

KIC 006699023

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})
006699023-01	OBS	No	0.695730	131.886487	15.6	4.443	12.1	11.0	1.17	6297	0.47	8014.56
006699023-02	OBS	No	60.935202	169.503885	201.5	2.752	8.7	7.9	1.17	6297	1.85	20.61
006699023-03	OBS	No	45.689490	151.057383	211.5	3.110	8.2	8.6	1.17	6297	1.95	30.25
006699023-05	OBS	No	451.520375	450.880725	333.6	3.500	7.8	-1.0	1.17	6297	2.15	1.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006699023-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
006699023-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006699023-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_RESOLVED_OFFSET
006699023-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

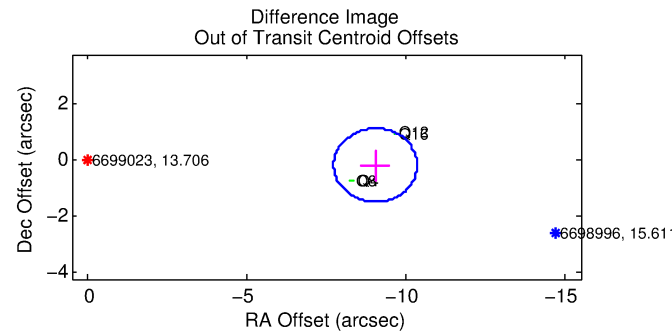
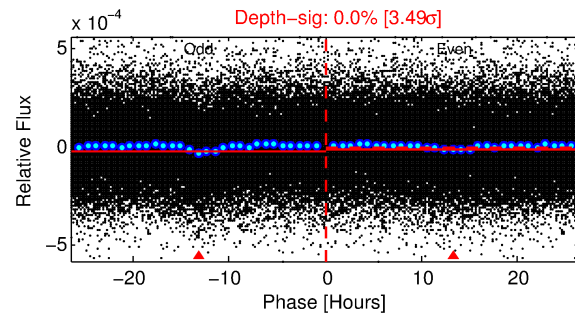
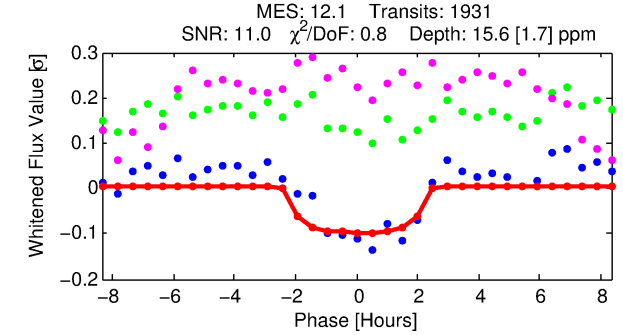
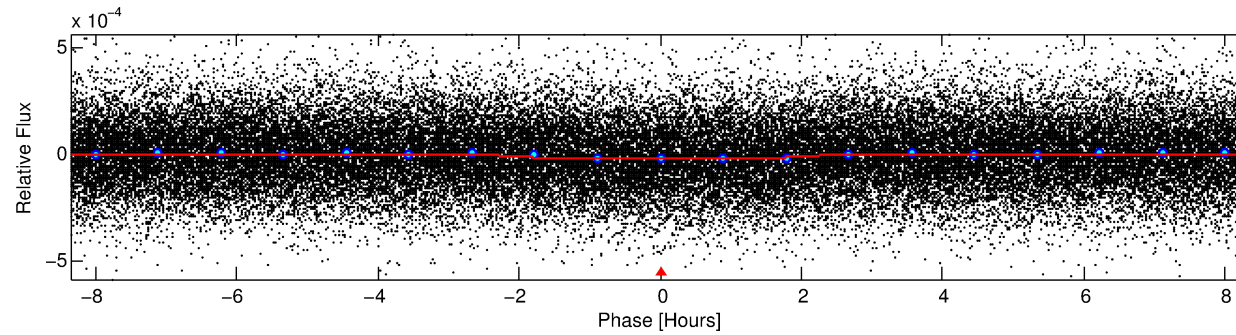
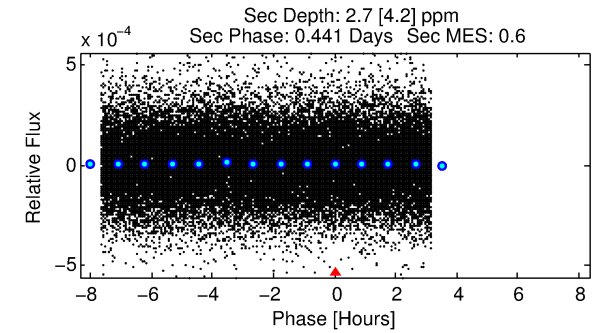
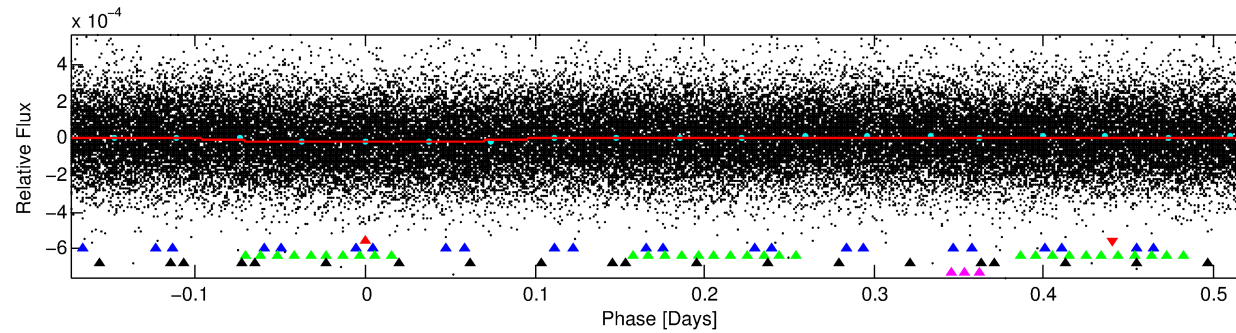
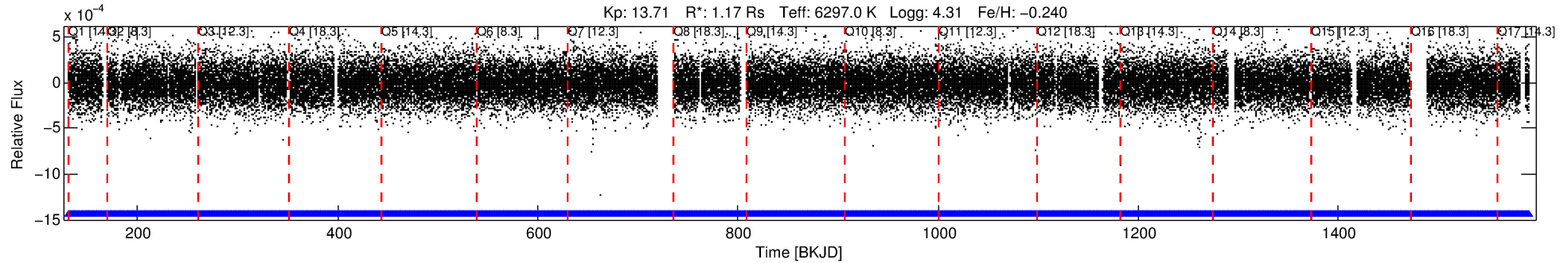
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006699023-01

No Significant Match Found

DV One-Page Summary

KIC: 6699023 Candidate: 1 of 5 Period: 0.696 d



DV Fit Results:

Period = 0.69573 [0.00001] d
Epoch = 131.8865 [0.0045] BKJD
Rp/R* = 0.0037 [0.0026]
a/R* = 1.30 [1.92]
b = 0.41 [7.44]
Seff = 8014.55 [3077.08]
Teq = 2413 [232] K
Rp = 0.47 [0.36] Re
a = 0.0155 [0.0040] AU
Ag = 1.60 [3.38] [0.18σ]
Teffp = 4193 [2188] K [0.81σ]

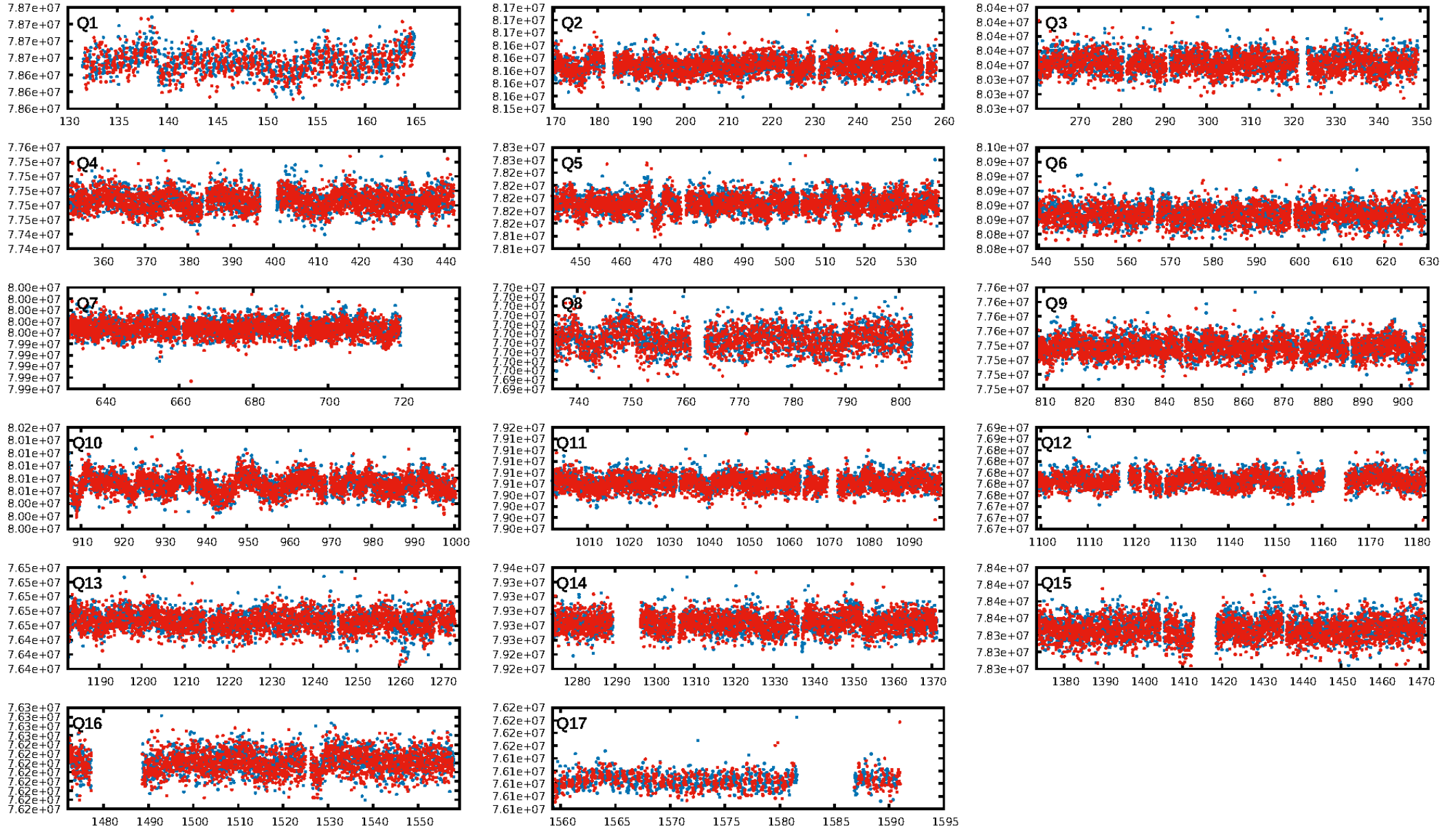
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [199.13σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.70e-18
RollingBand-fgt: 1.00 [1845/1845]
GhostDiagnostic-chr: -0.573
Centroid-sig: 0.0%
Centroid-so: 9.333 arcsec [5.13σ]
OotOffset-rm: 9.040 arcsec [20.70σ]
KicOffset-rm: 9.079 arcsec [20.55σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 0/0/4/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [17/17]

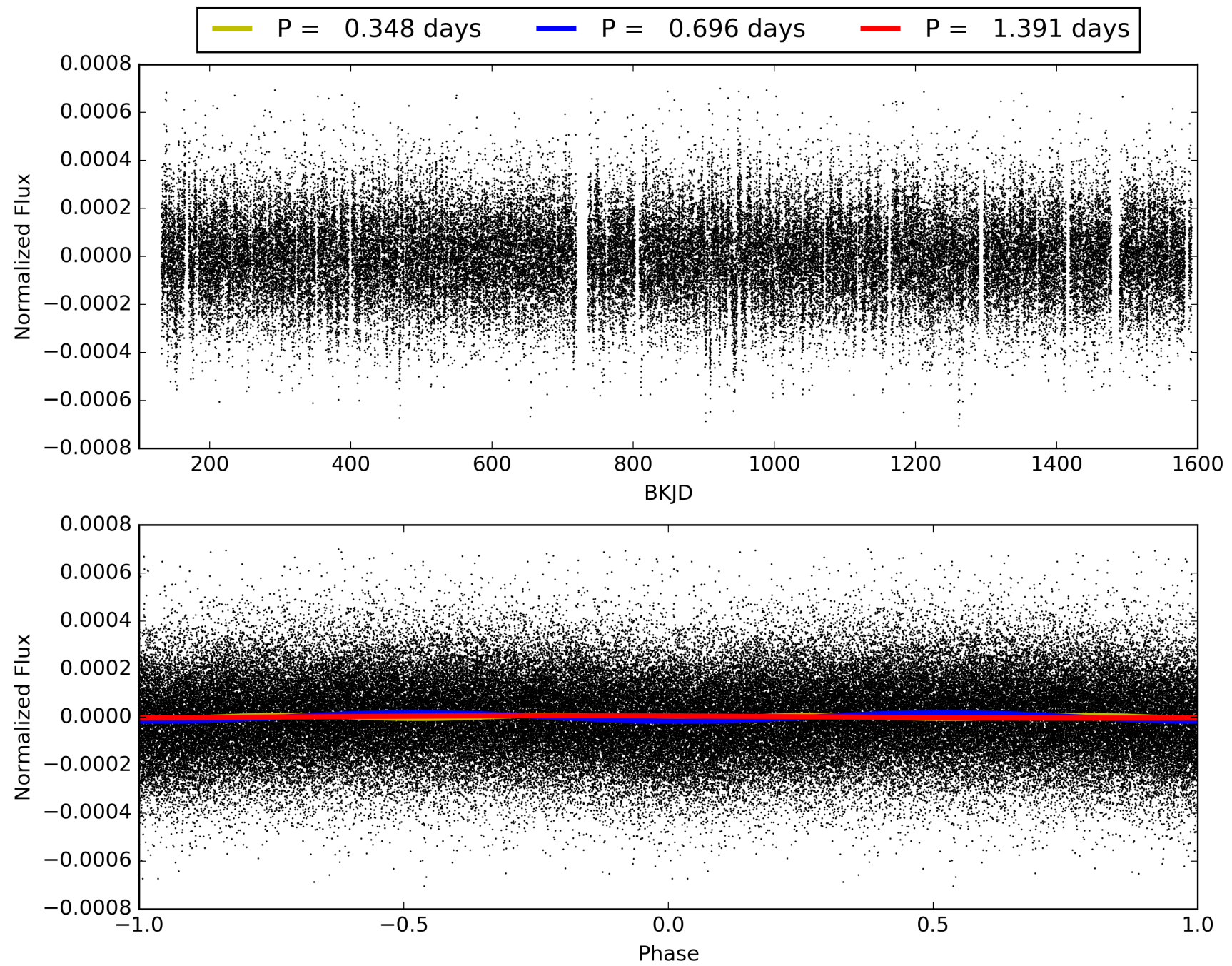
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:17:41 Z

