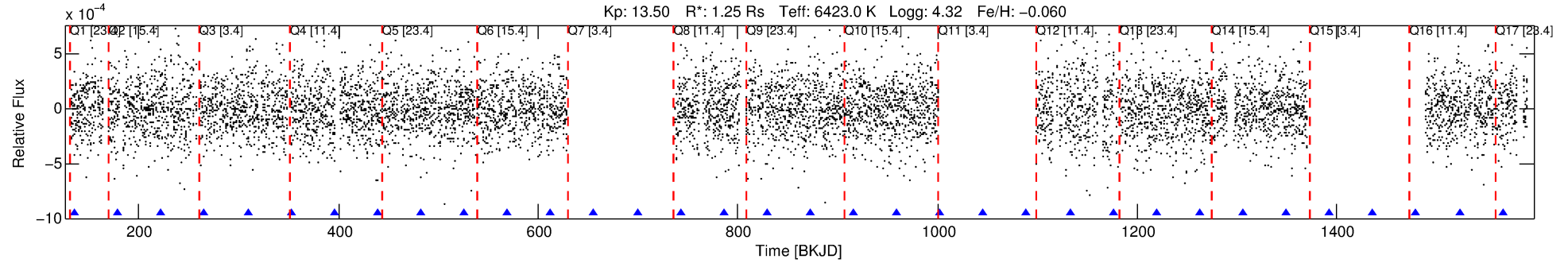
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010621643-06

No Significant Match Found

DV One-Page Summary

KIC: 10621643 Candidate: 6 of 6 Period: 43.332 d

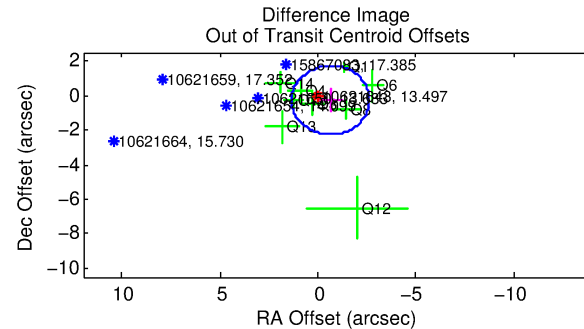
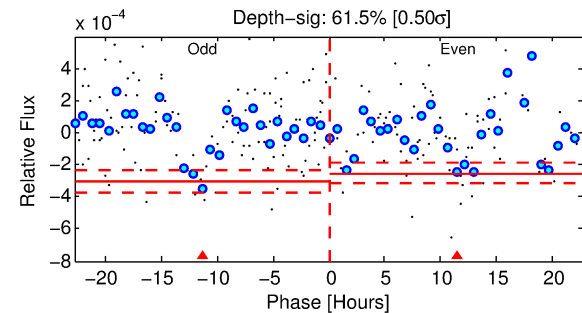
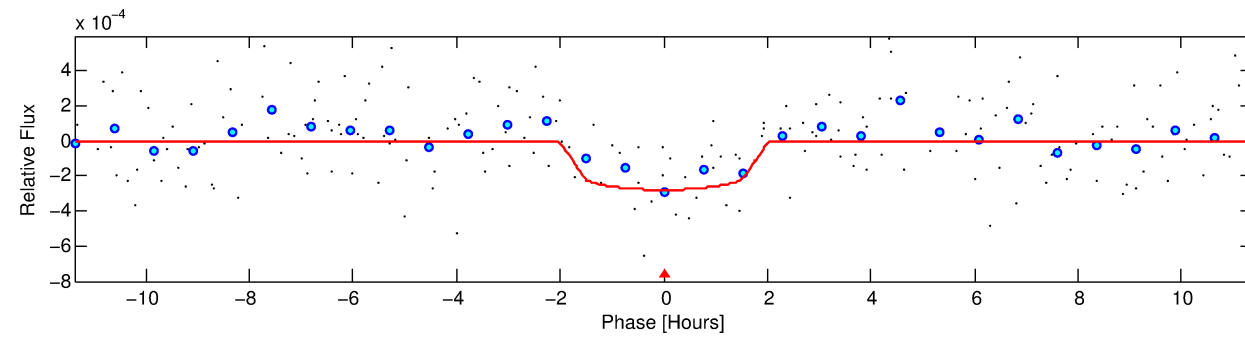


DV Fit Results:

Period = 43.33209 [0.00112] d
Epoch = 135.9302 [0.0184] BKJD
Rp/R* = 0.0172 [0.0232]
a/R* = 49.75 [362.47]
b = 0.84 [2.58]
Seff = 36.53 [14.67]
Teq = 627 [63] K
Rp = 2.35 [3.26] Re
a = 0.2548 [0.0694] AU
Ag = 1019.24 [2793.79] [0.36σ]
Teffp = 5477 [3720] K [1.30σ]

DV Diagnostic Results:

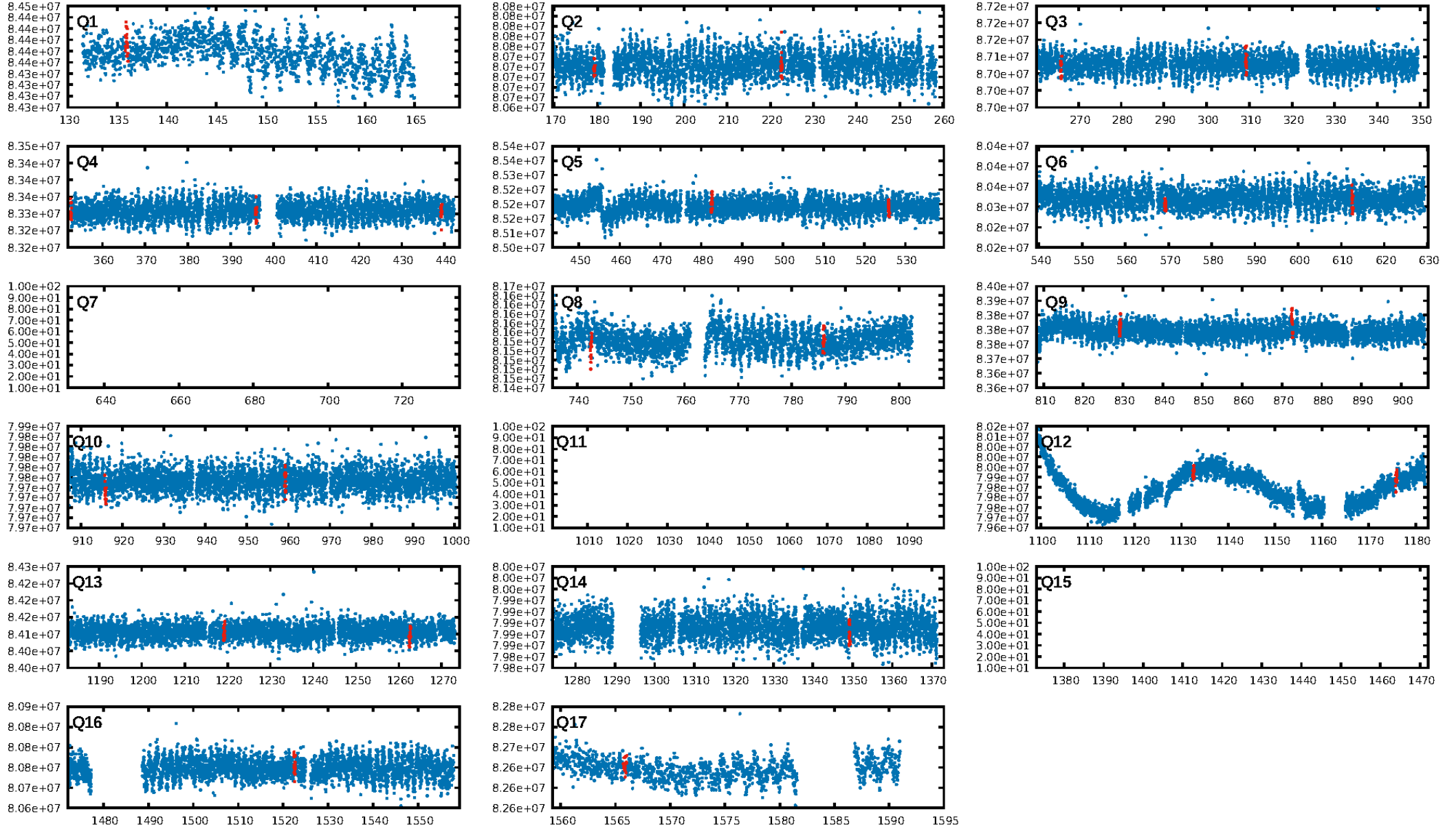
ShortPeriod-sig: 100.0% [93.91σ]
LongPeriod-sig: 100.0% [114.78σ]
ModelChiSquare2-sig: 75.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.34e-07
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.486
Centroid-sig: 13.3%
Centroid-so: 1.190 arcsec [1.57σ]
OotOffset-rm: 0.679 arcsec [1.02σ]
OotOffset-st: 3/1/3/2 [9]
KicOffset-rm: 0.616 arcsec [1.02σ]
KicOffset-st: 3/1/3/2 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.36 [5/14]



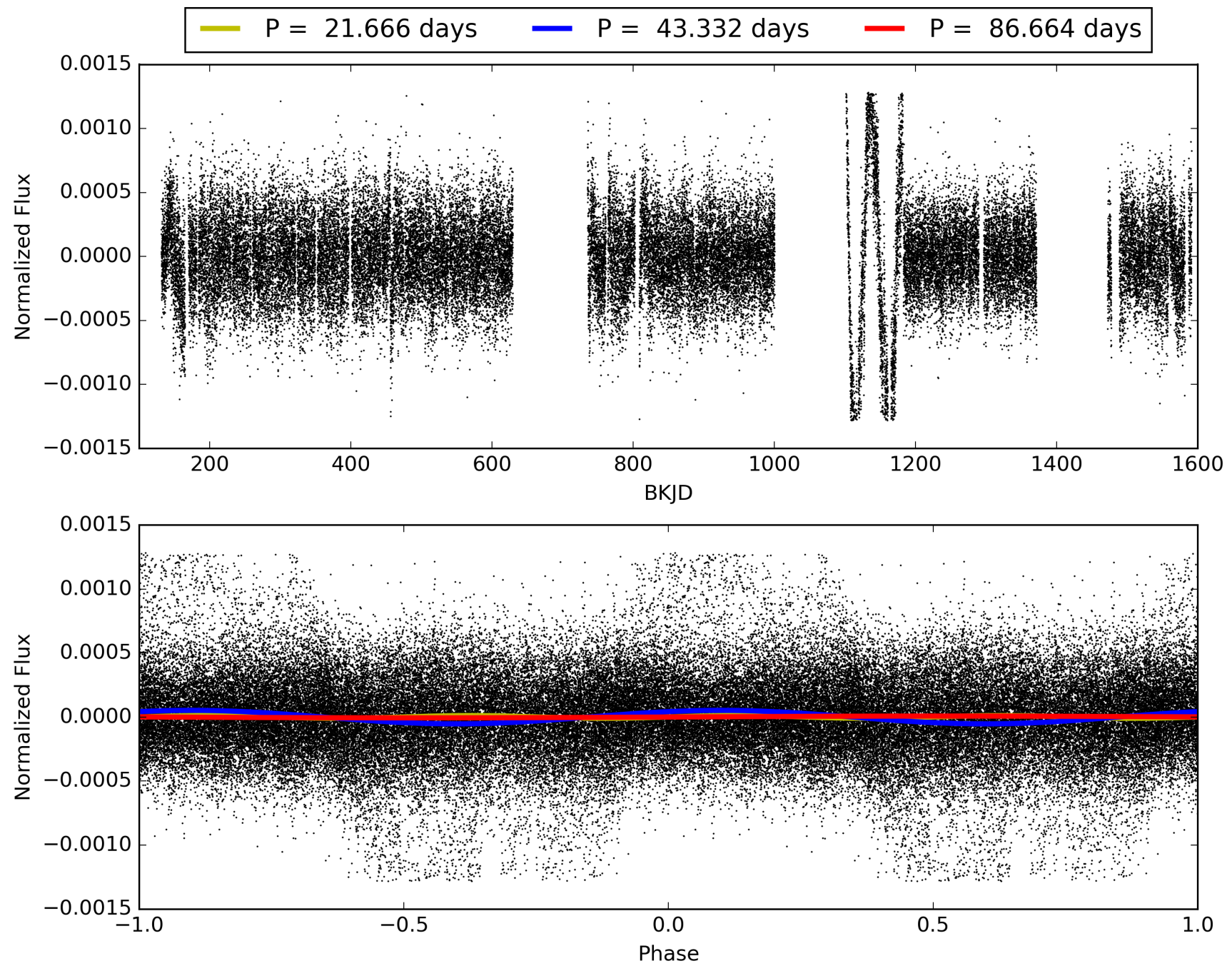
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:03:27 Z