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

TCE 006699023-01, PDC Light Curves

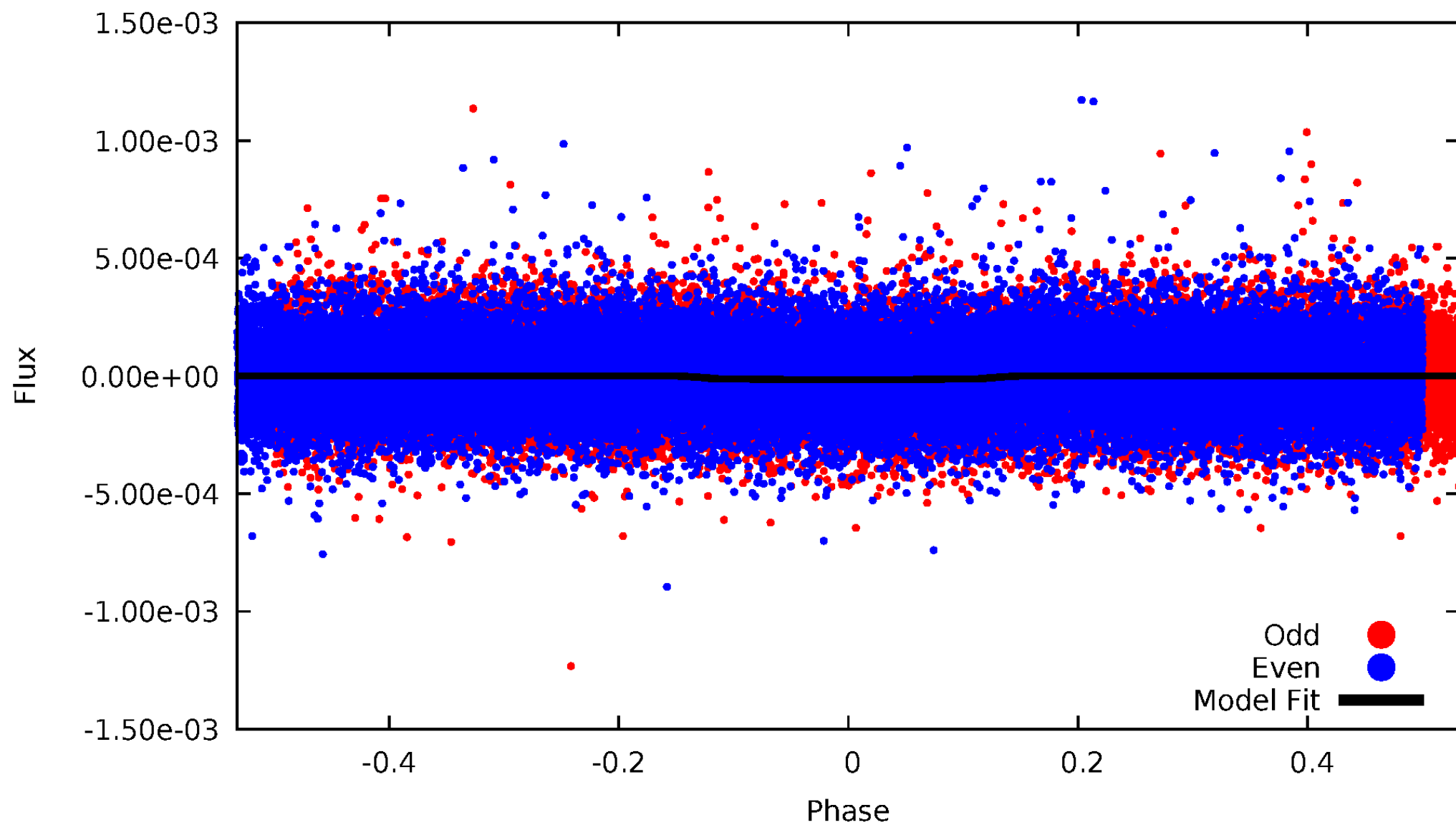


TCE 006699023-01



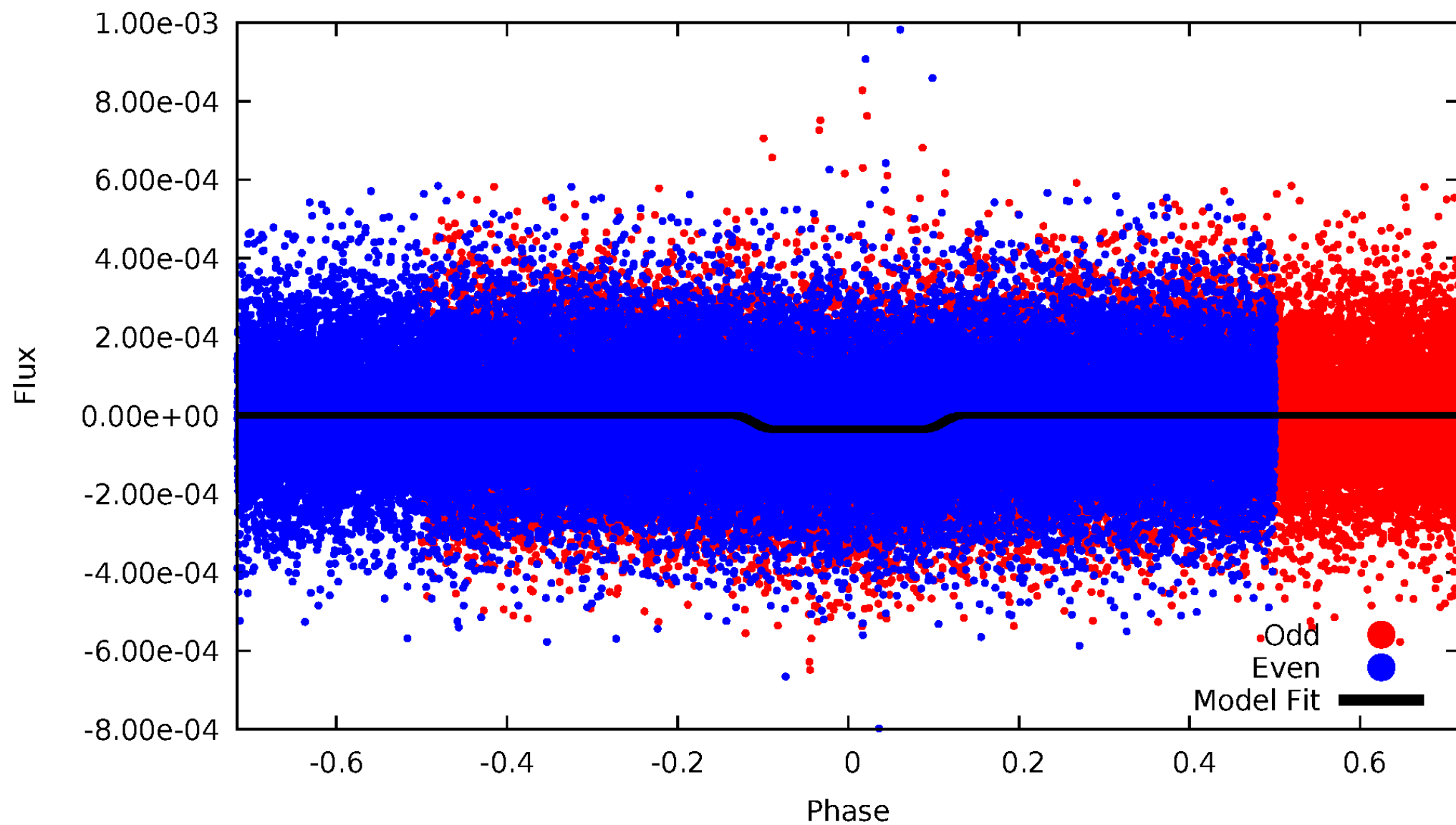
DV Odd/Even

TCE 006699023-01



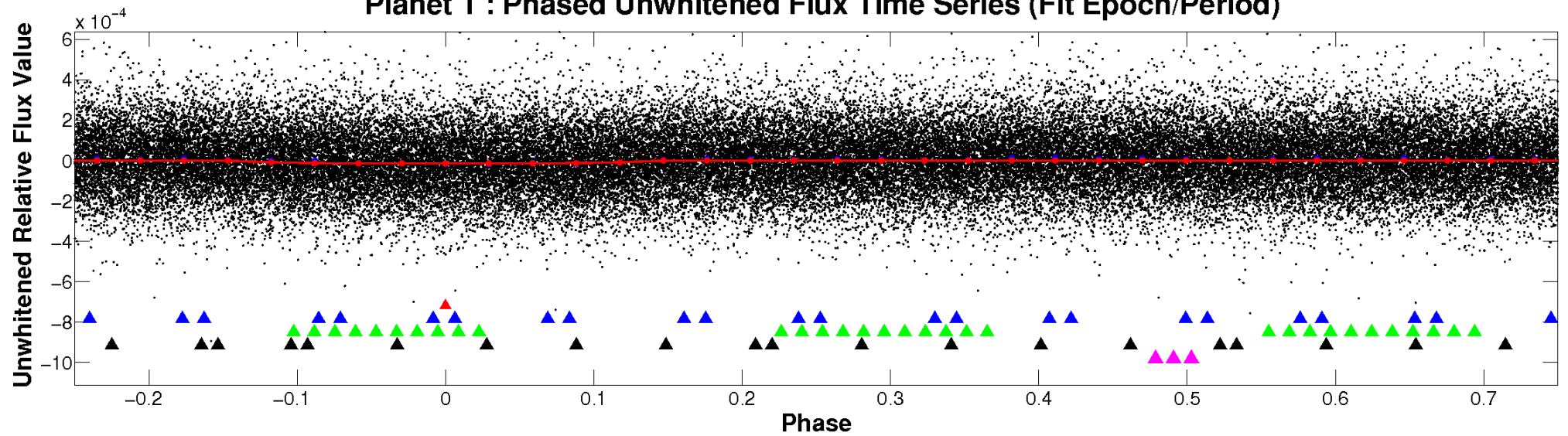
ALT Odd/Even

TCE 006699023-01

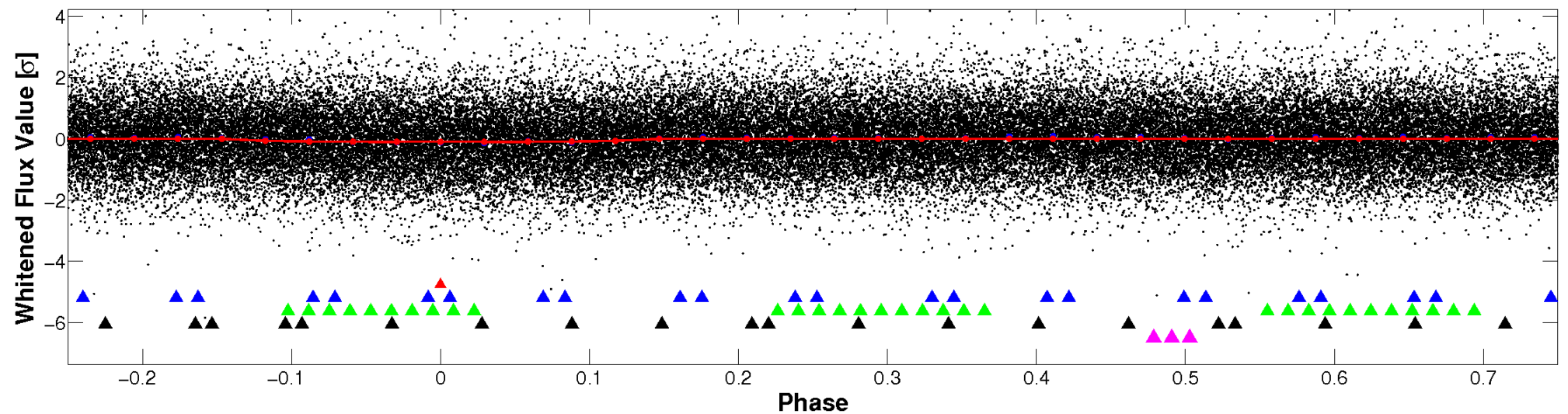


Non-Whitened Vs. Whitened Light Curve

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

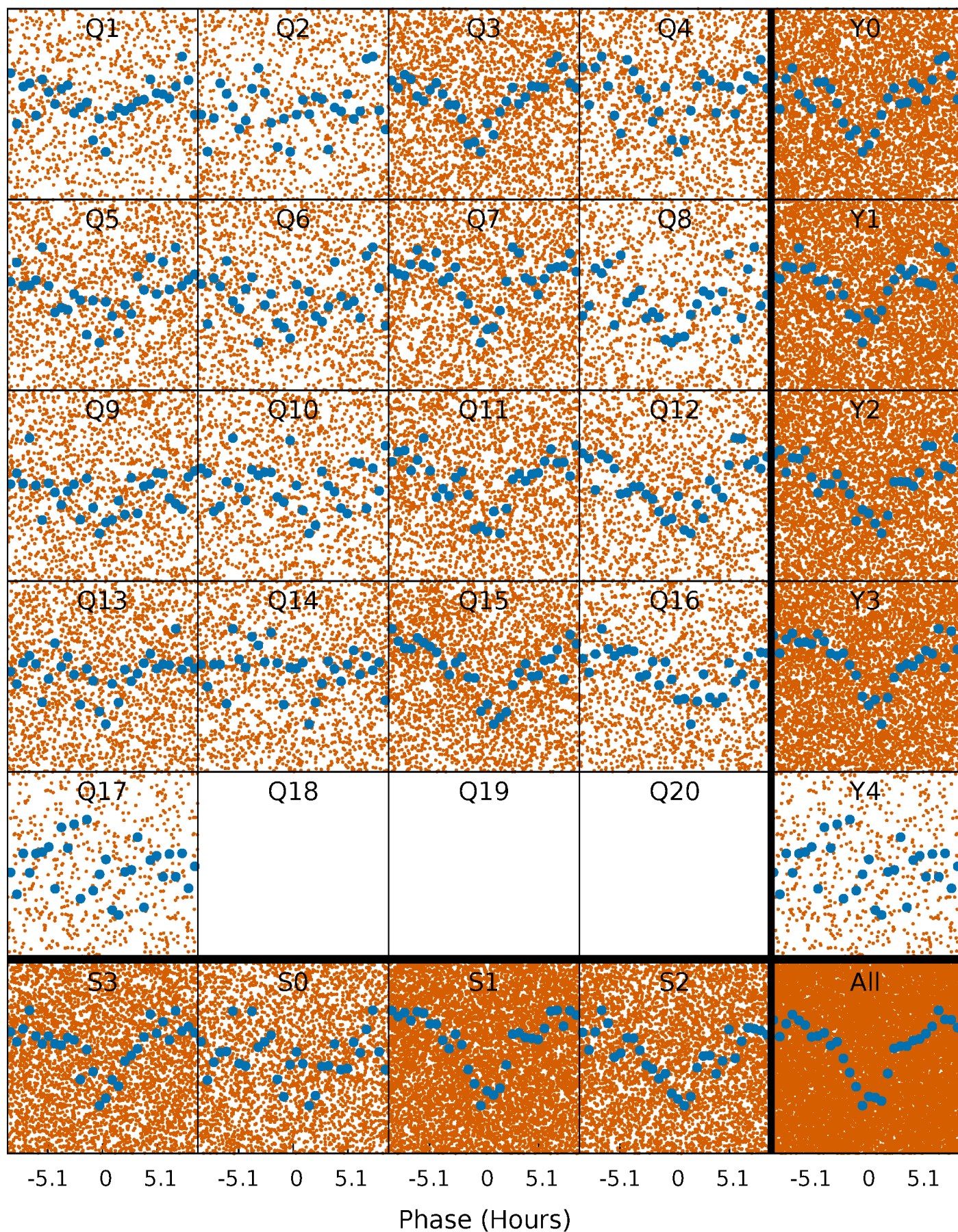


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



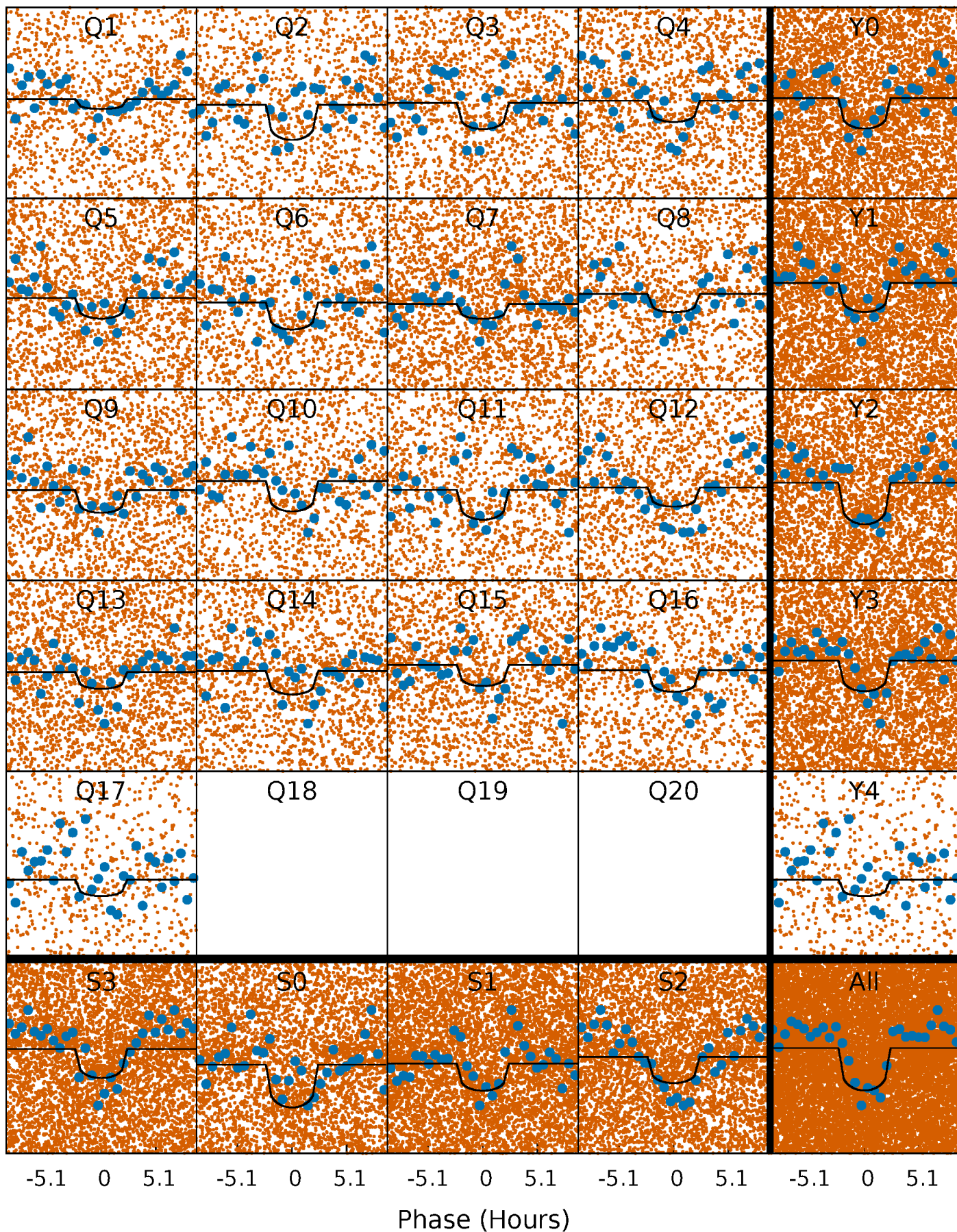
PDC Quarter-Phased Transit Curves

TCE 006699023-01 P= 0.695730 Days $T_0=131.886487$ (BKJD)