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

TCE 010621643-06, PDC Light Curves

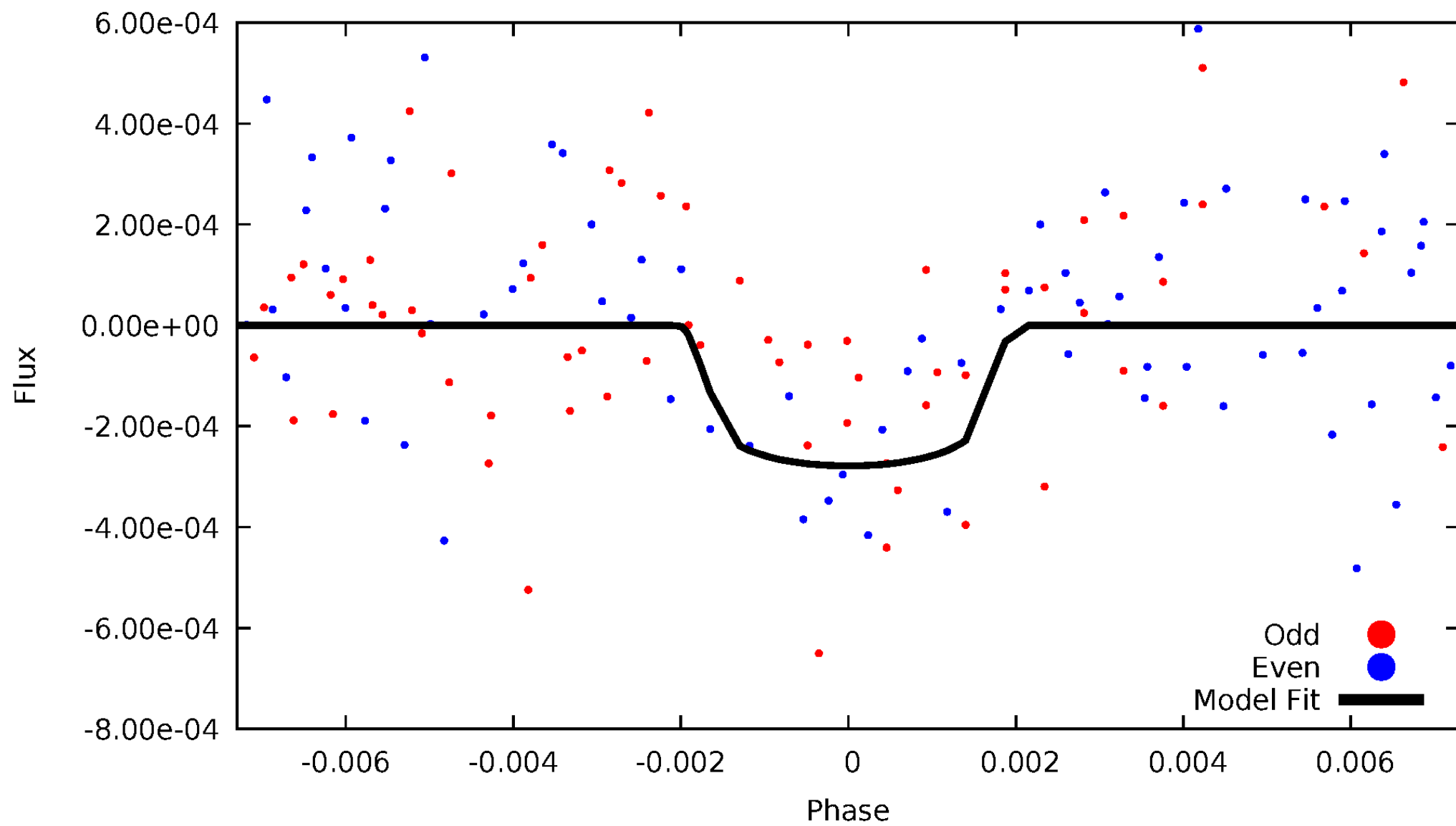


TCE 010621643-06



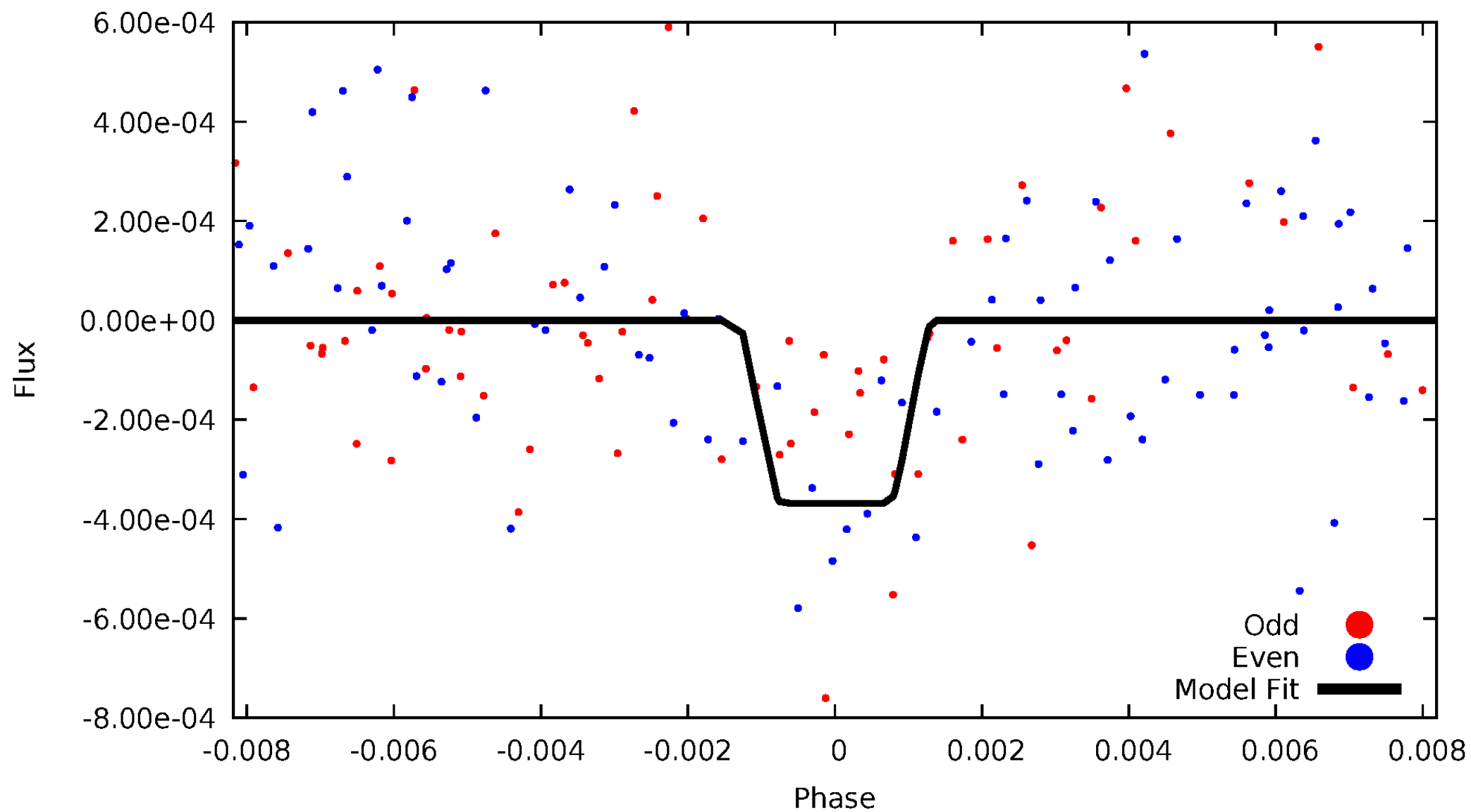
DV Odd/Even

TCE 010621643-06



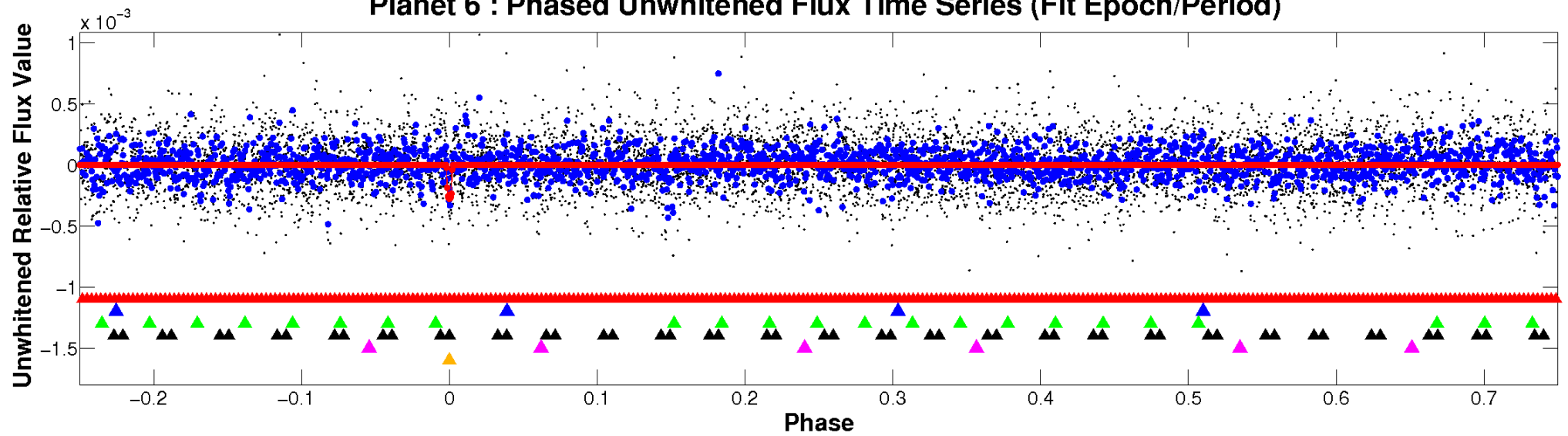
ALT Odd/Even

TCE 010621643-06

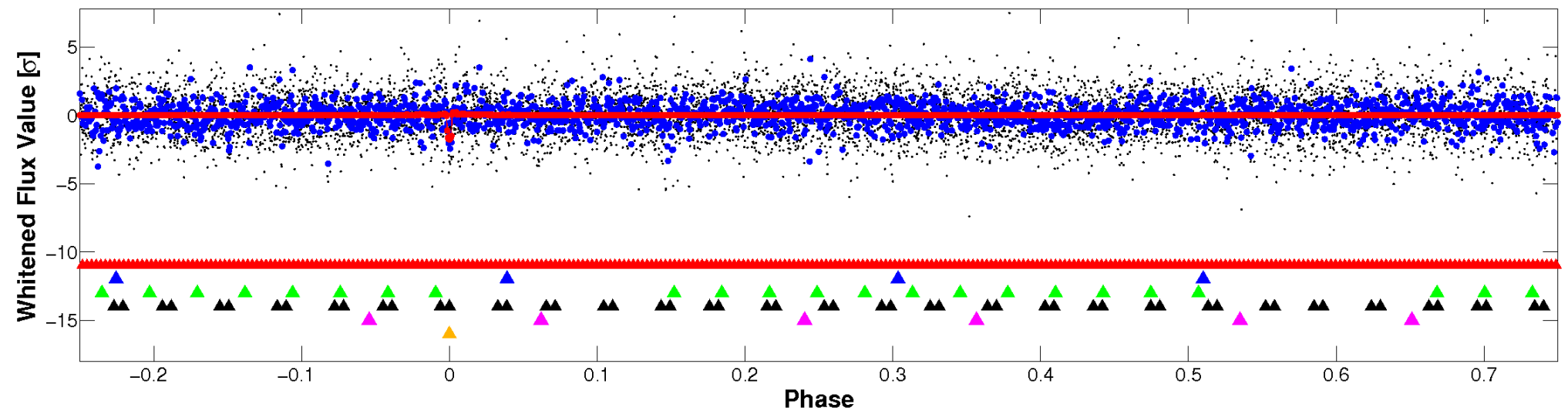


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

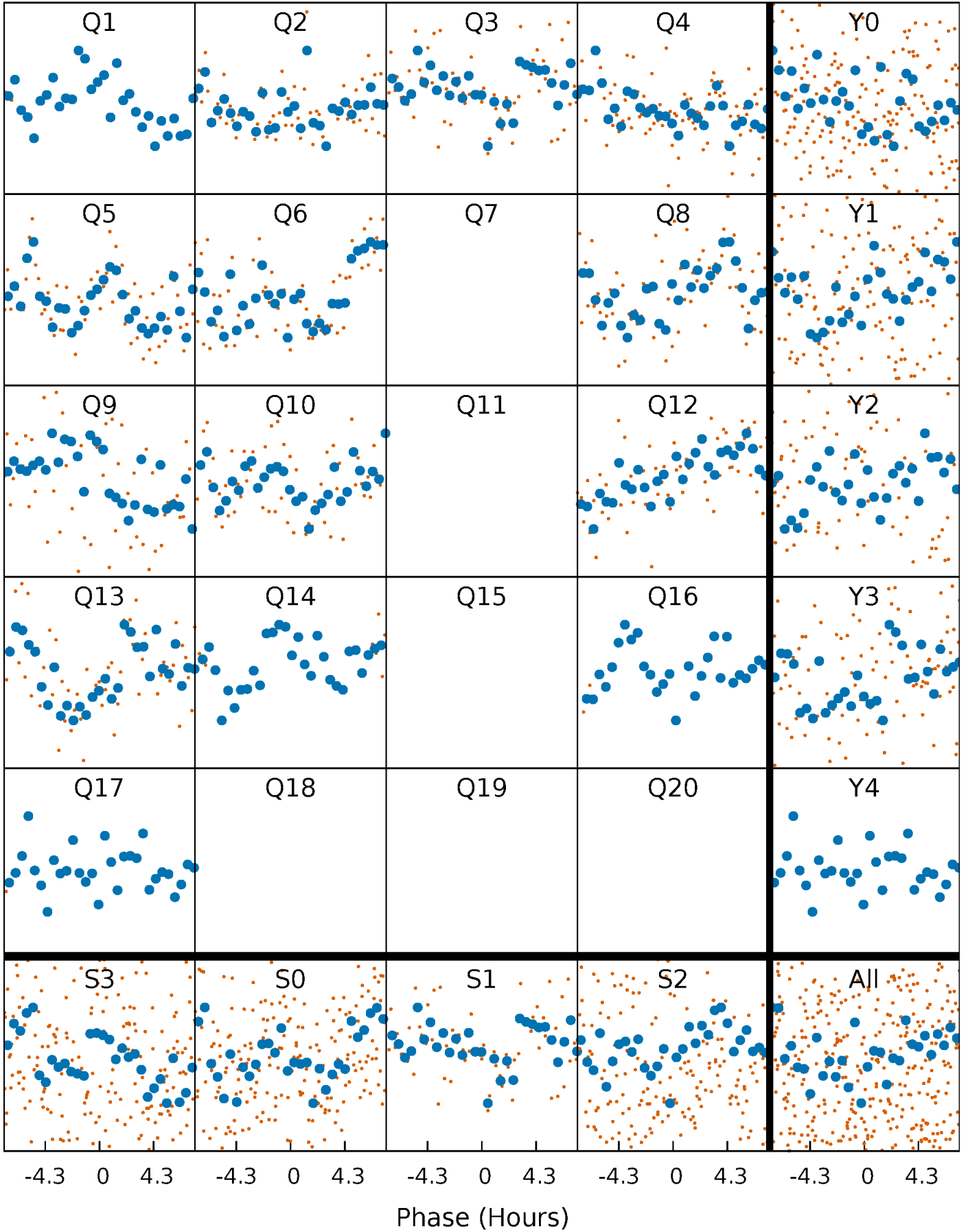


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



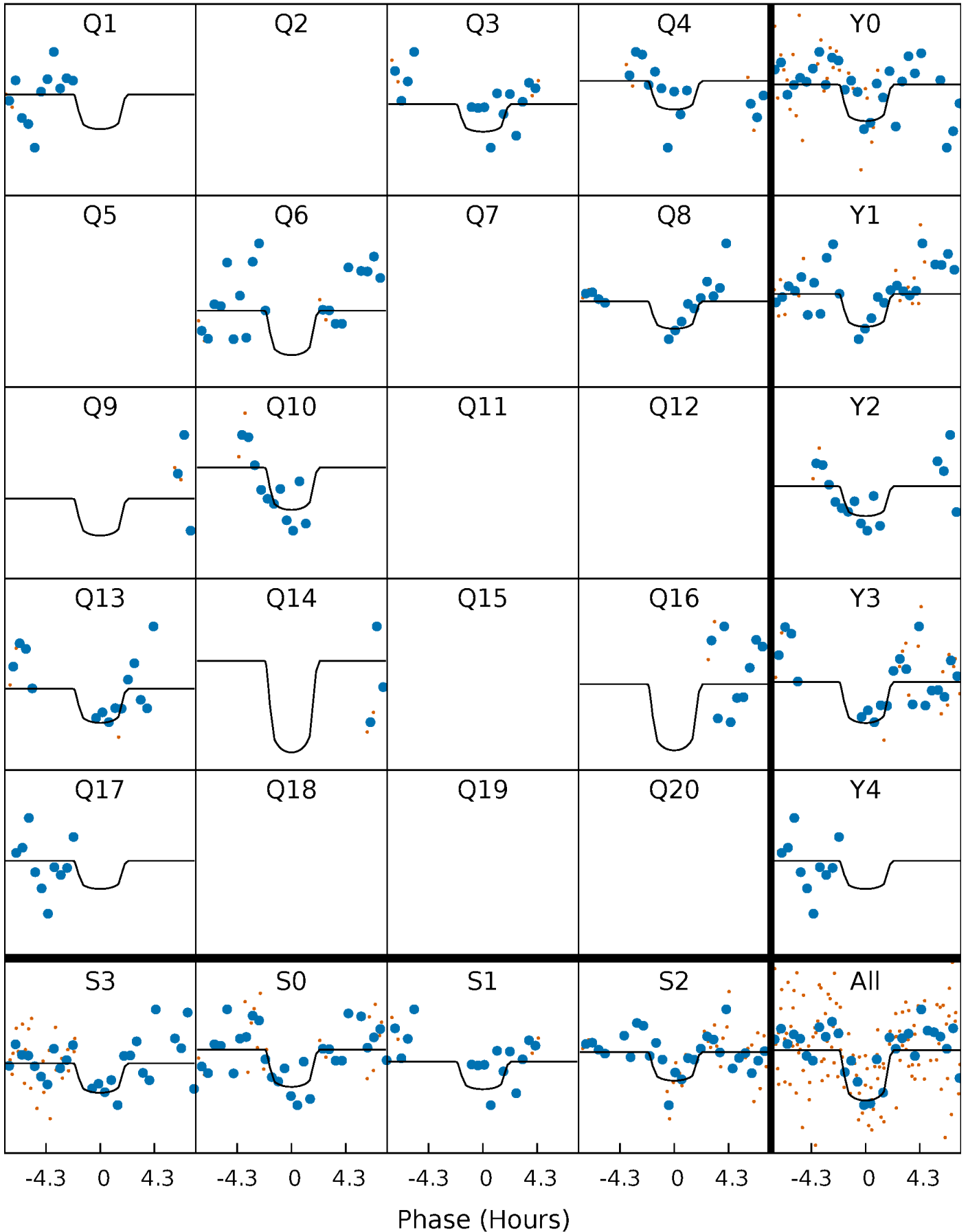
PDC Quarter-Phased Transit Curves

TCE 010621643-06 P= 43.332094 Days $T_0=135.930240$ (BKJD)