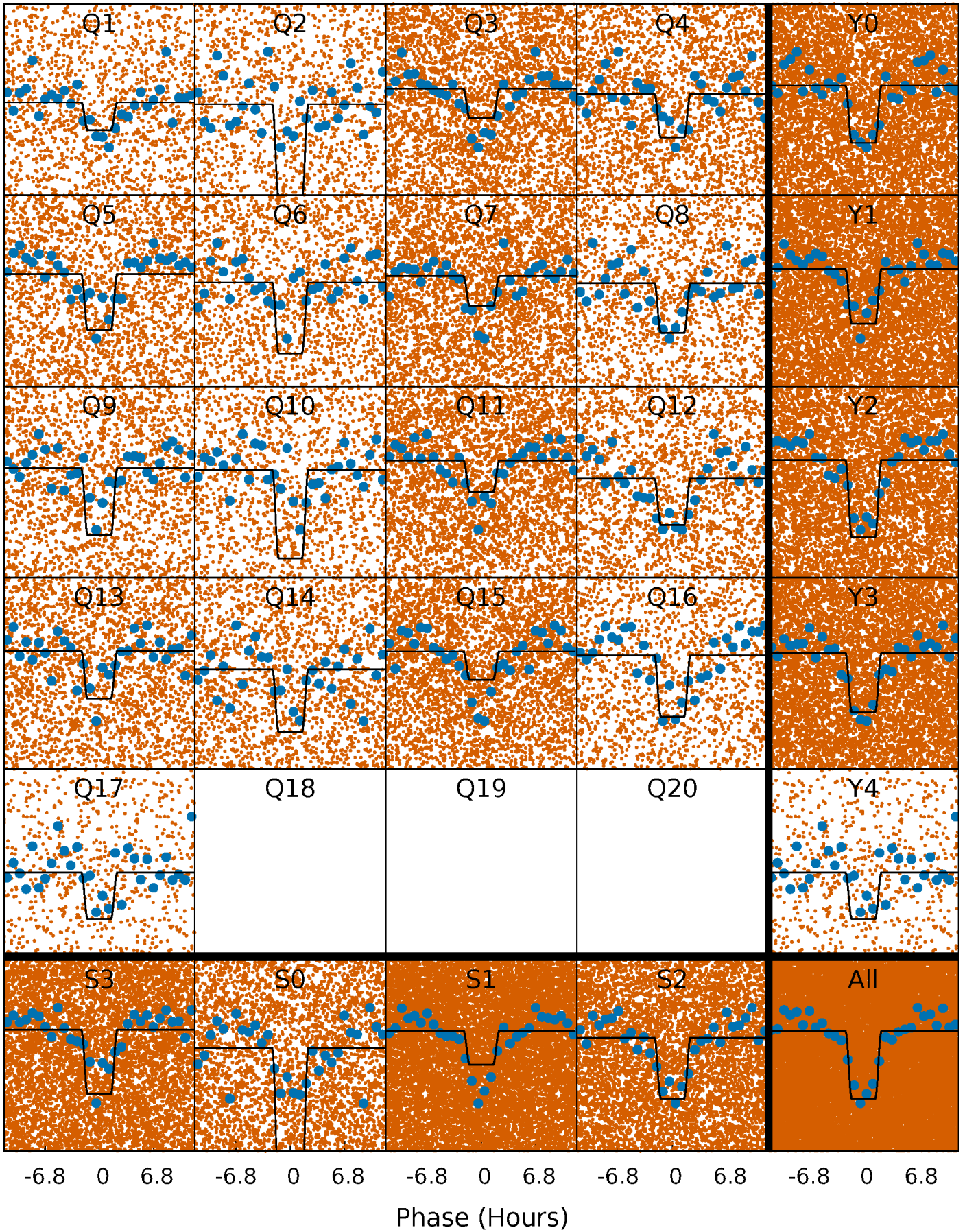
DV Quarter-Phased Transit Curves

TCE 006699023-01 P= 0.695730 Days $T_0=131.886487$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

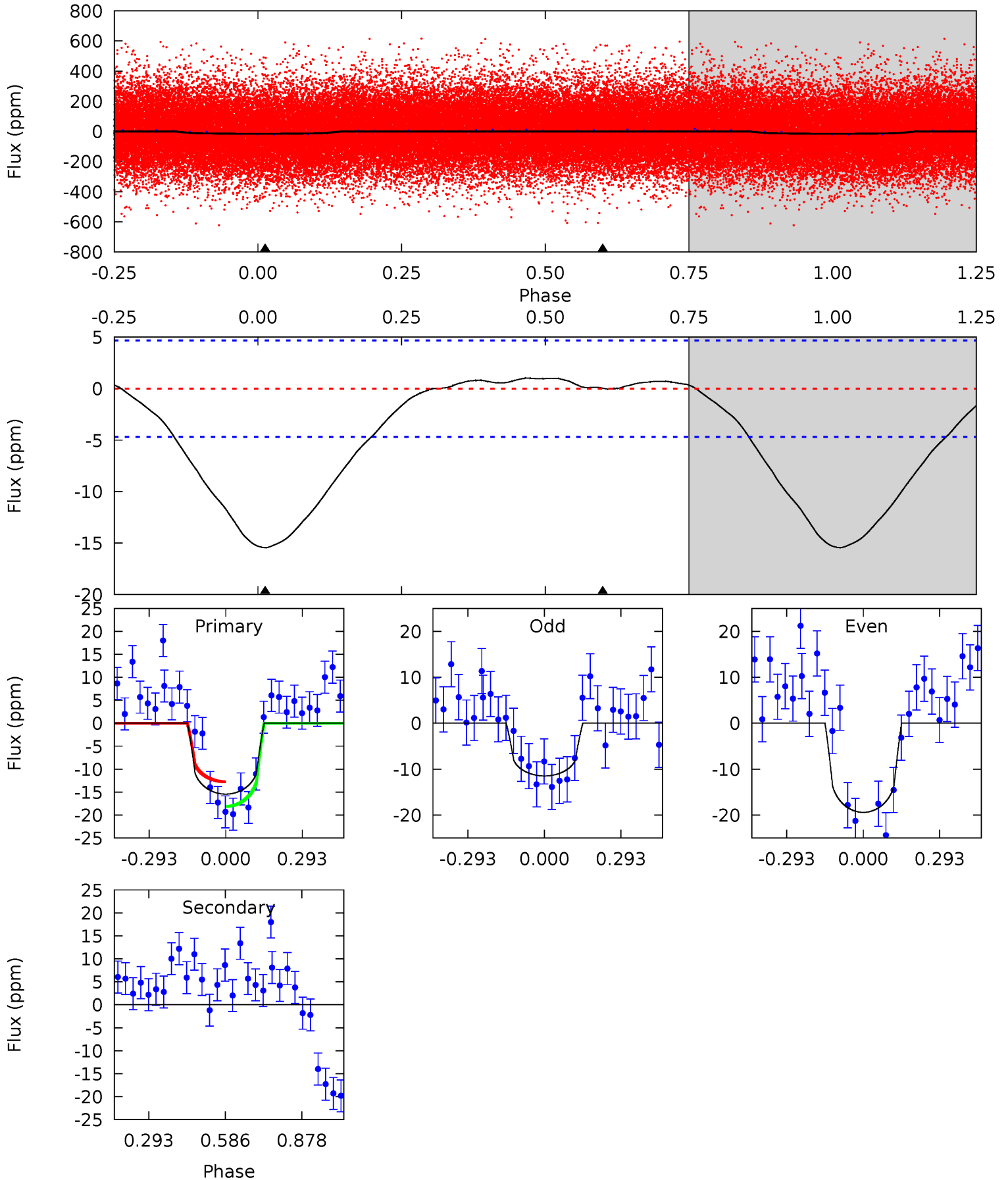
TCE 006699023-01 P= 0.695770 Days $T_0=131.858346$ (BKJD)



DV Model-Shift Uniqueness Test

006699023-01, P = 0.695730 Days, E = 131.190757 Days

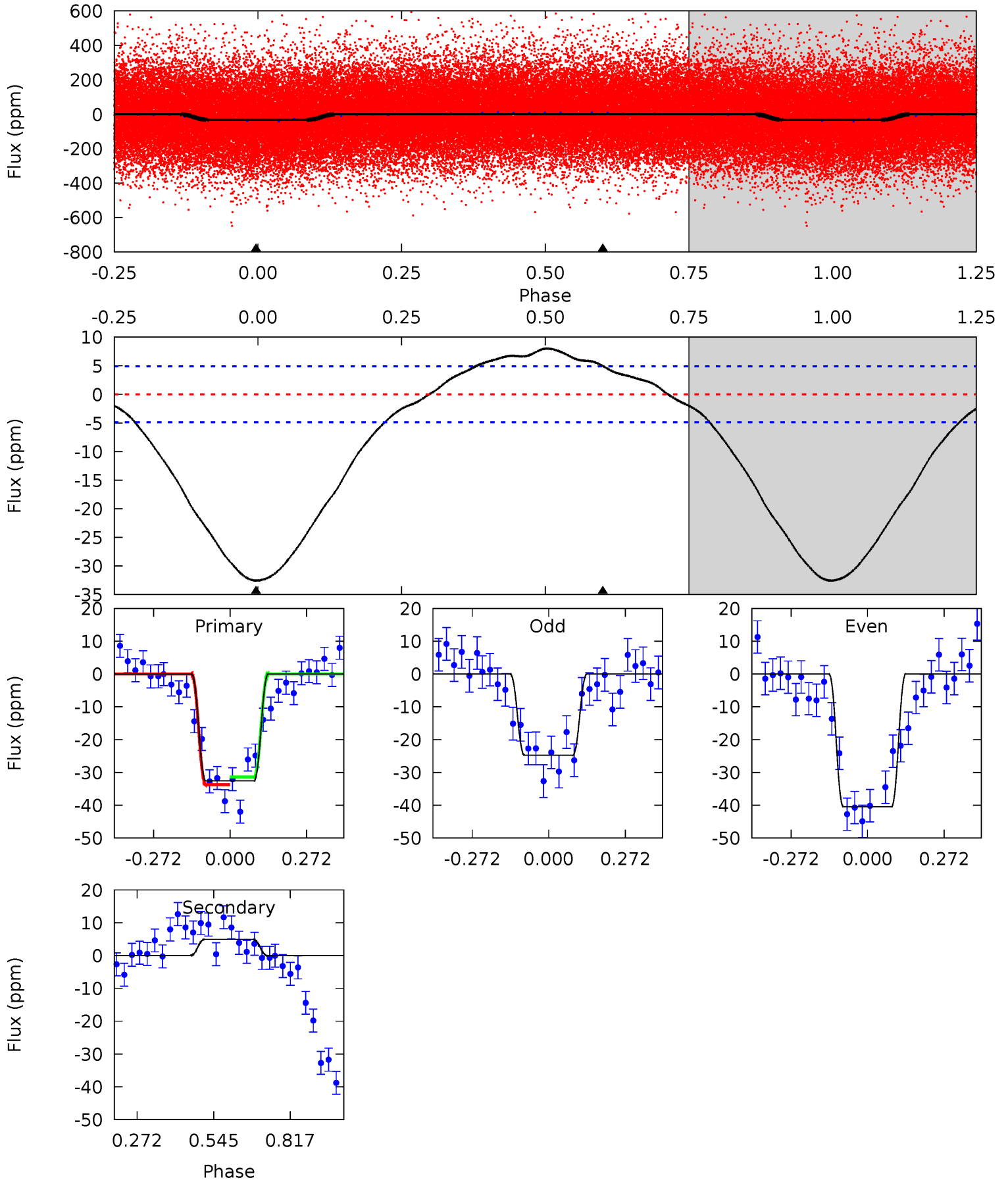
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	-0.03	0	0	4.33	1.05	0.46	14.3	14.3	-0.03	-0.03	3.69	0.94	0.06	2.46



Alt Model-Shift Uniqueness Test

006699023-01, P = 0.695770 Days, E = 131.162576 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.0	-4.42	0	0	4.35	1.10	1.66	29.0	29.0	-4.42	-4.42	7.01	1.01	0.20	1.02



Stellar Parameters For KIC 006699023

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6297^{+169}_{-206}	$4.314^{+0.128}_{-0.192}$	$-0.240^{+0.250}_{-0.300}$	$1.171^{+0.366}_{-0.197}$	$1.027^{+0.185}_{-0.108}$	$0.902^{+0.550}_{-0.464}$
	+3%/-3%	+3%/-4%	+104%/-125%	+31%/-17%	+18%/-11%	+61%/-51%
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 006699023-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1	$0.52^{+0.30}_{-0.30}$	3388^{+256}_{-213}	-3370^{+6824}_{-743}	$-0.020^{+0.742}_{-0.681}$
Alt.	5 ± 1	$0.81^{+0.36}_{-0.37}$	3386^{+259}_{-205}	-4278^{+388}_{-939}	$-0.960^{+0.512}_{-2.425}$

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 $A_{obs} \gg 1.0$

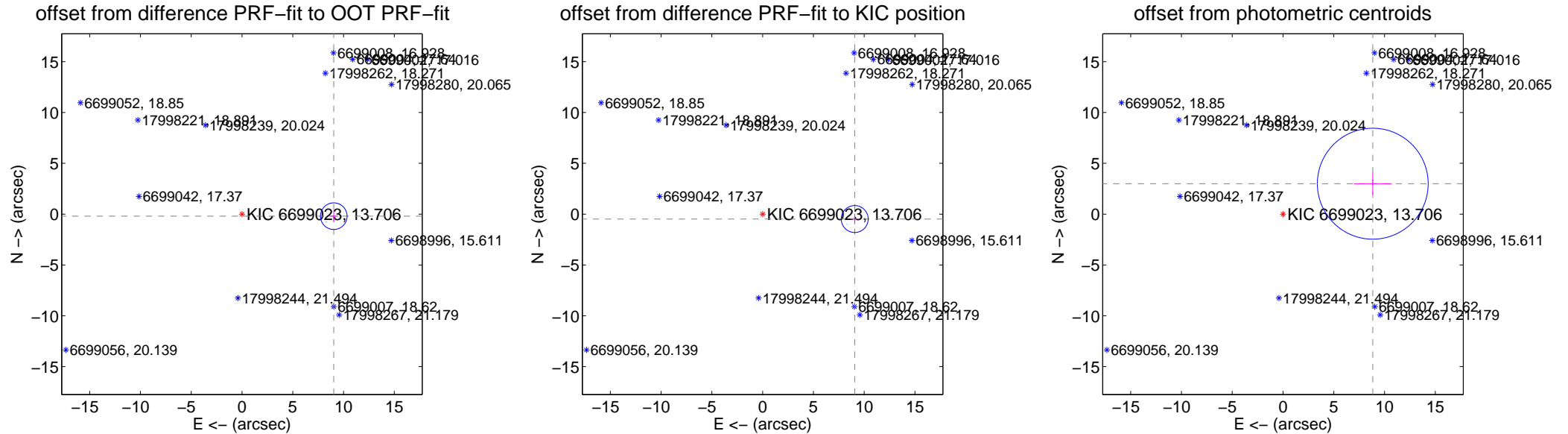
DV Centroid Data

Supplemental centroid analysis for 006699023-01. Kepler magnitude: 13.71. Transit SNR 11.02