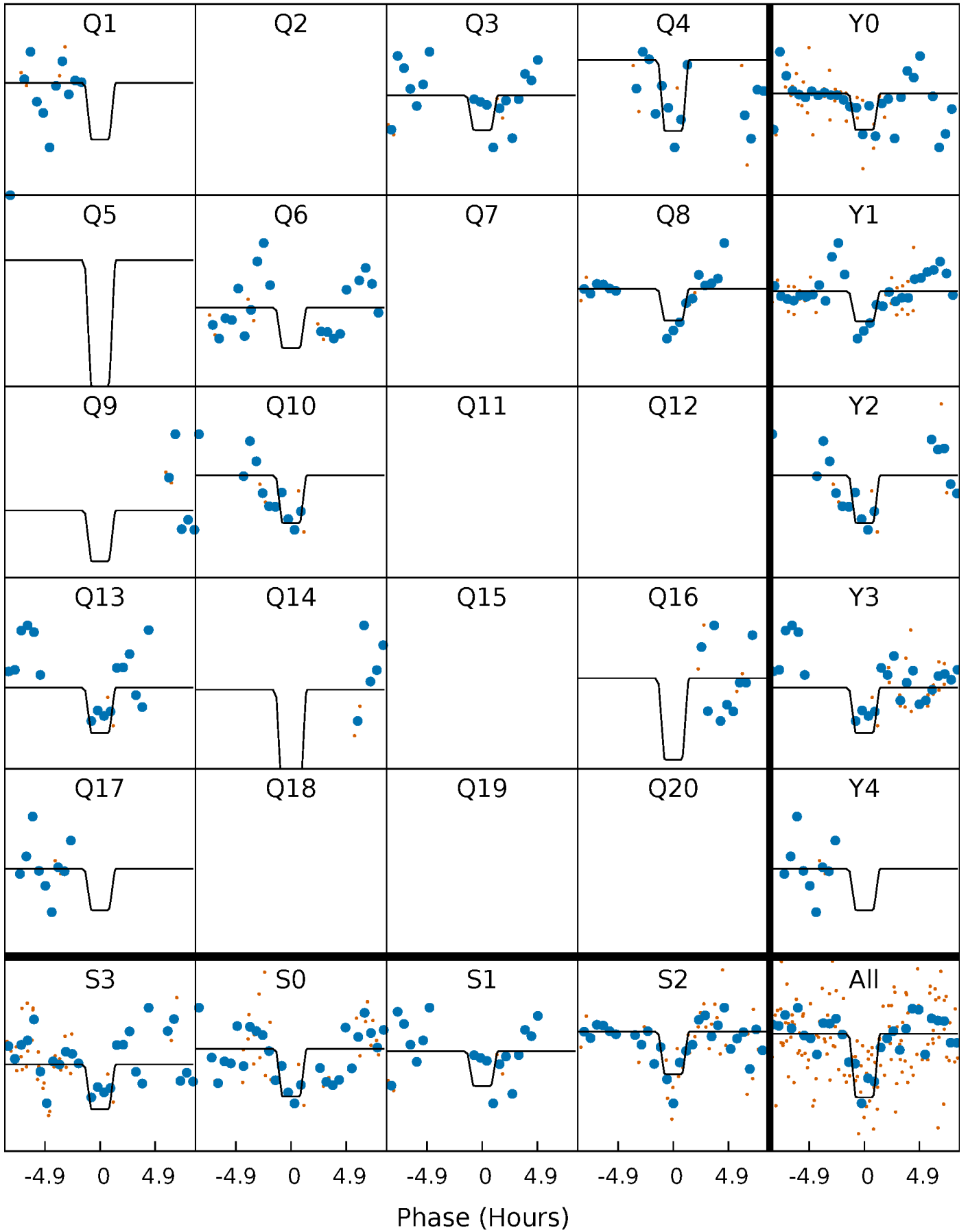
DV Quarter-Phased Transit Curves

TCE 010621643-06 P= 43.332094 Days $T_0=135.930240$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

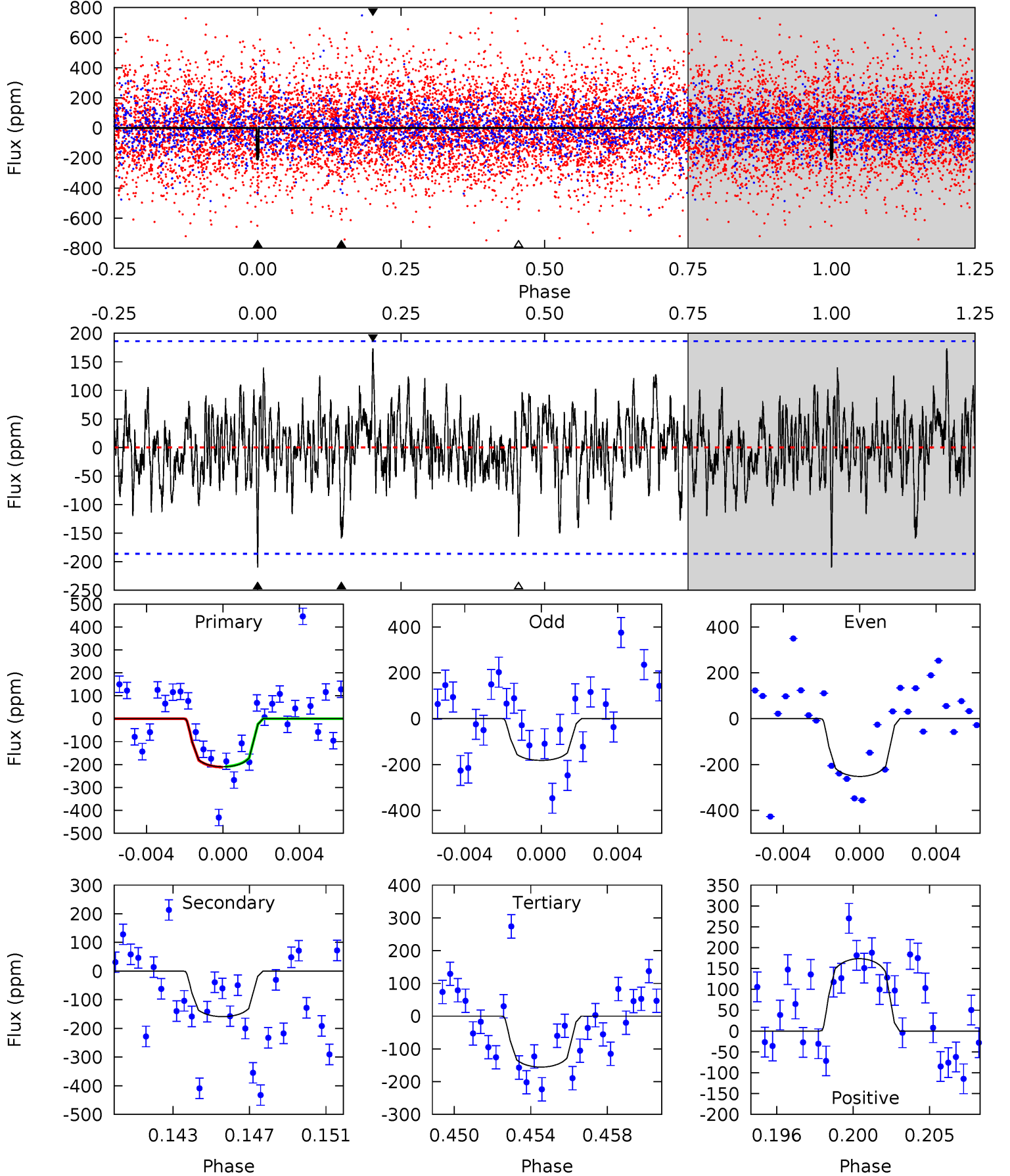
TCE 010621643-06 P= 43.333276 Days $T_0=135.912201$ (BKJD)



DV Model-Shift Uniqueness Test

010621643-06, P = 43.332094 Days, E = 92.598146 Days

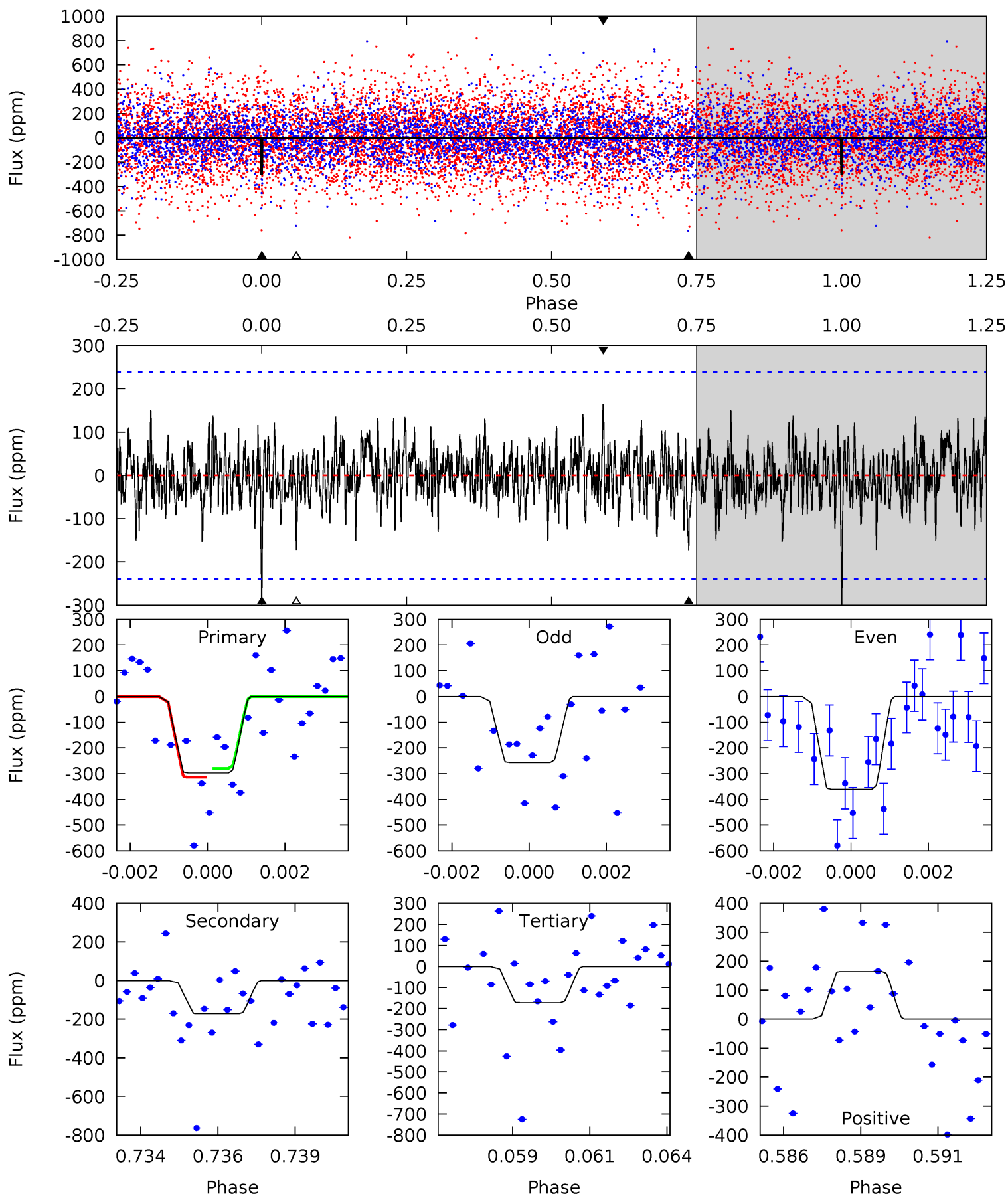
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.86	4.43	4.34	4.84	5.20	2.87	1.31	1.52	1.02	0.09	-0.41	0.97	1.00	0.45	0.03



Alt Model-Shift Uniqueness Test

010621643-06, P = 43.333276 Days, E = 92.578925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.57	3.81	3.80	3.64	5.29	3.03	1.11	2.77	2.93	0.01	0.17	1.15	1.03	0.36	0.37



Stellar Parameters For KIC 010621643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6423^{+160}_{-192}	$4.316^{+0.101}_{-0.203}$	$-0.060^{+0.250}_{-0.300}$	$1.247^{+0.418}_{-0.179}$	$1.172^{+0.185}_{-0.152}$	$0.851^{+0.351}_{-0.453}$
	+2%/-3%	+2%/-5%	+417%/-500%	+34%/-14%	+16%/-13%	+41%/-53%
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 010621643-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-159 ± 36	$3.42^{+2.99}_{-2.28}$	883^{+72}_{-48}	4733^{+3415}_{-964}	473^{+3713}_{-336}
Alt.	-172 ± 45	$3.39^{+3.20}_{-2.22}$	883^{+71}_{-50}	4777^{+3309}_{-1052}	516^{+3632}_{-385}

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 $A_{obs} \gg 1.0$

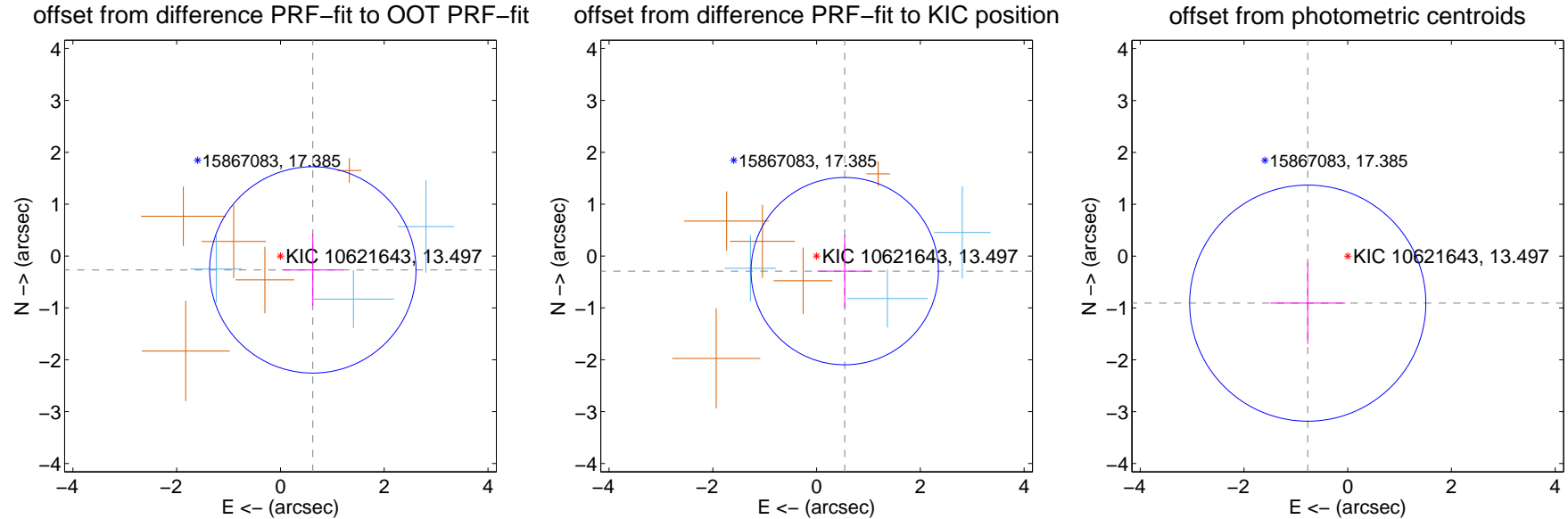
DV Centroid Data

Supplemental centroid analysis for 010621643-06. Kepler magnitude: 13.50. Transit SNR 8.89

There are 3 quarters with good PRF difference image offsets

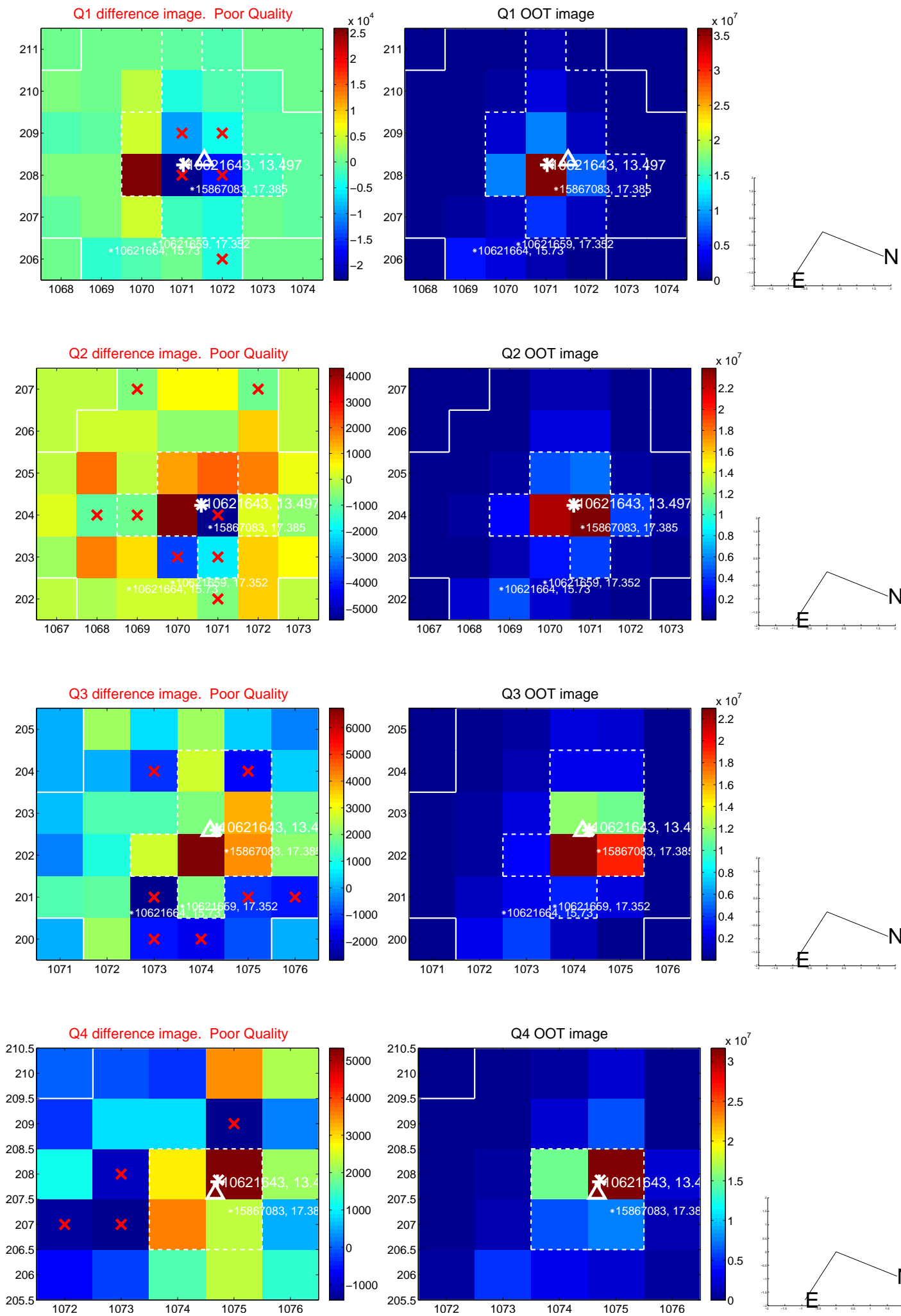
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.679 ± 0.663	1.02	-0.624 ± 0.592	-0.268 ± 0.695
PRF-fit source offset from KIC position	0.616 ± 0.602	1.02	-0.543 ± 0.530	-0.291 ± 0.701
photometric centroid source offset	1.19 ± 0.76	1.57	0.77 ± 0.72	-0.91 ± 0.78