There are 4 quarters with good PRF difference image offsets

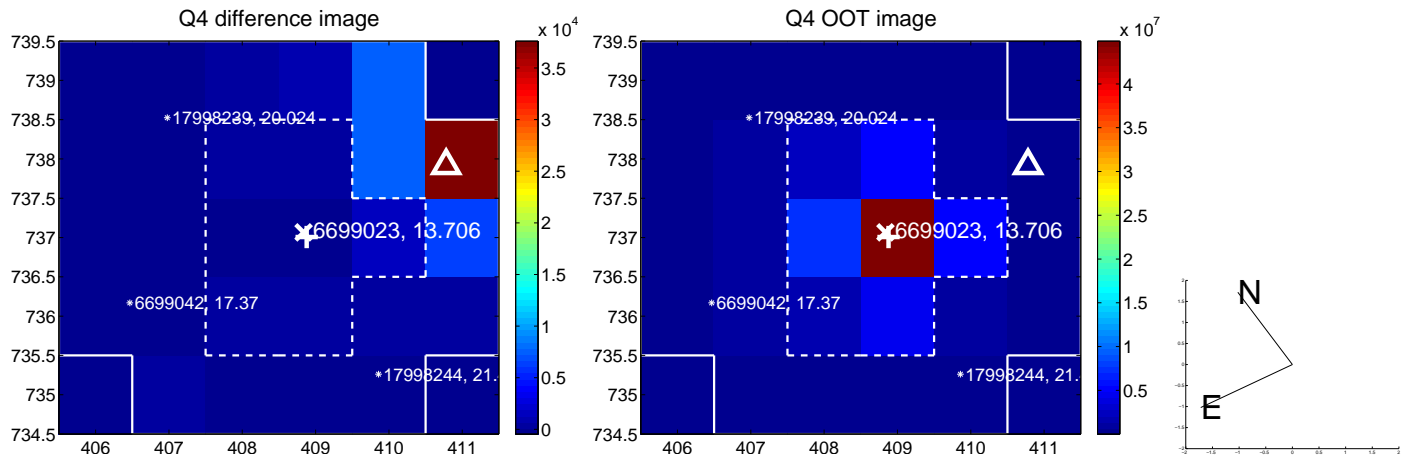
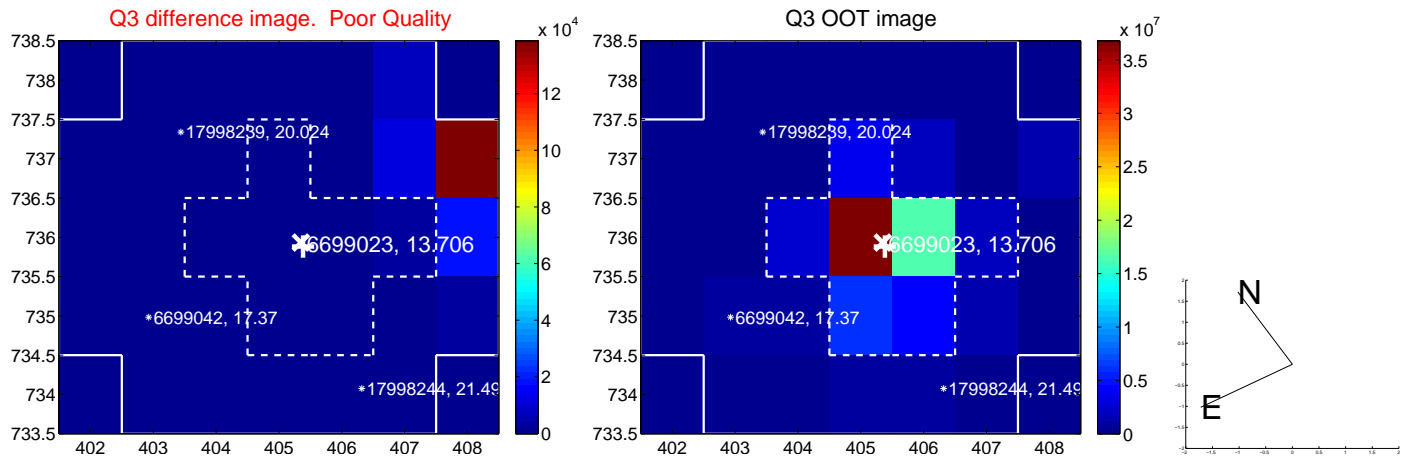
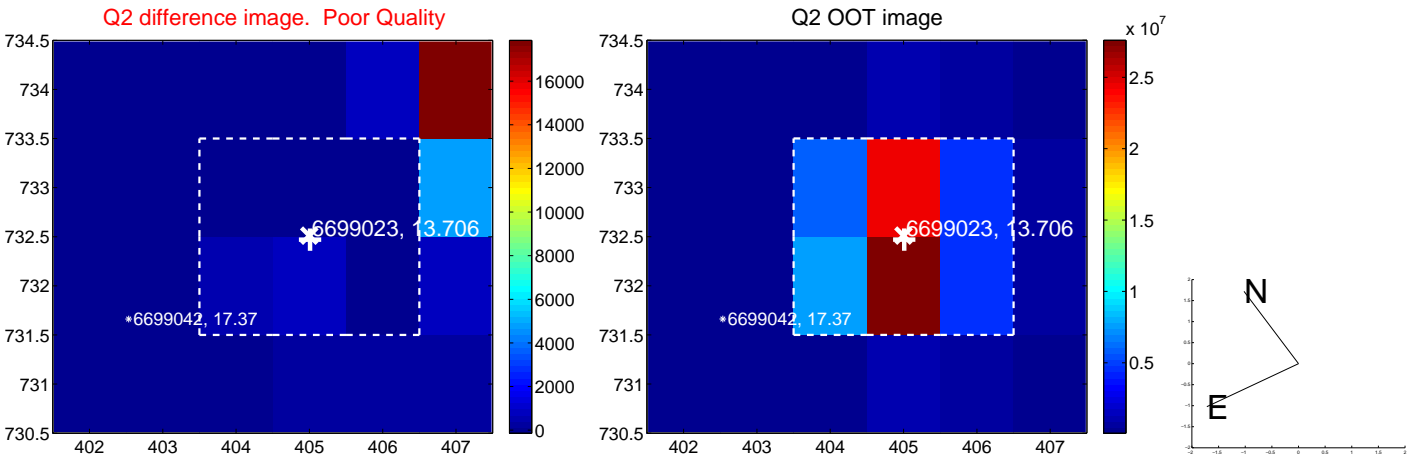
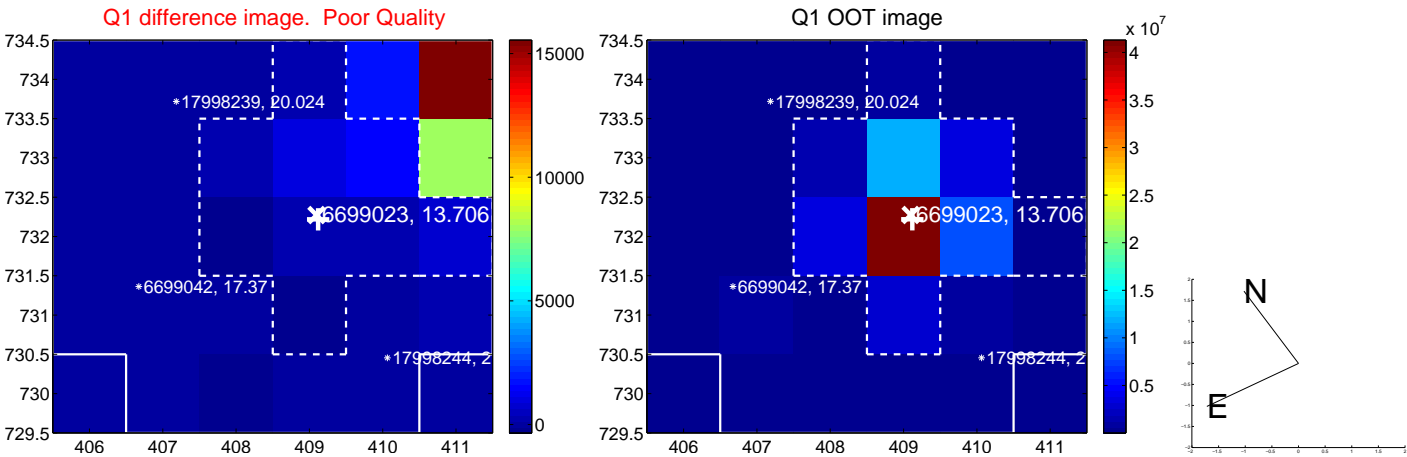
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.040 ± 0.437	20.70	-9.037 ± 0.437	-0.199 ± 0.524
PRF-fit source offset from KIC position	9.079 ± 0.442	20.55	-9.067 ± 0.442	-0.479 ± 0.511
photometric centroid source offset	9.33 ± 1.82	5.13	-8.84 ± 1.88	2.99 ± 1.09

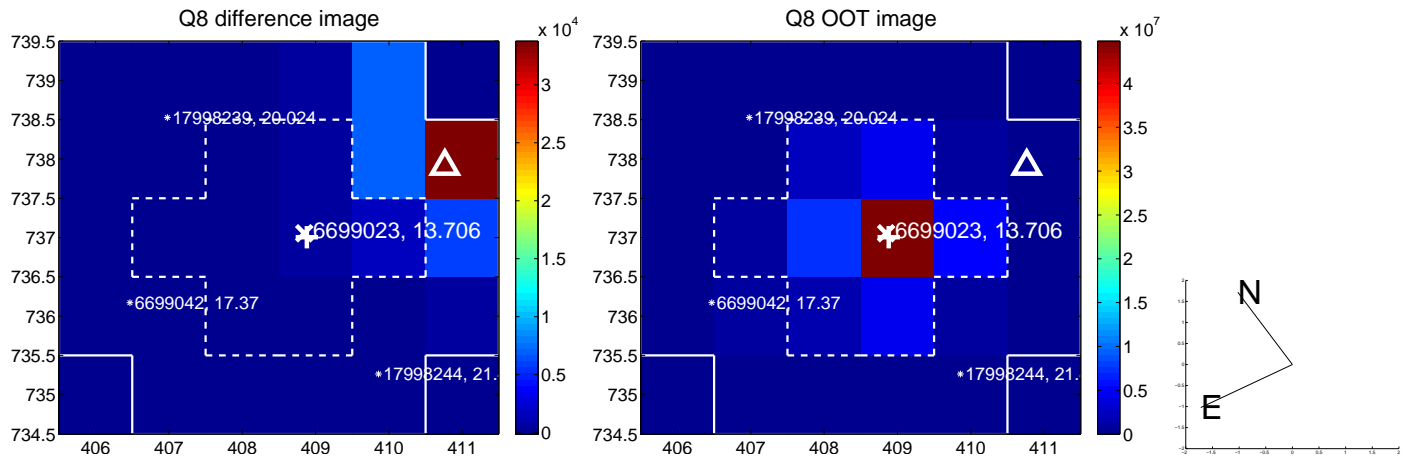
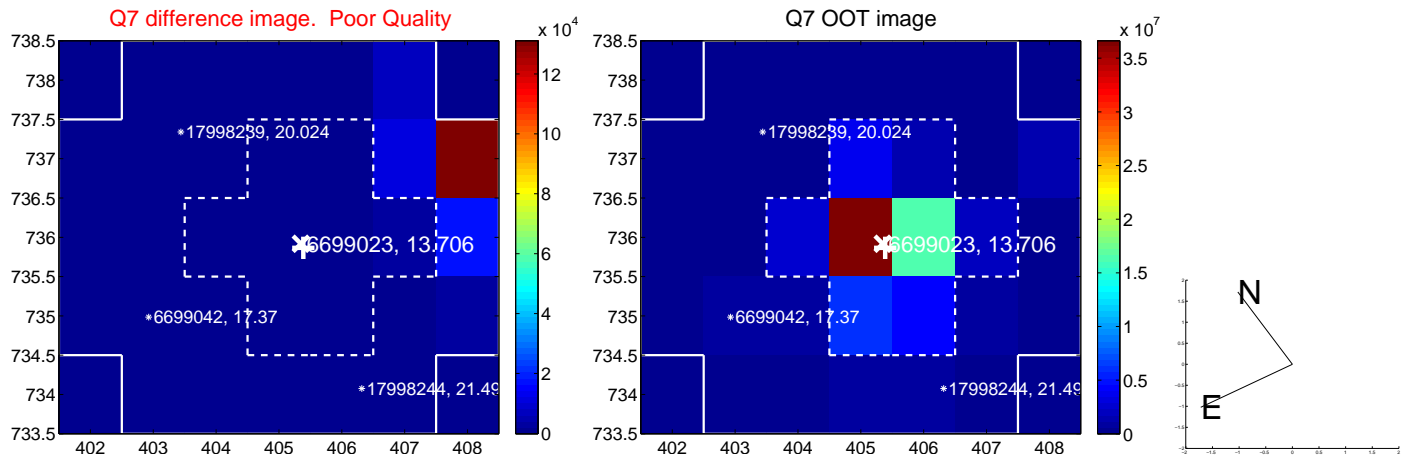
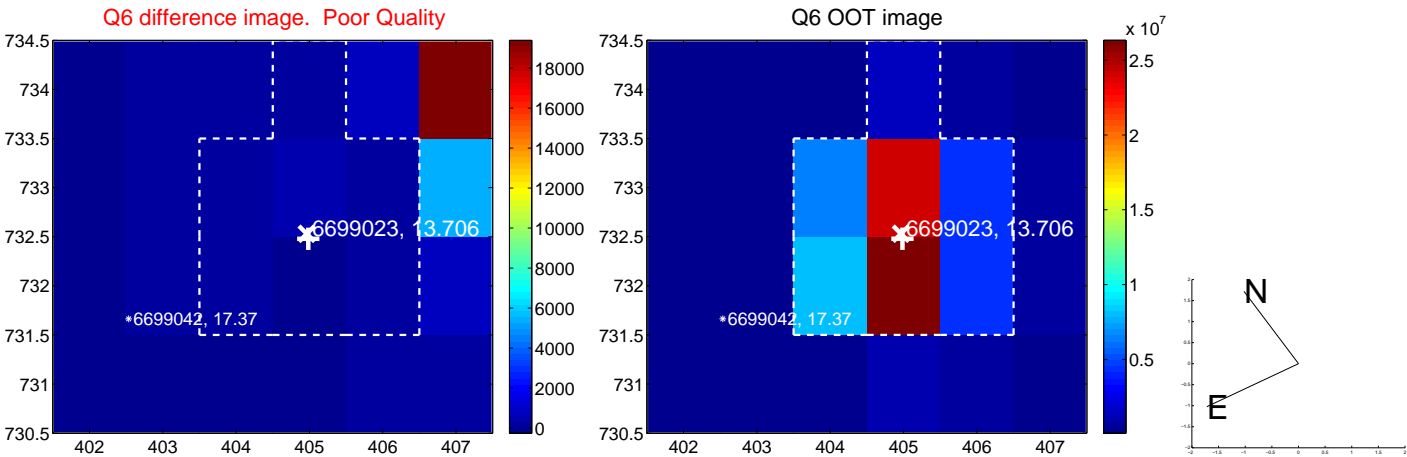
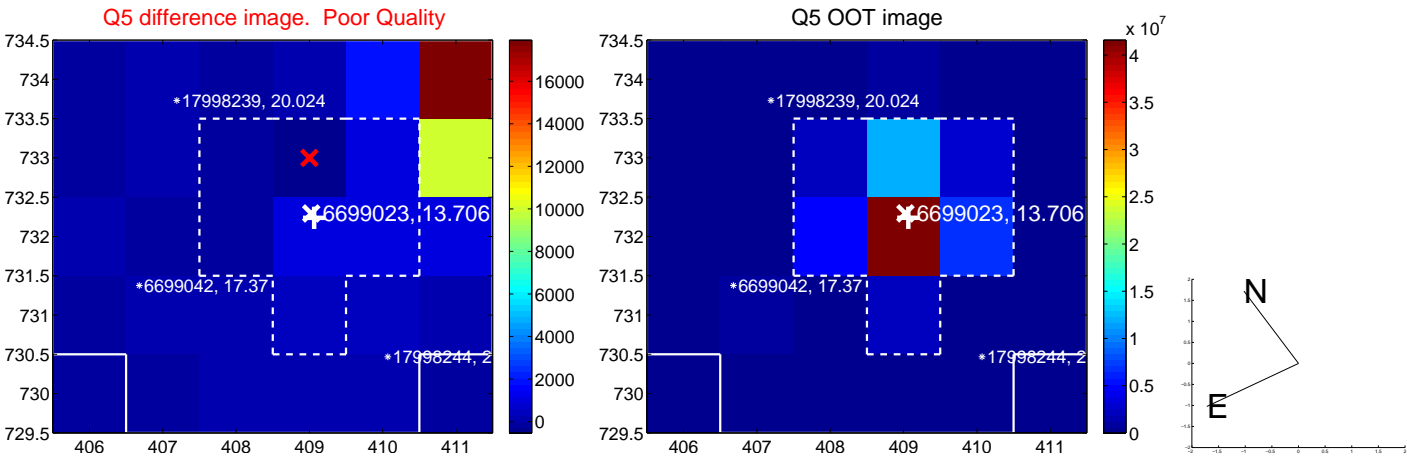