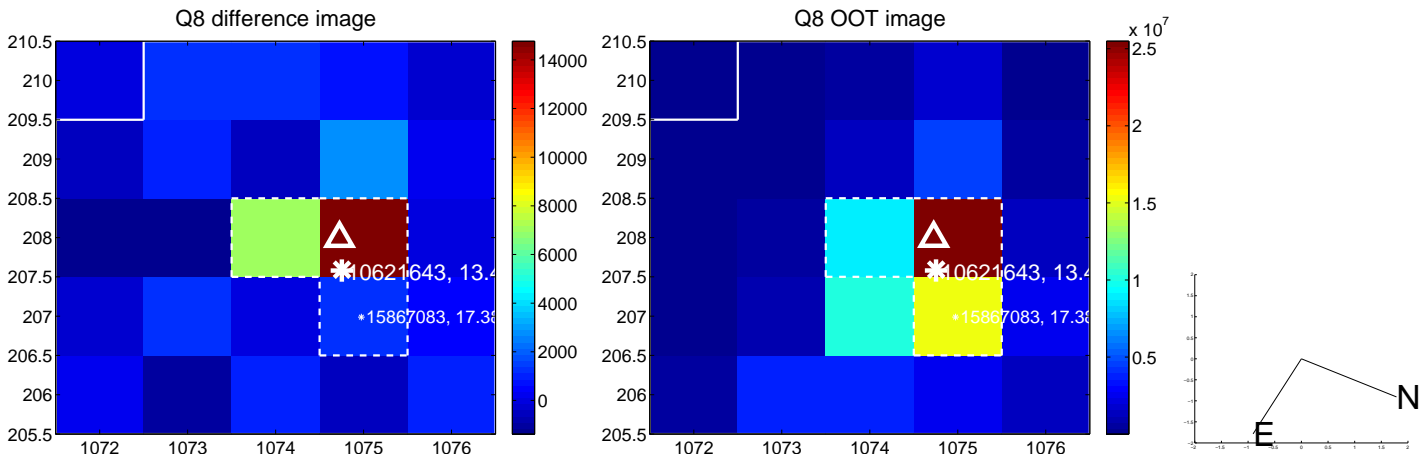
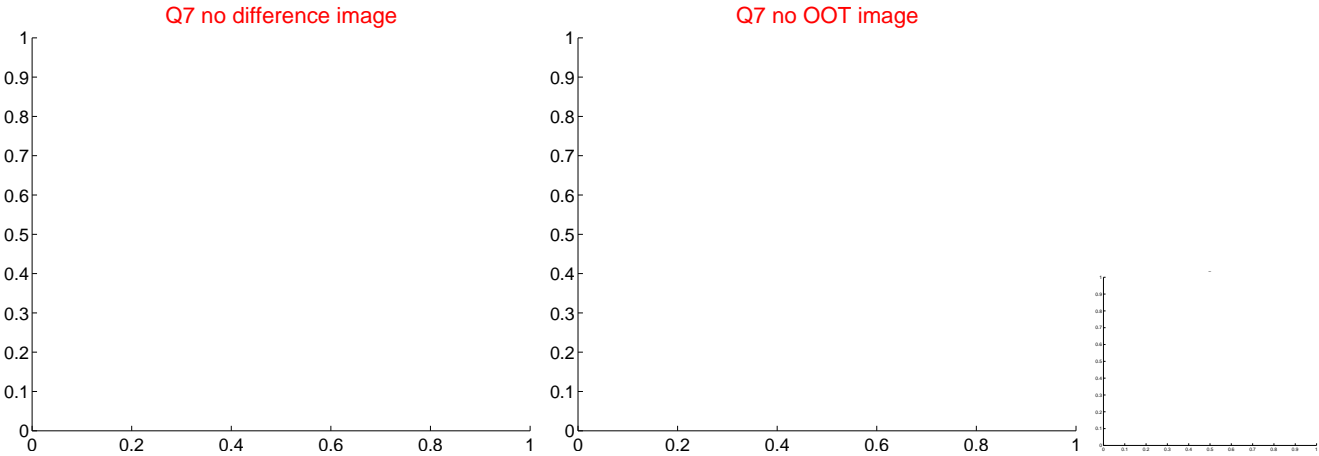
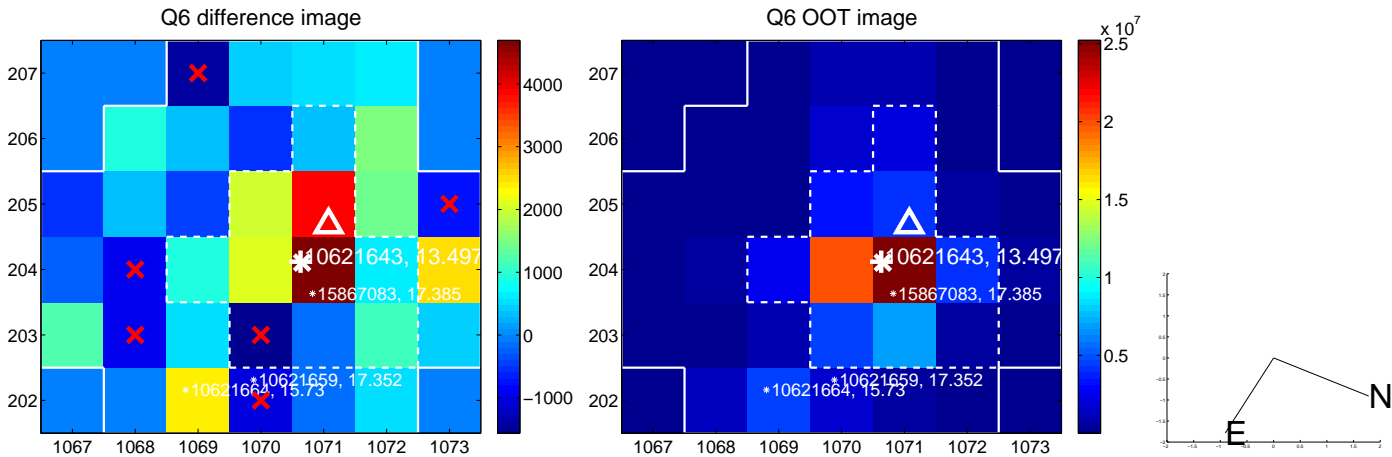
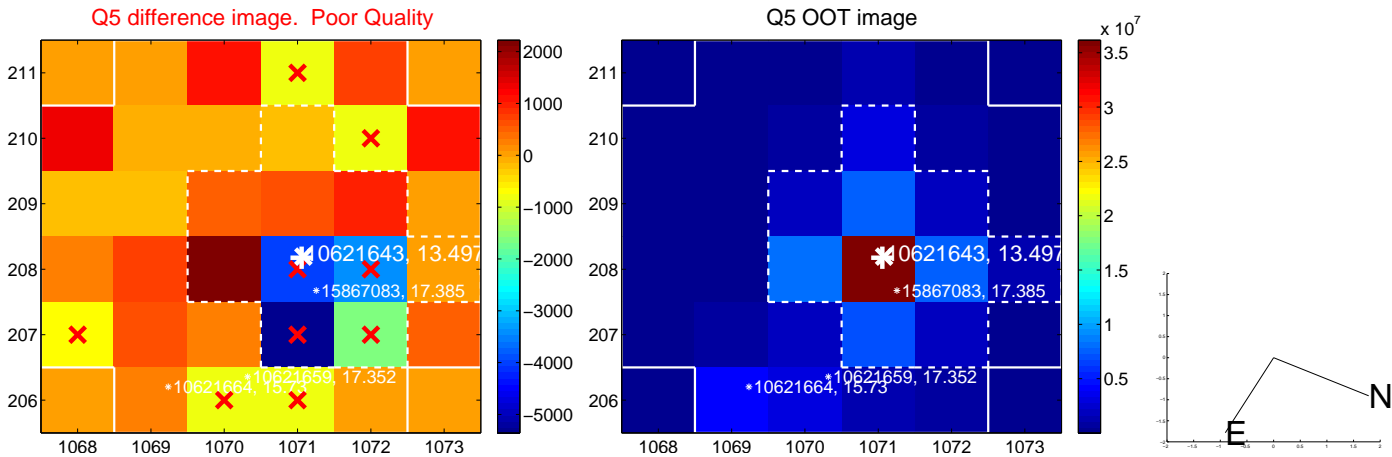