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

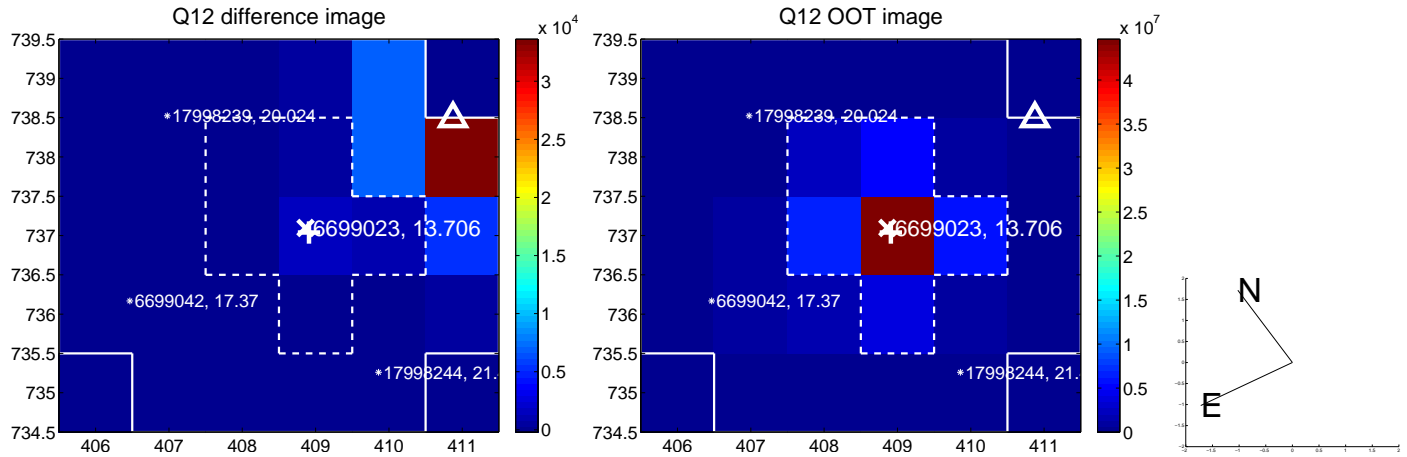
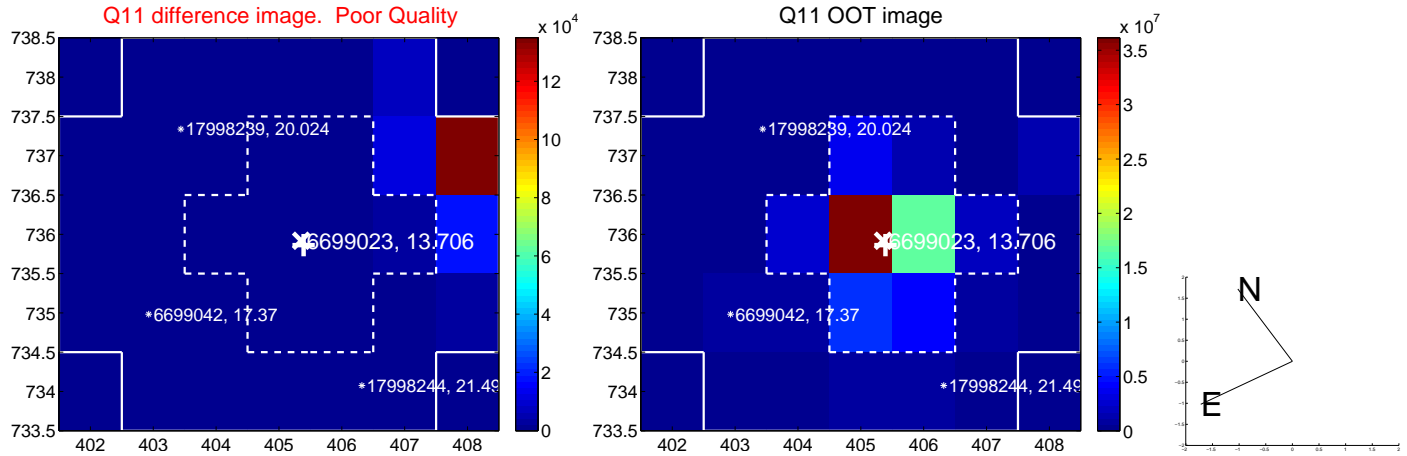
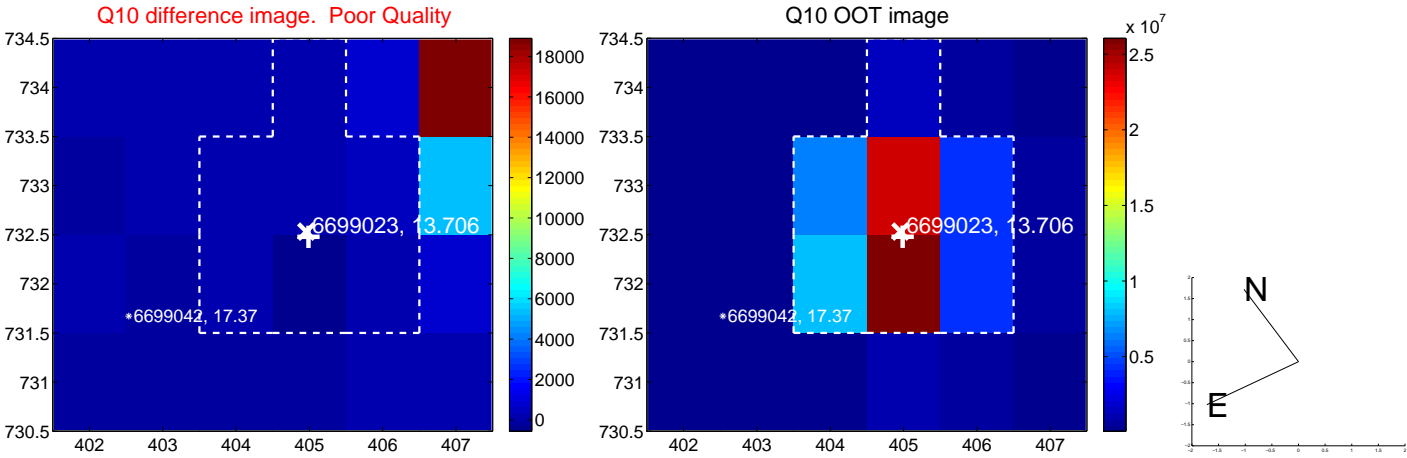
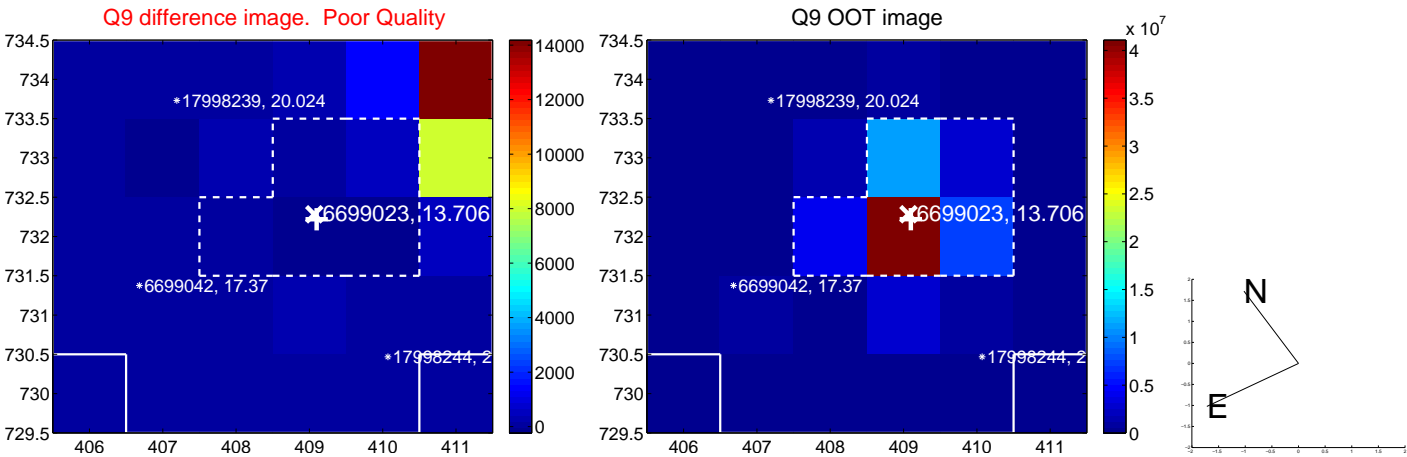
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



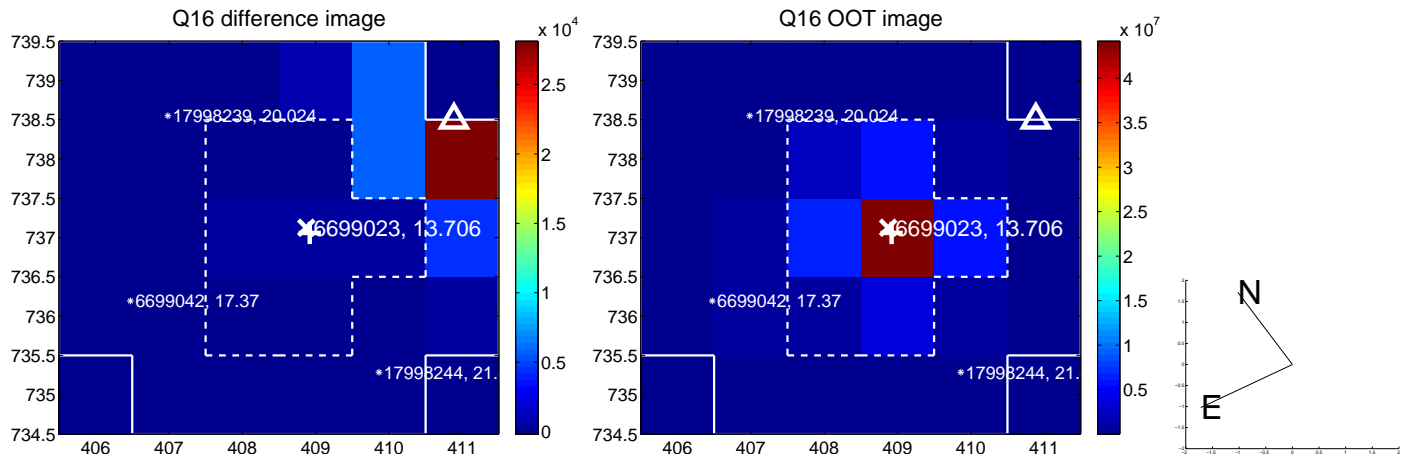
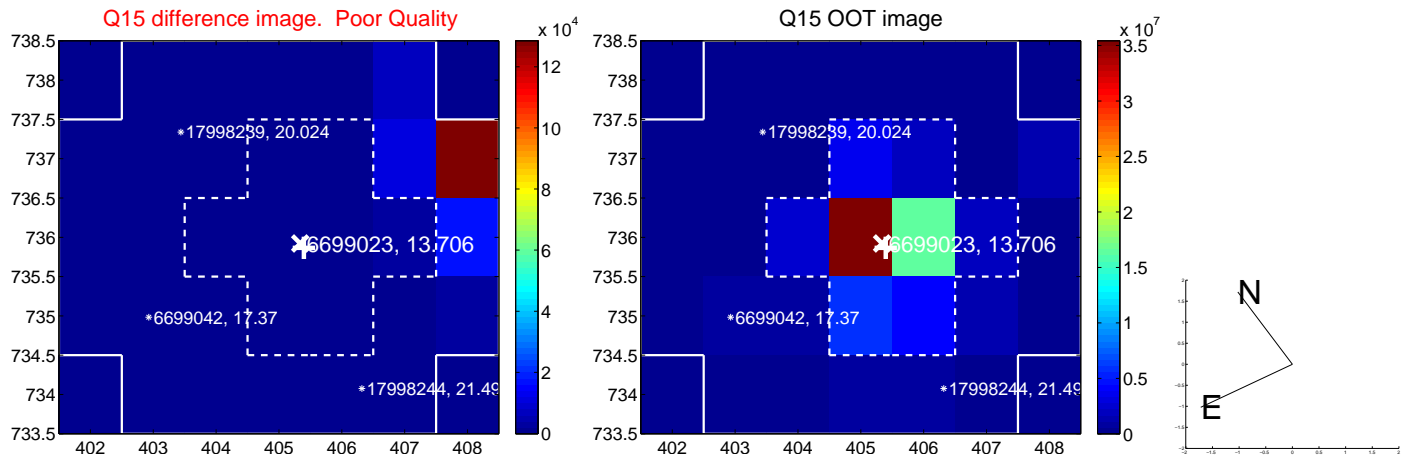
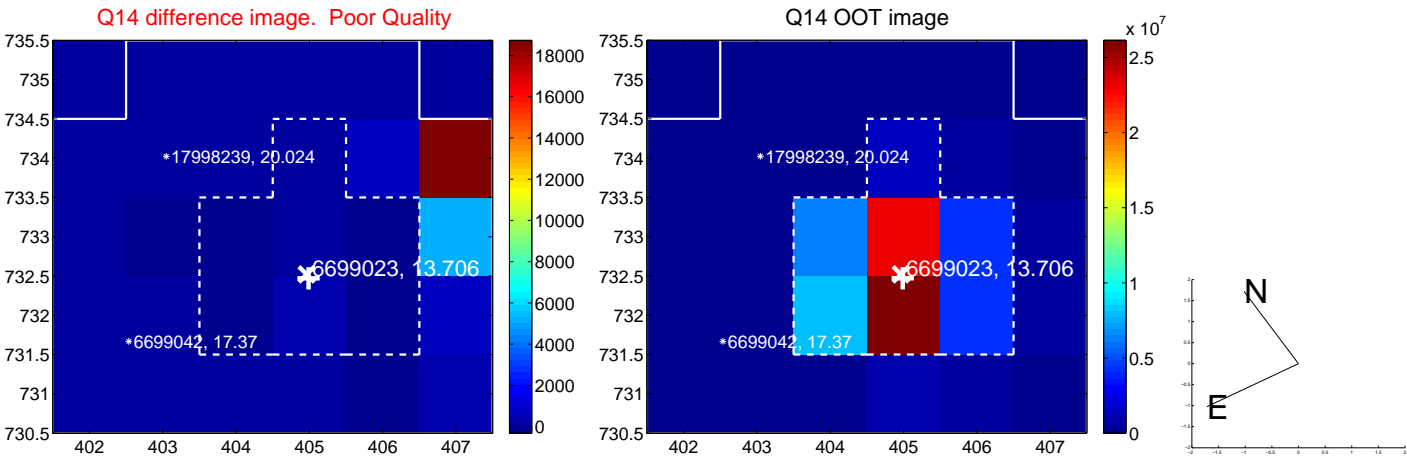
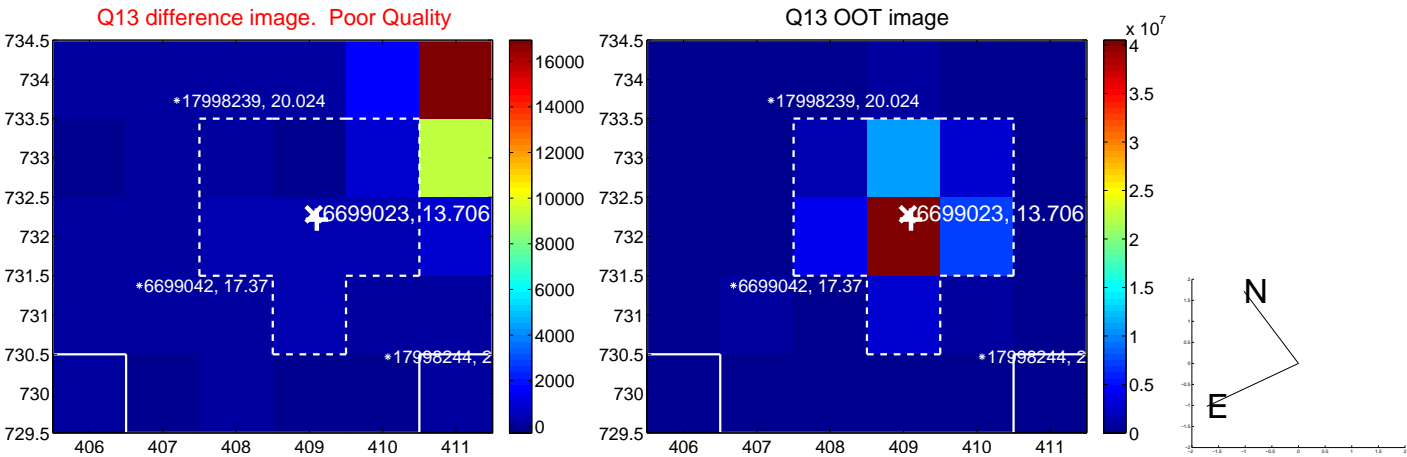
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



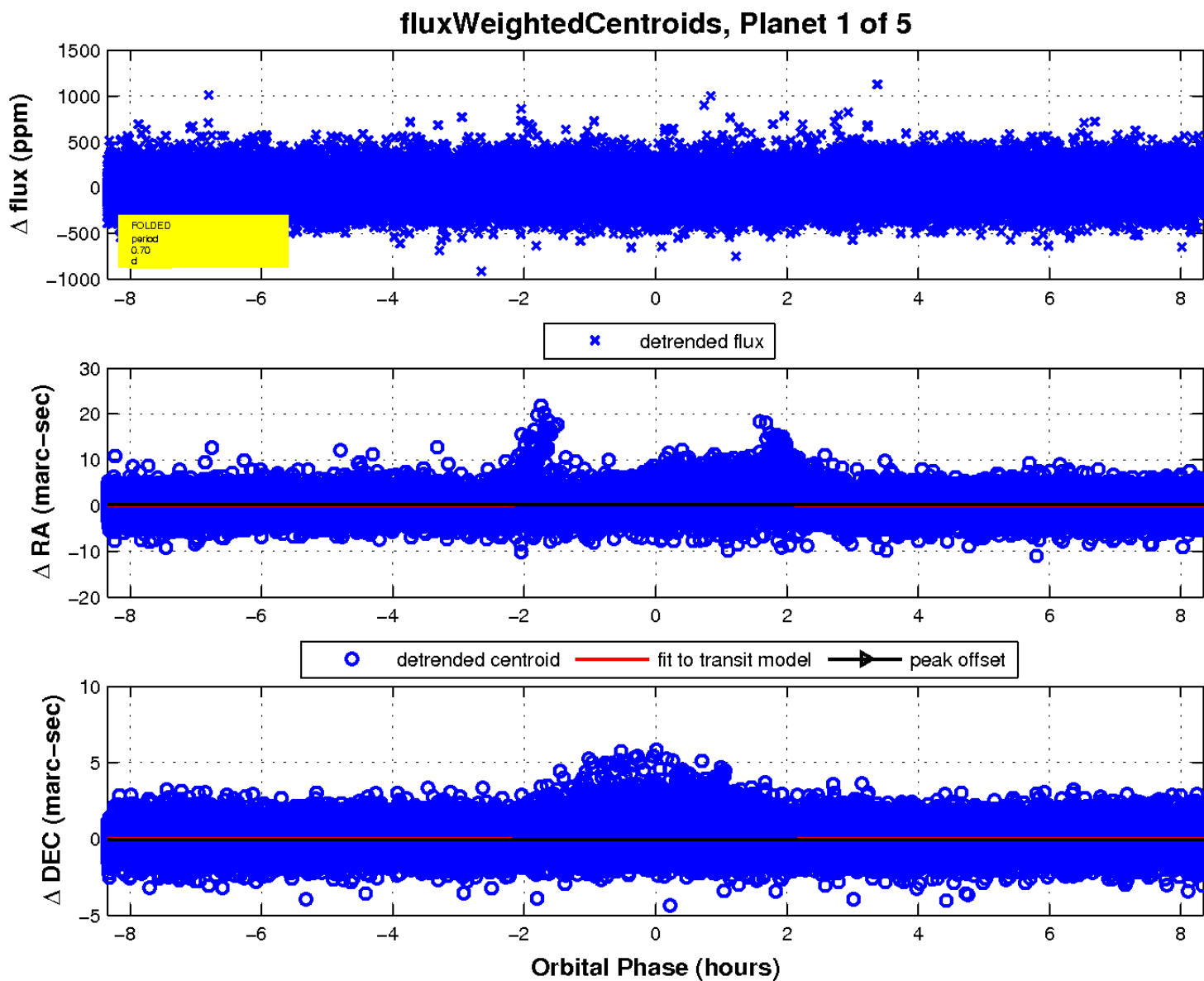
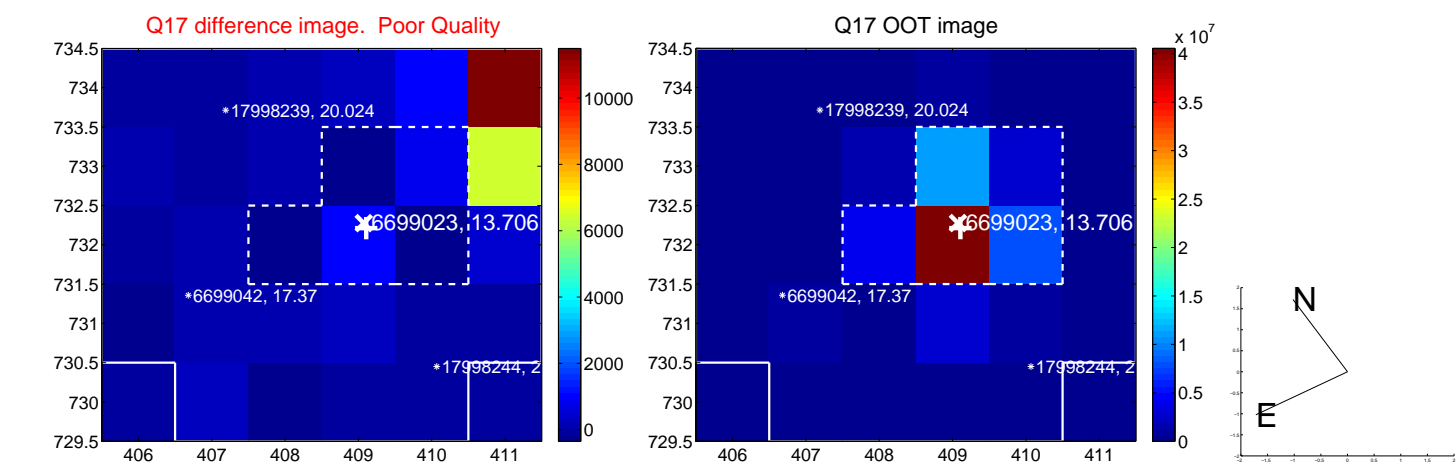
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