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

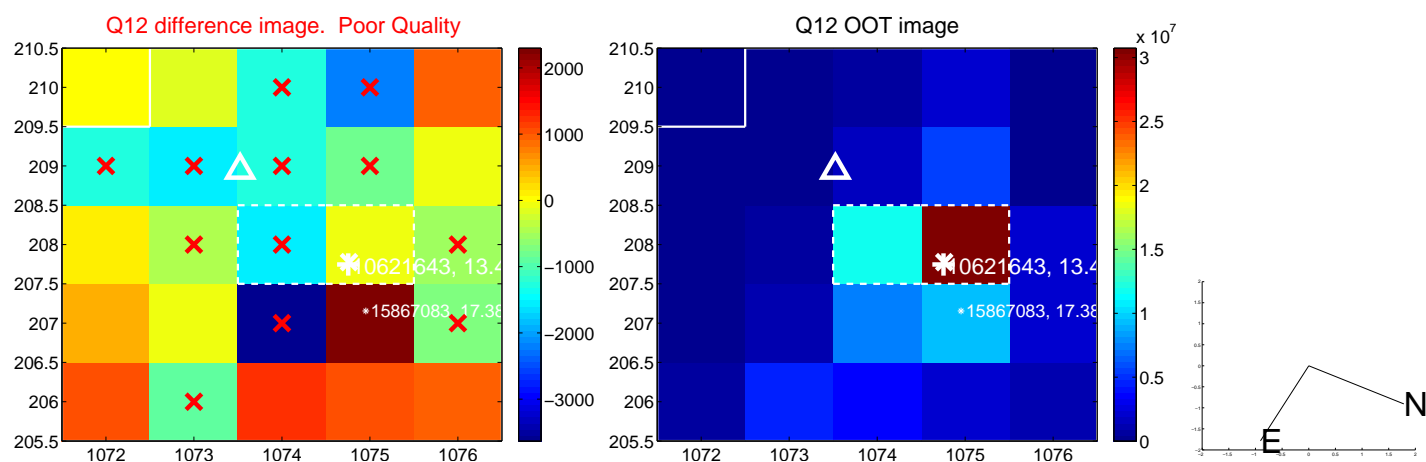
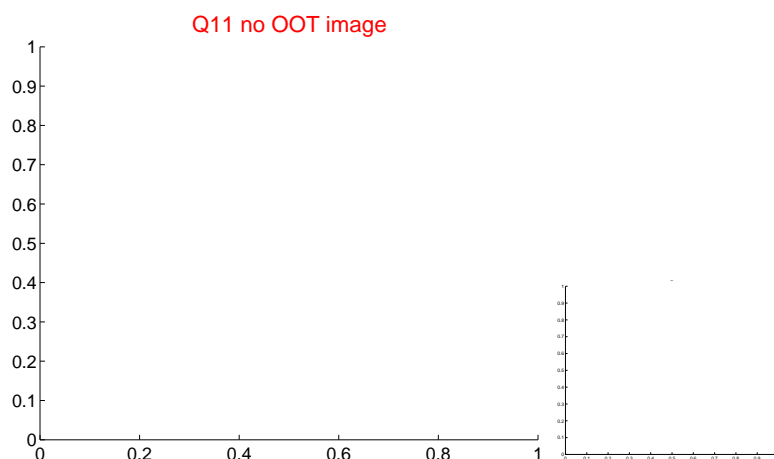
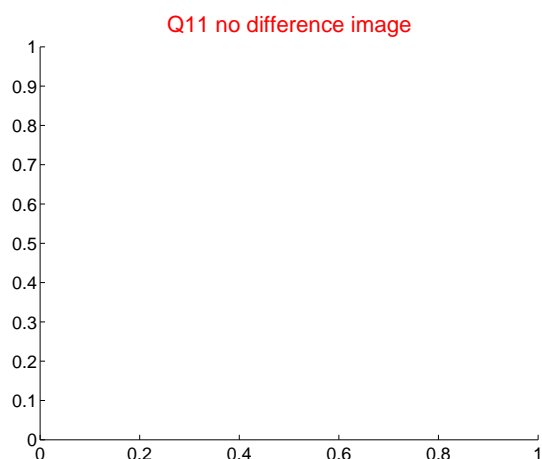
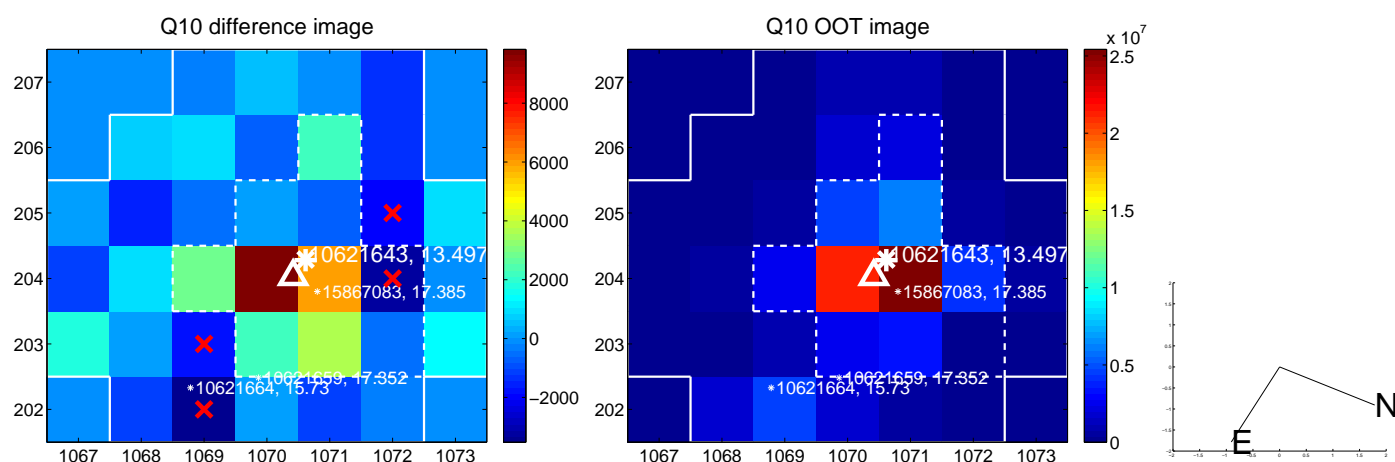
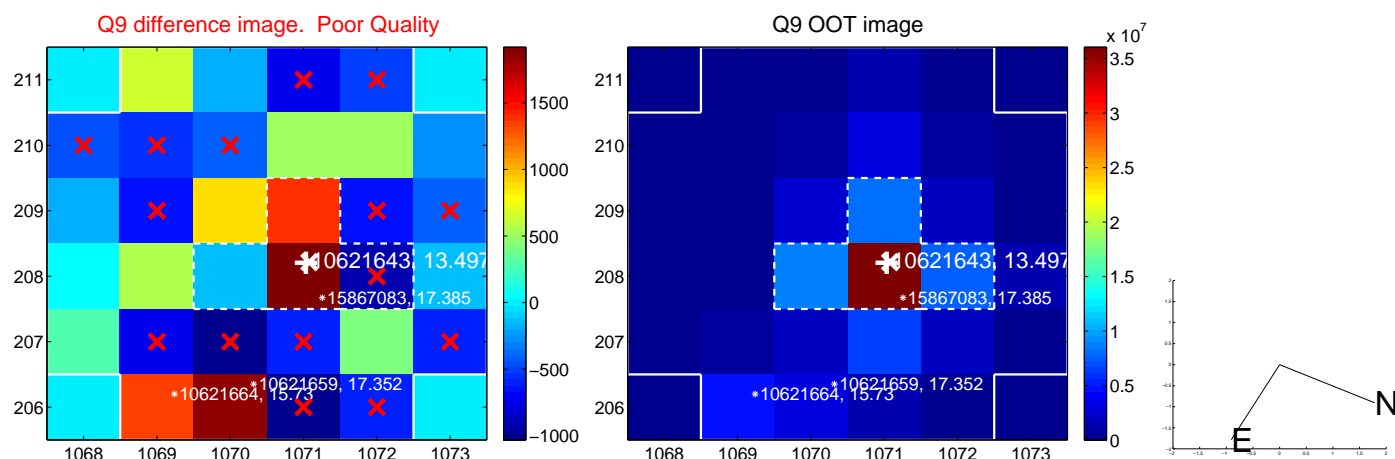
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