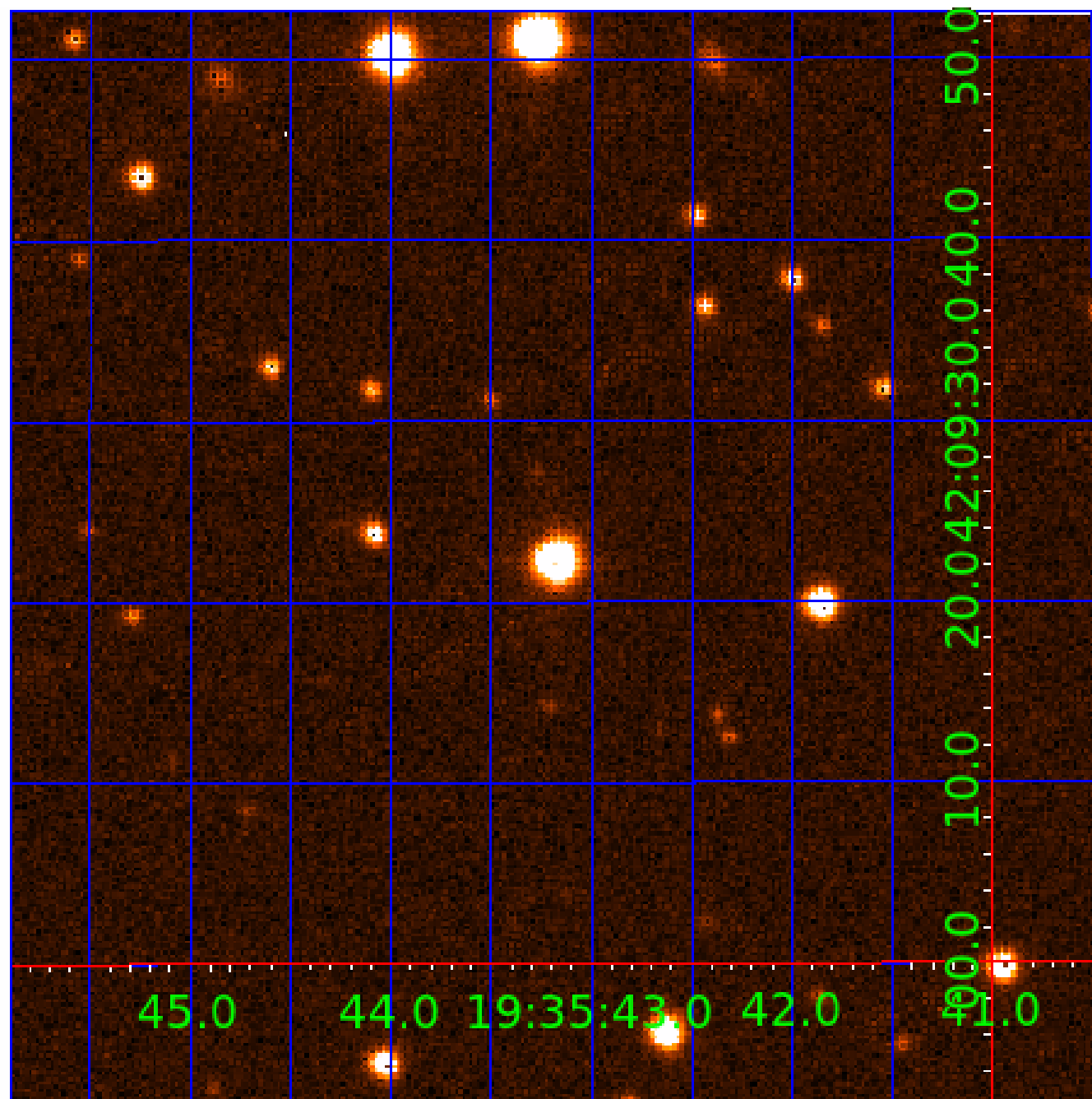


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006699023

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})
006699023-01	OBS	No	0.695730	131.886487	15.6	4.443	12.1	11.0	1.17	6297	0.47	8014.56
006699023-02	OBS	No	60.935202	169.503885	201.5	2.752	8.7	7.9	1.17	6297	1.85	20.61
006699023-03	OBS	No	45.689490	151.057383	211.5	3.110	8.2	8.6	1.17	6297	1.95	30.25
006699023-05	OBS	No	451.520375	450.880725	333.6	3.500	7.8	-1.0	1.17	6297	2.15	1.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006699023-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
006699023-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006699023-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_RESOLVED_OFFSET
006699023-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

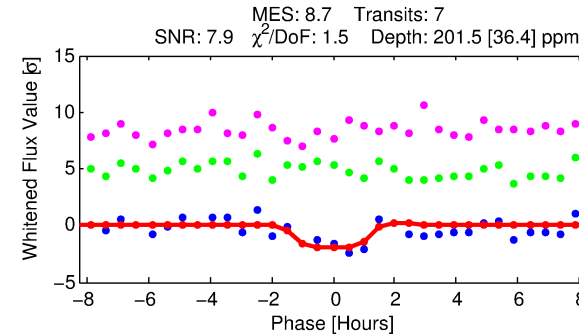
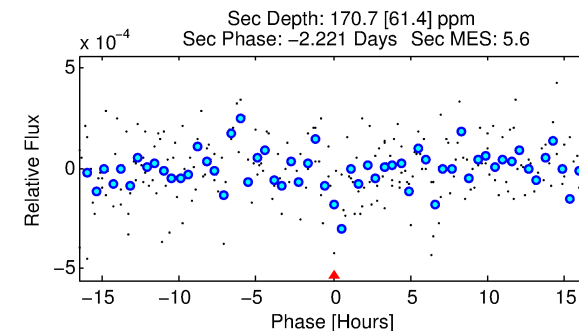
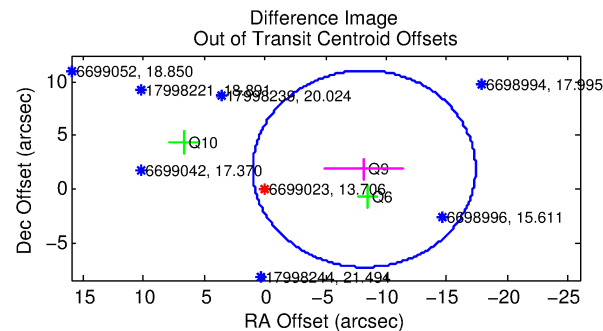
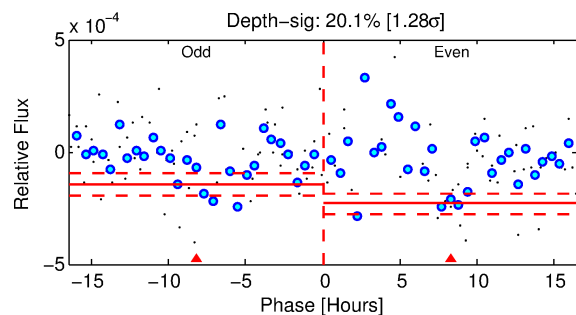
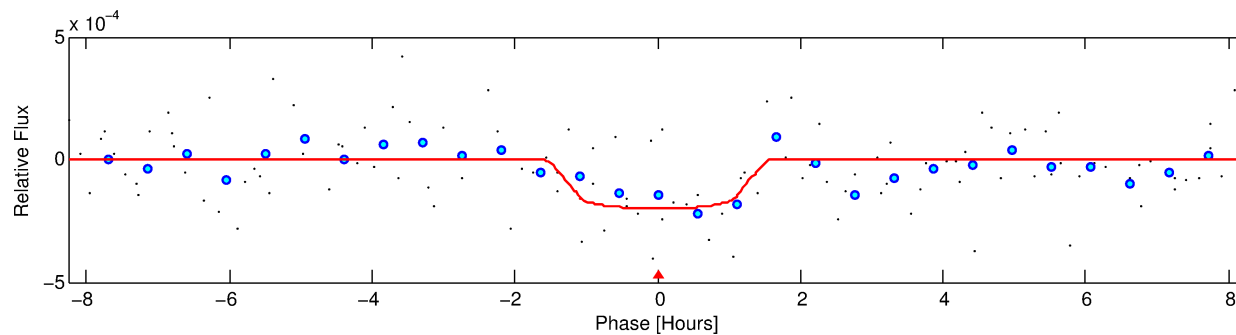
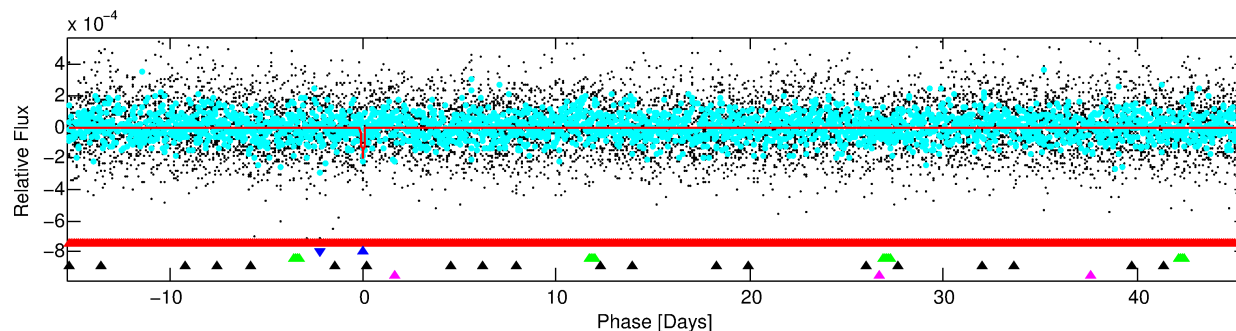
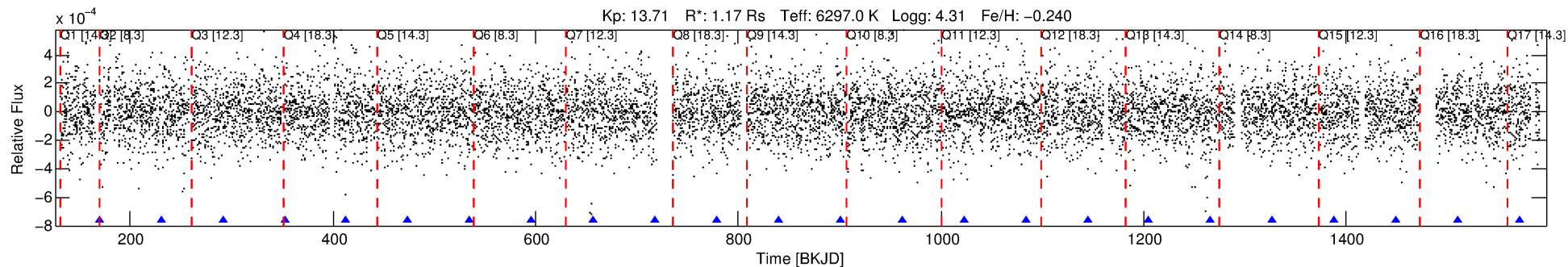
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006699023-02

No Significant Match Found

DV One-Page Summary

KIC: 6699023 Candidate: 2 of 5 Period: 60.935 d



DV Fit Results:

Period = 60.93520 [0.00093] d
Epoch = 169.5039 [0.0153] BKJD
Rp/R* = 0.0145 [0.0258]
a/R* = 101.30 [974.04]
b = 0.82 [3.91]
Seff = 20.61 [7.91]
Teq = 543 [52] K
Rp = 1.85 [3.35] Re
a = 0.3062 [0.0781] AU
Ag = 2562.46 [9204.20] [0.28 σ]
Teffp = 5976 [5343] K [1.02 σ]

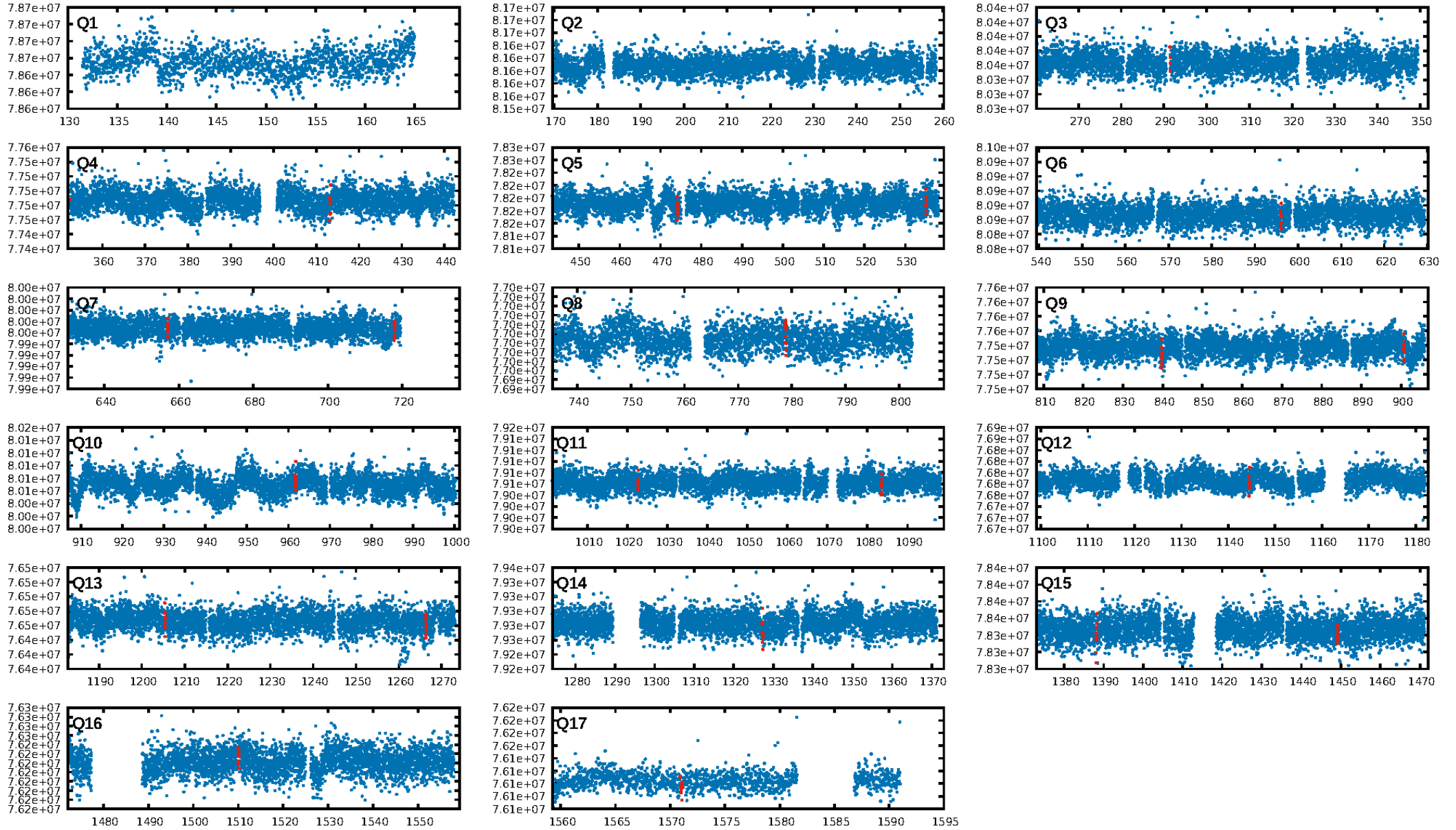
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [88.11 σ]
LongPeriod-sig: 100.0% [57.18 σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 2.76e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -3.79
Centroid-sig: 33.5%
Centroid-so: 1.143 arcsec [0.67 σ]
OotOffset-rm: 8.400 arcsec [2.74 σ]
KicOffset-rm: 8.330 arcsec [1.94 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
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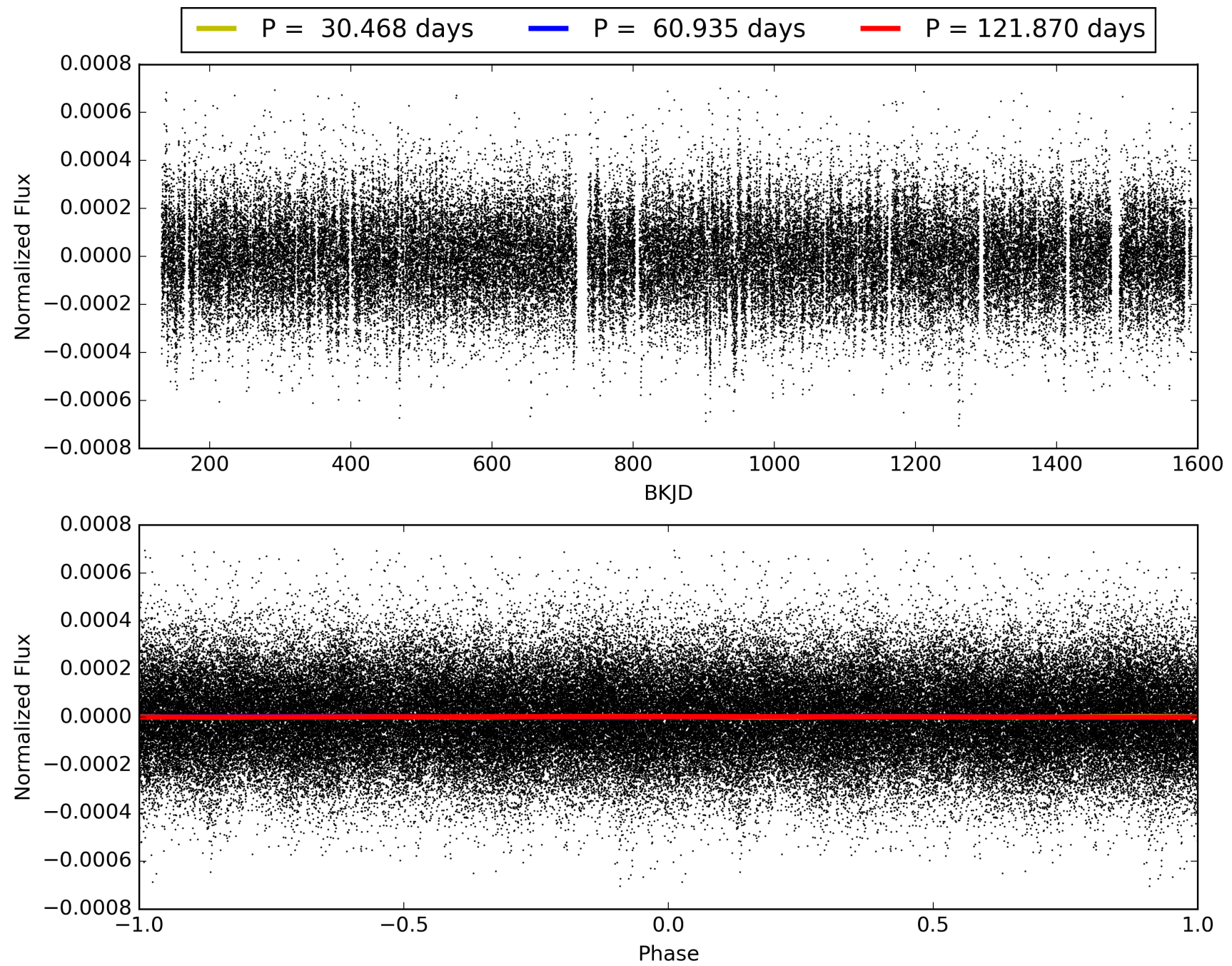
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:17:52 Z