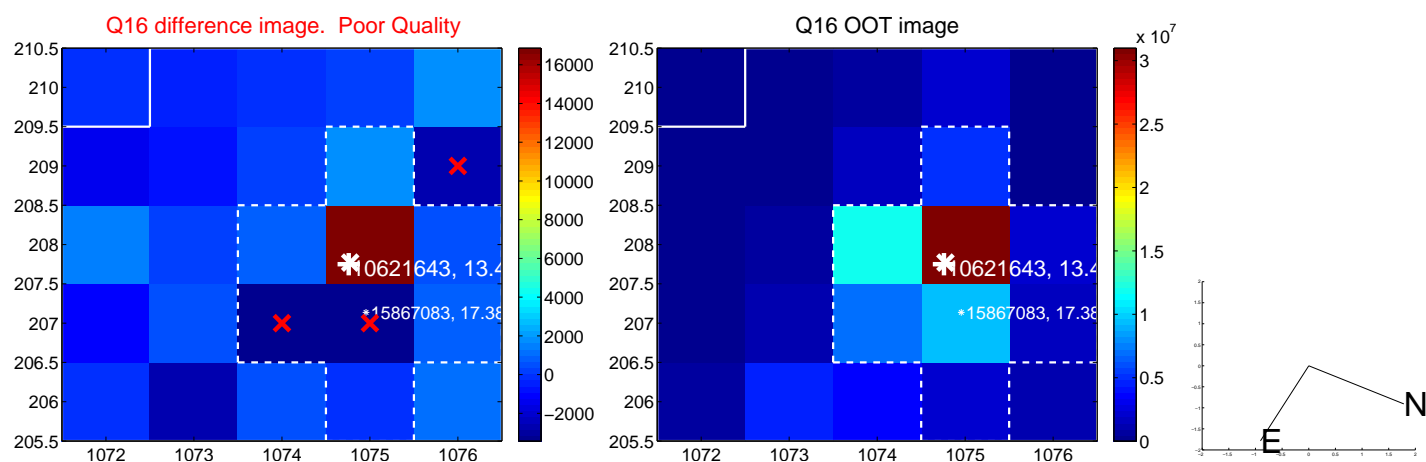
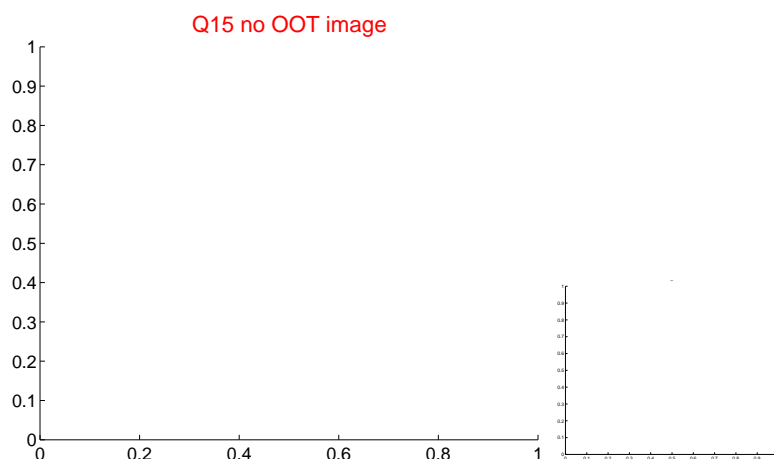
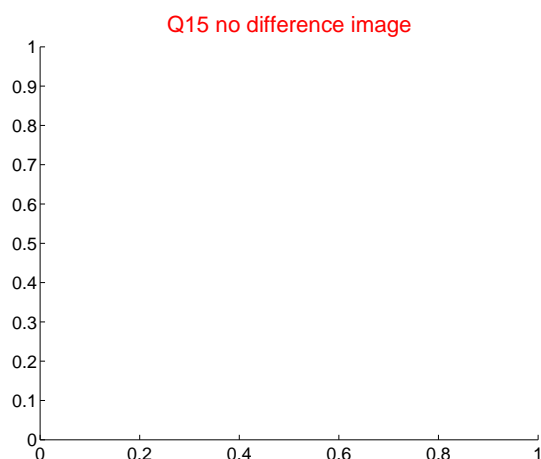
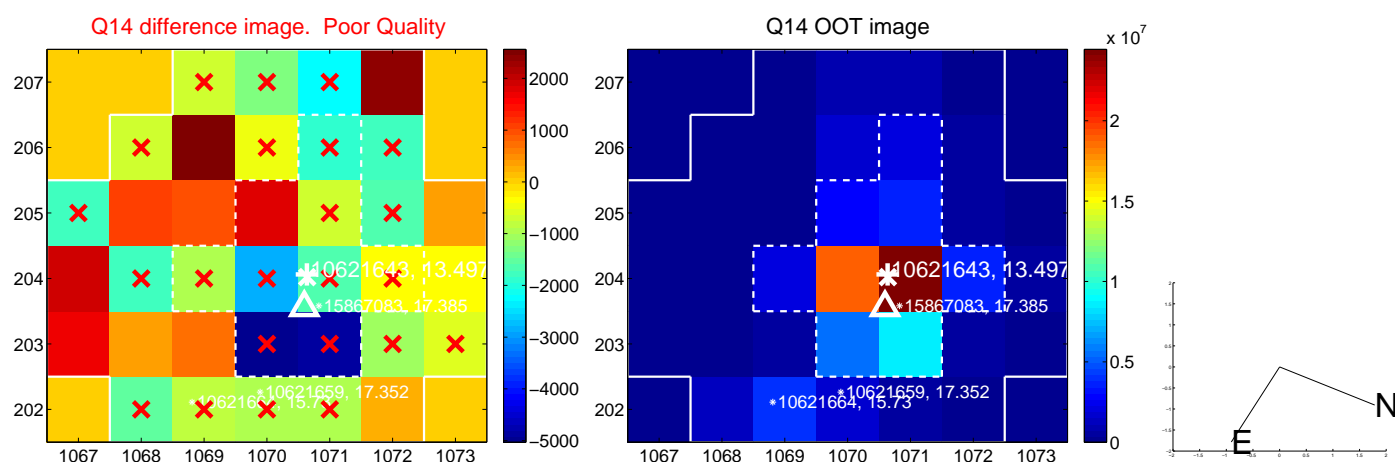
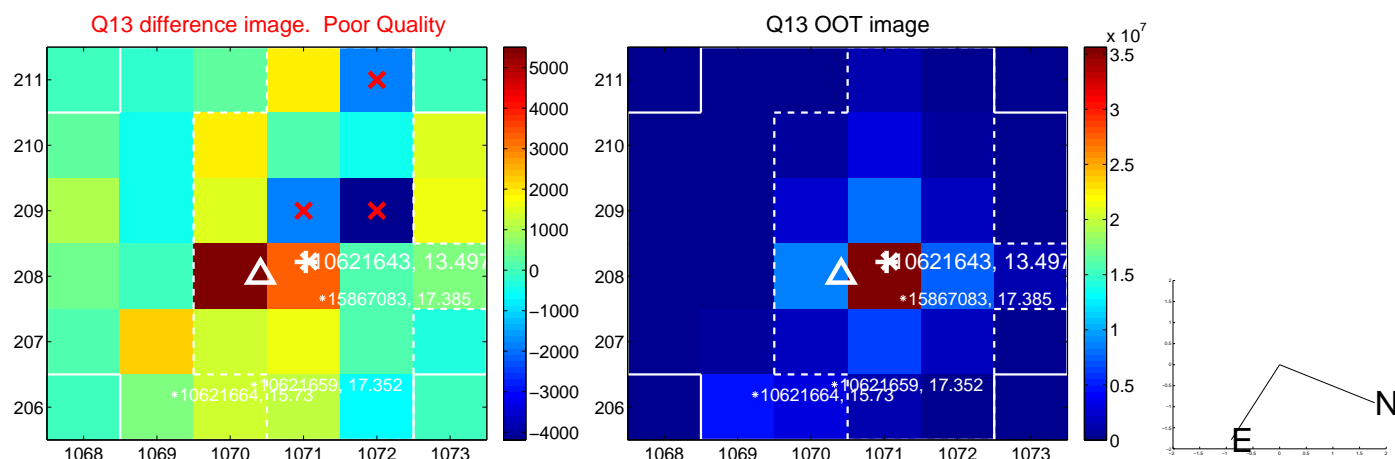
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



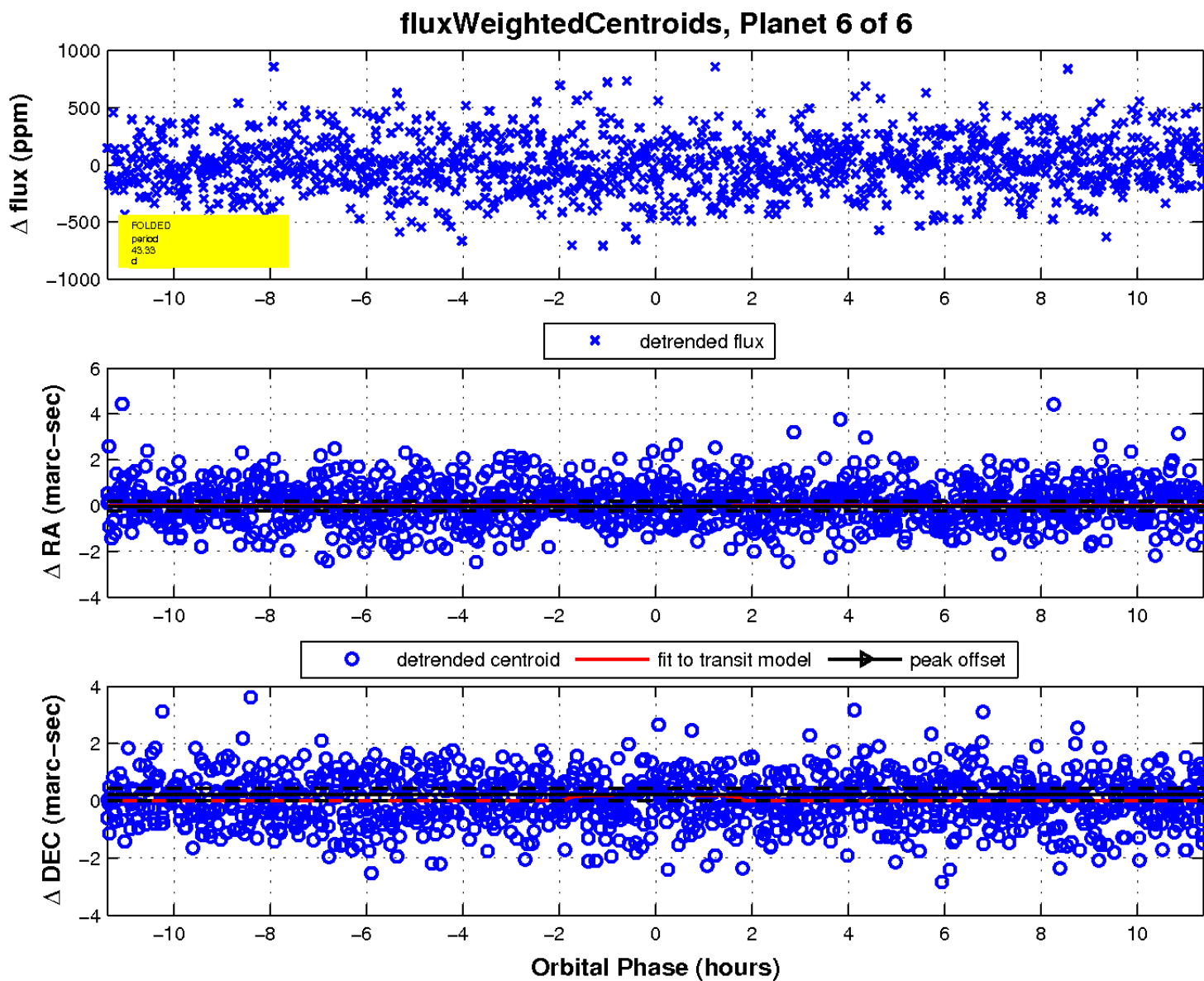
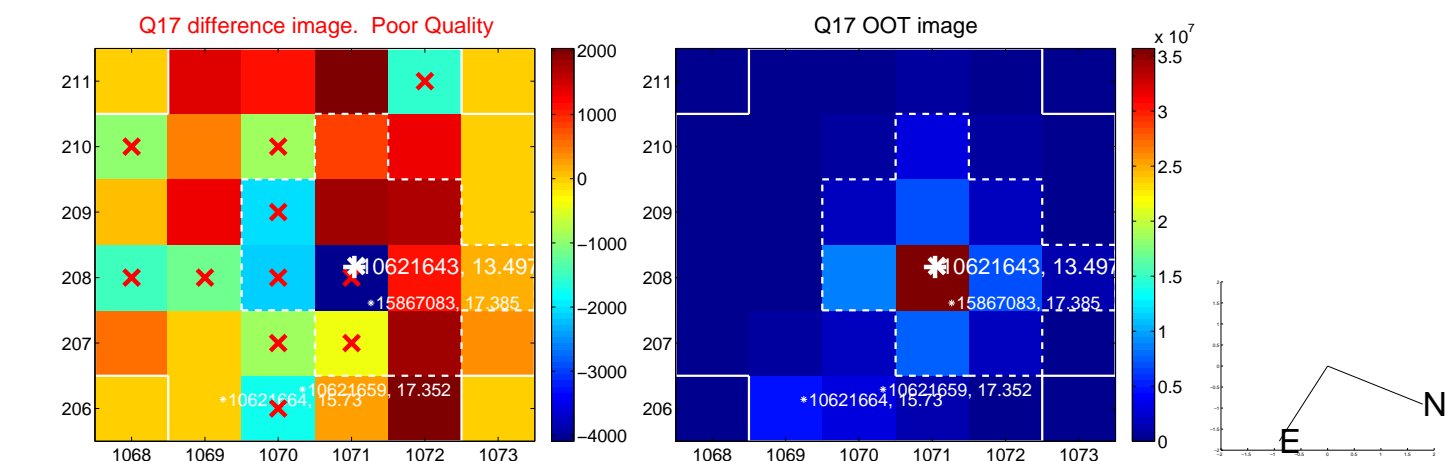
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