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

TCE 006699023-02, PDC Light Curves

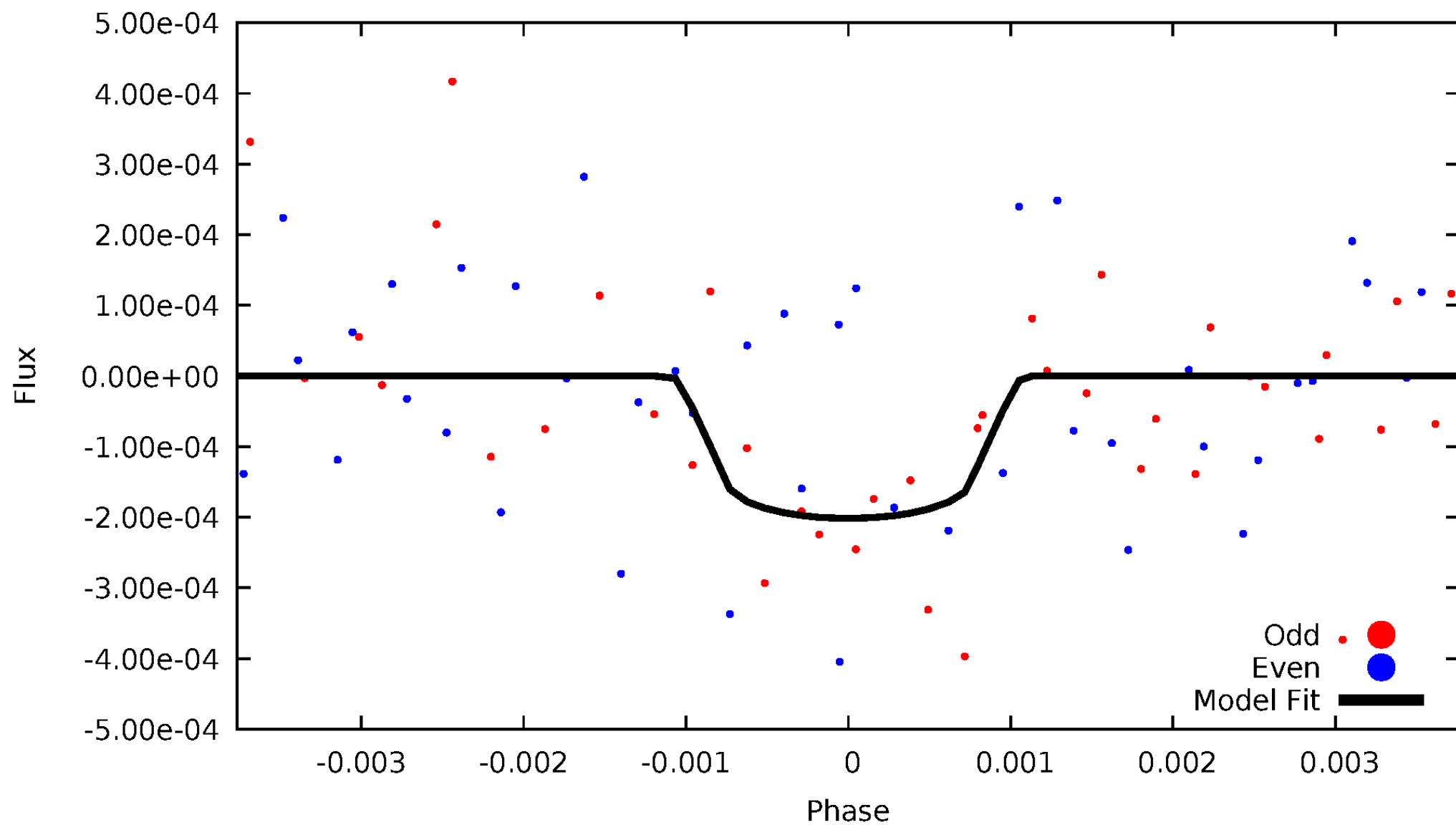


TCE 006699023-02



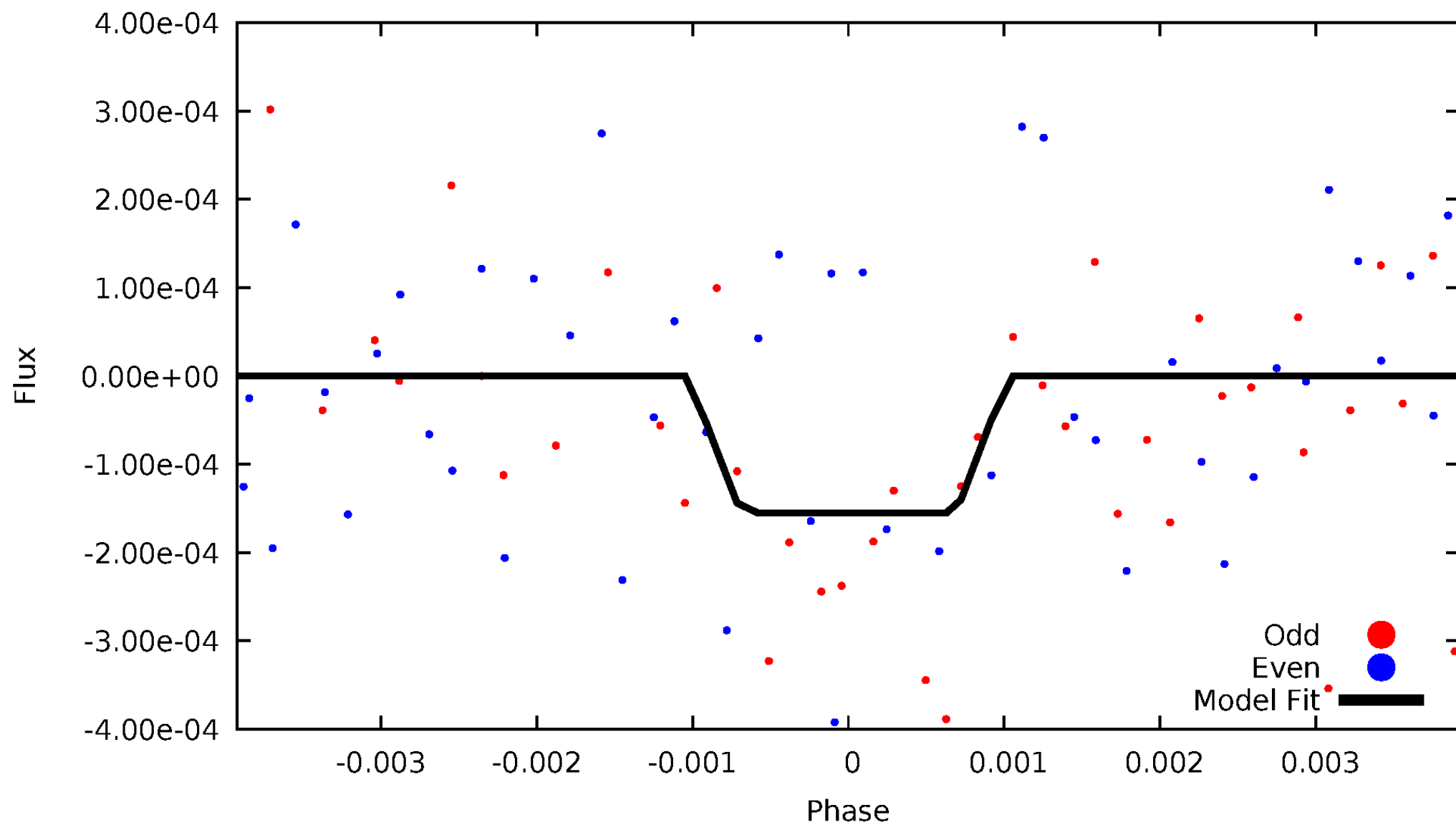
DV Odd/Even

TCE 006699023-02



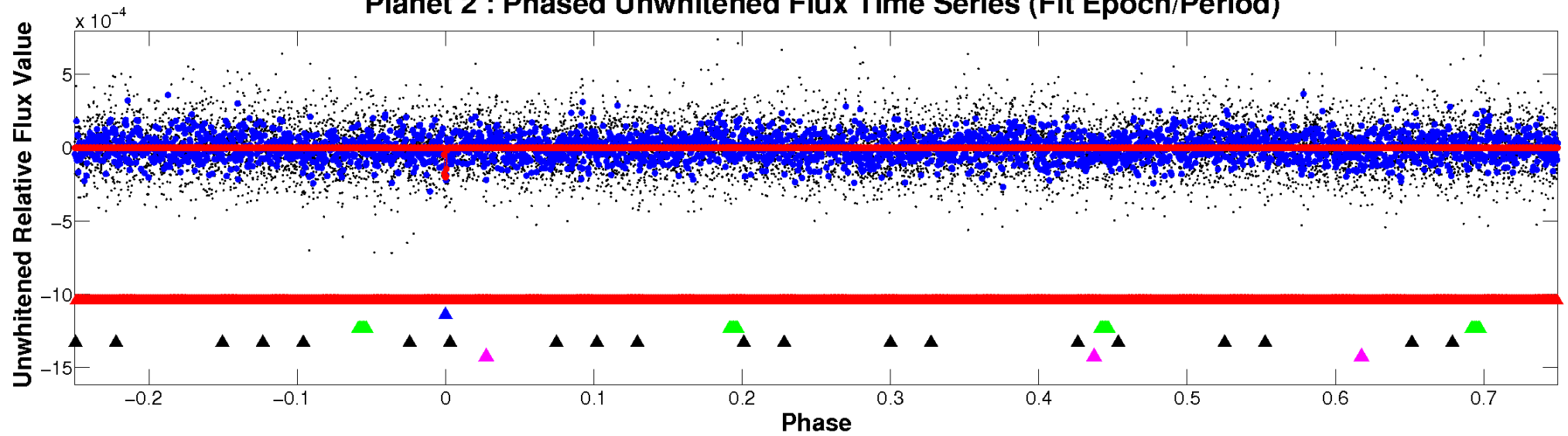
ALT Odd/Even

TCE 006699023-02

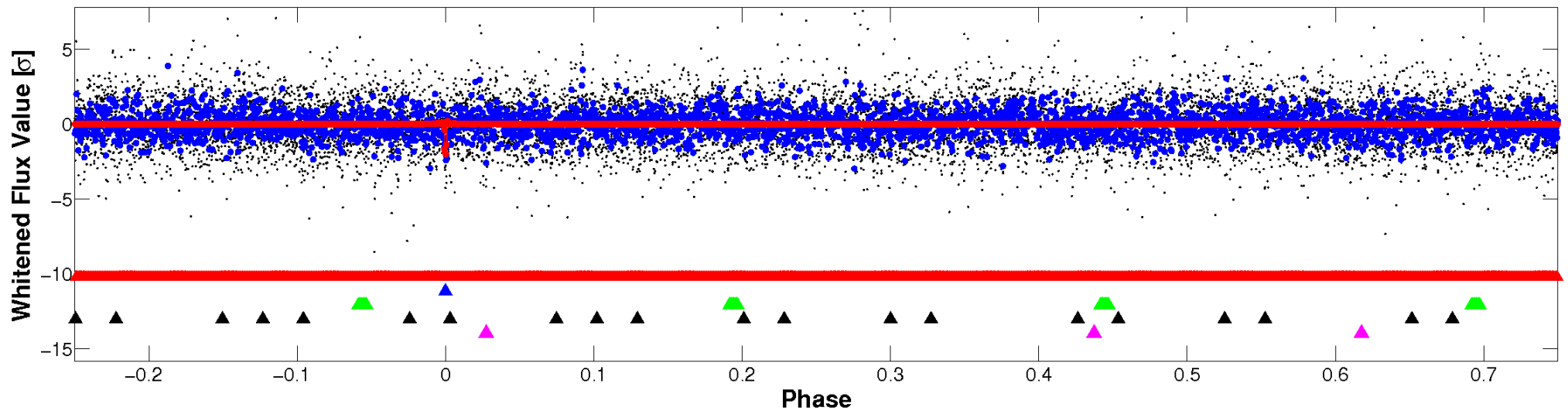


Non-Whitened Vs. Whitened Light Curve

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

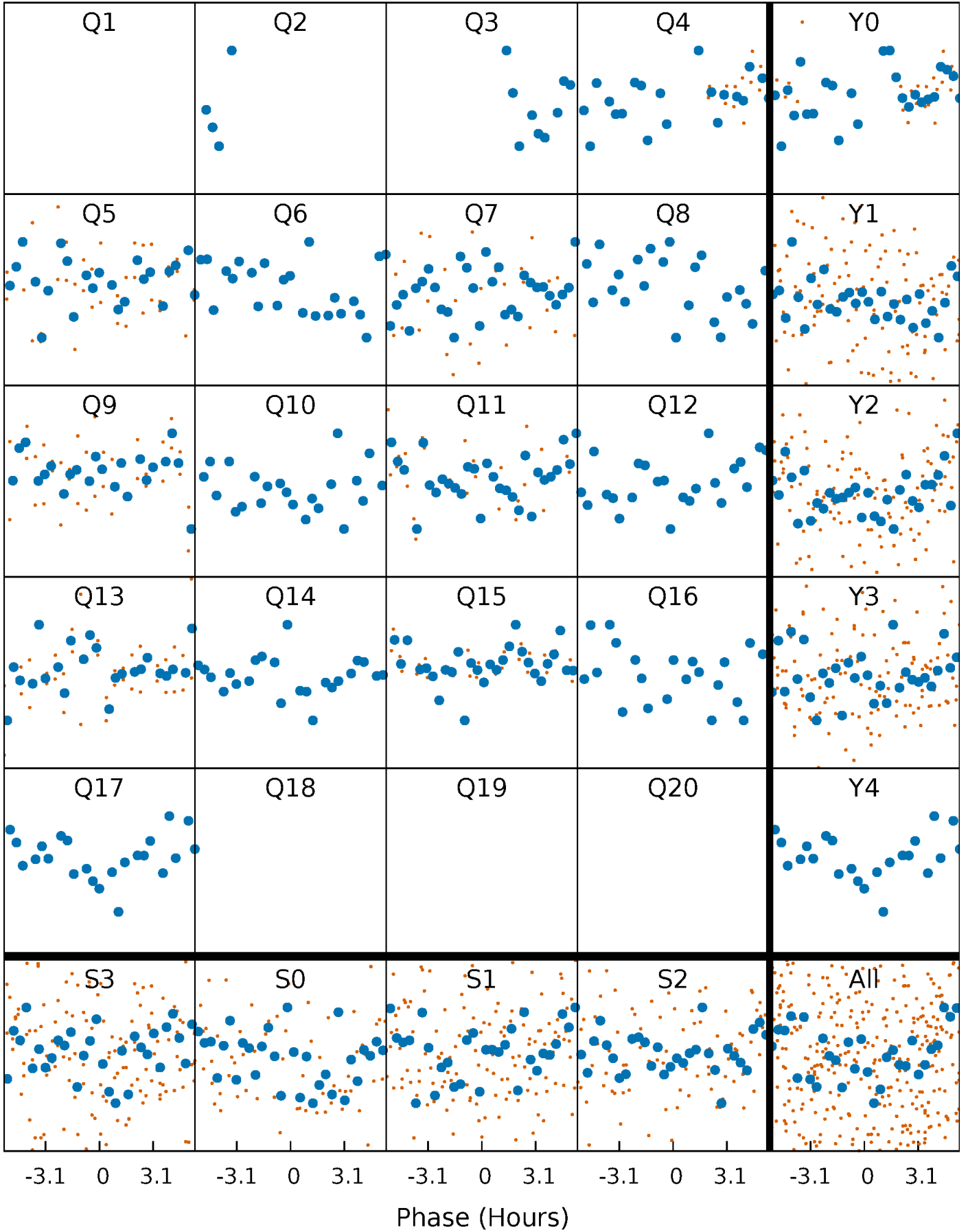


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



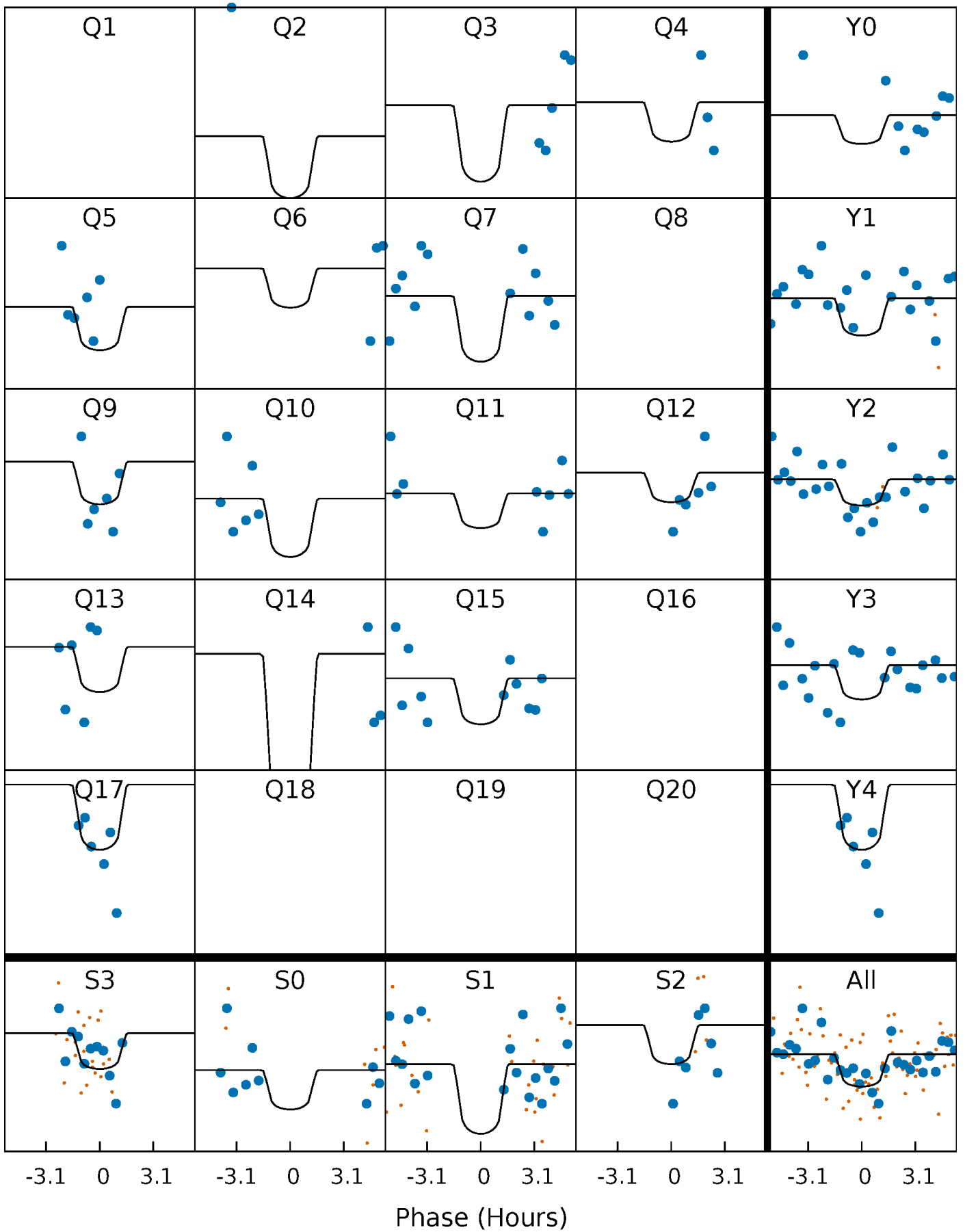
PDC Quarter-Phased Transit Curves

TCE 006699023-02 $P = 60.935202$ Days $T_0 = 169.503885$ (BKJD)



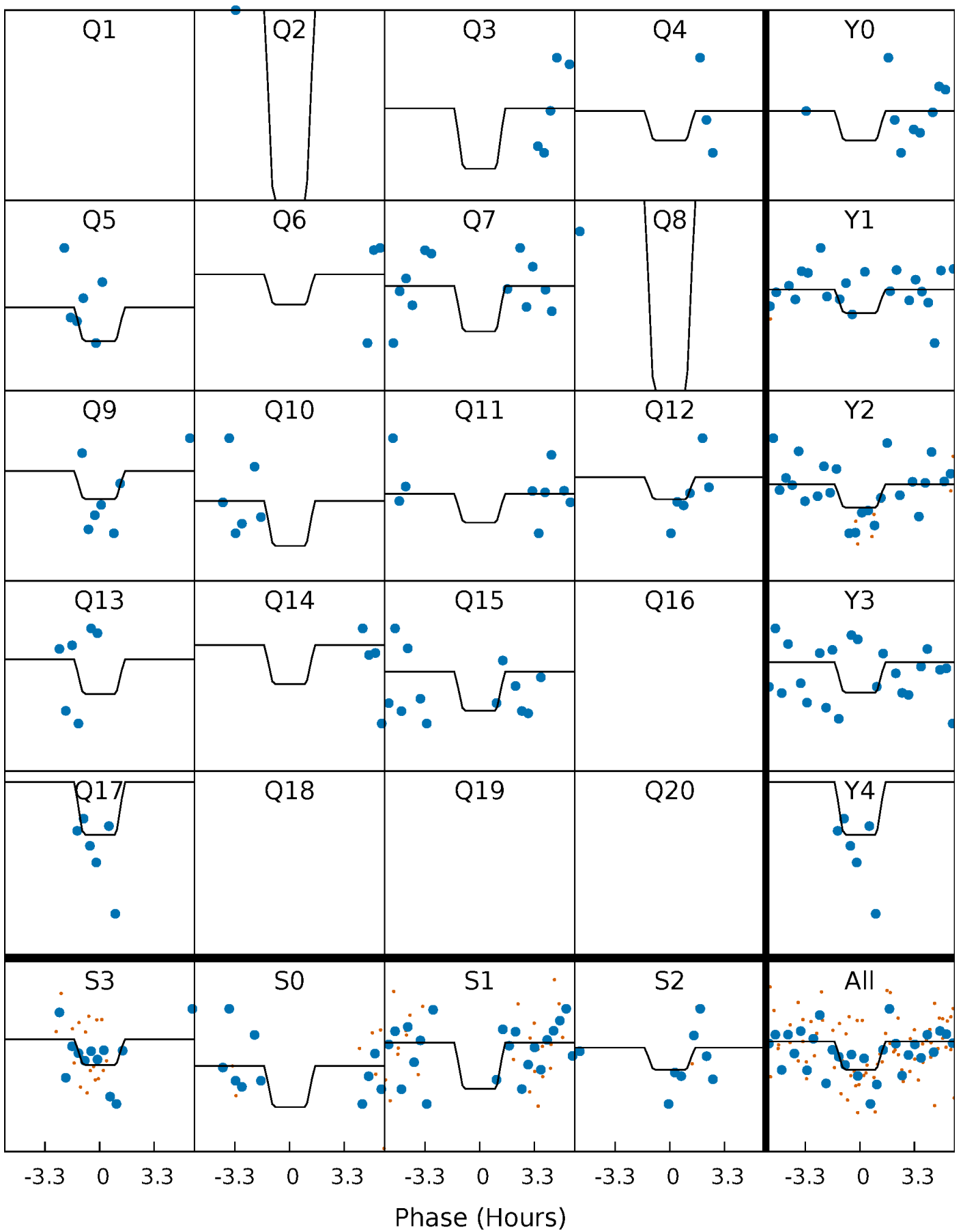
DV Quarter-Phased Transit Curves

TCE 006699023-02 P= 60.935202 Days $T_0=169.503885$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

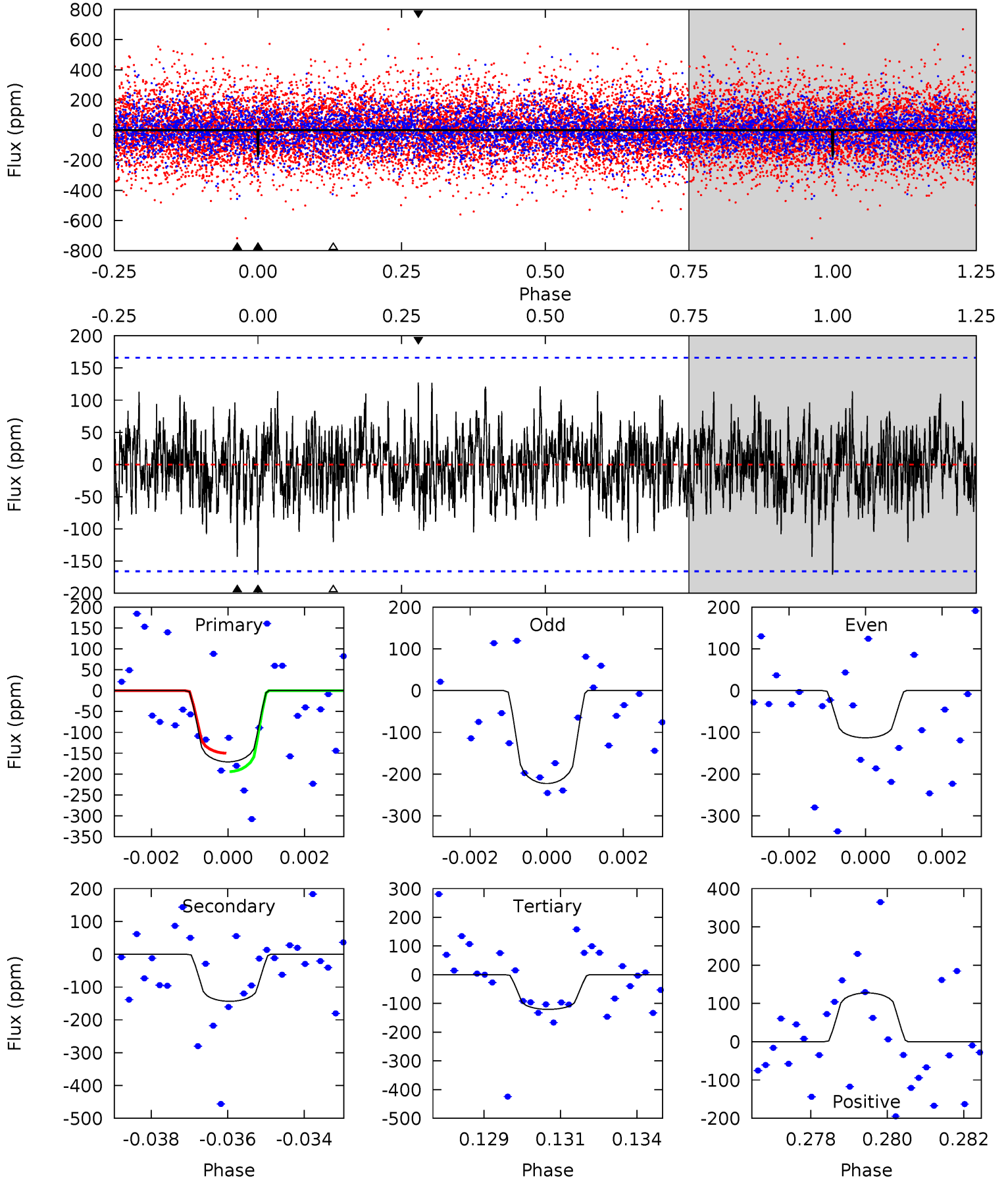
TCE 006699023-02 P= 60.935686 Days $T_0=169.498232$ (BKJD)



DV Model-Shift Uniqueness Test

006699023-02, P = 60.935202 Days, E = 108.568683 Days

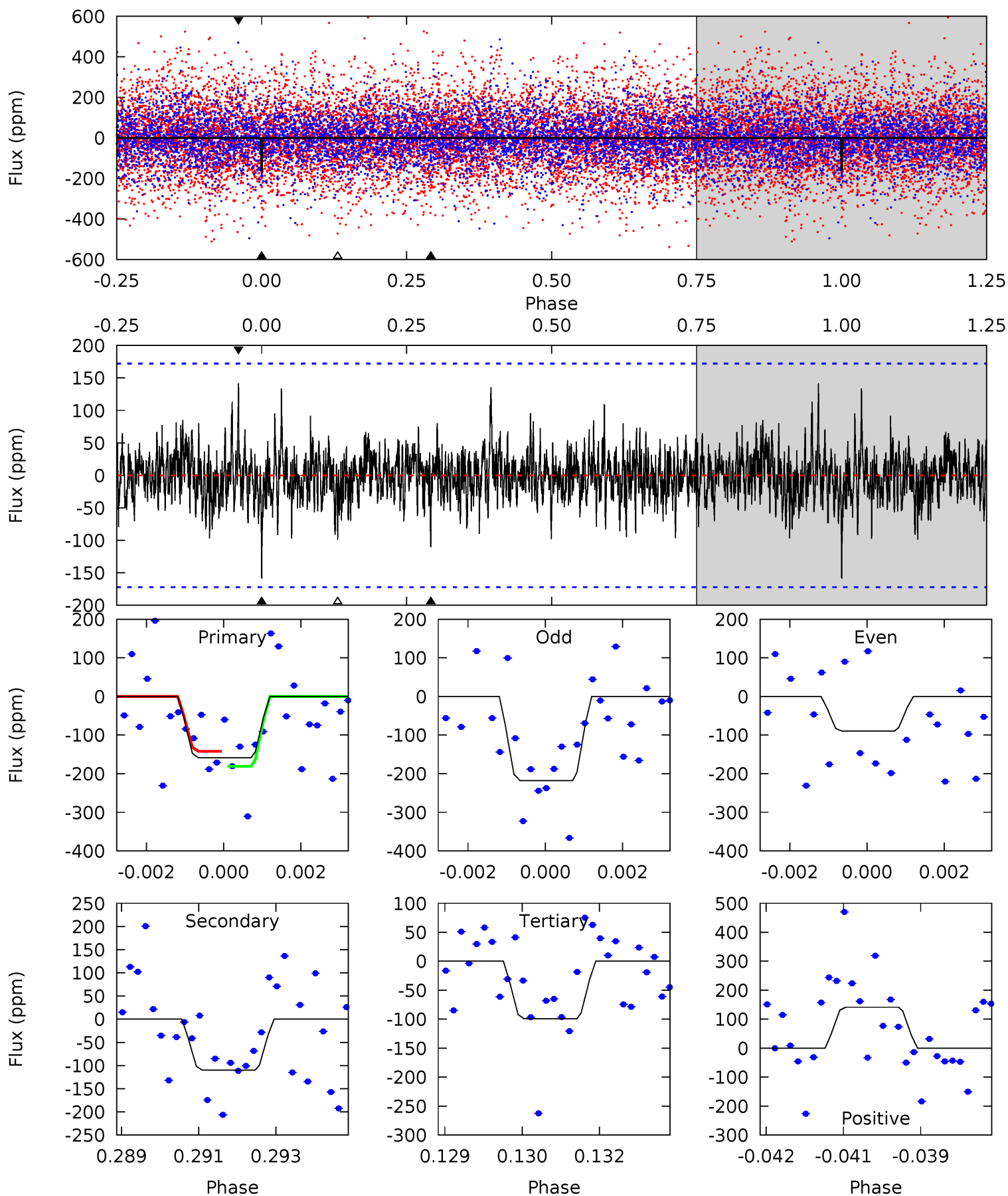
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.47	4.60	3.87	4.09	5.32	3.07	1.28	1.61	1.39	0.73	0.51	1.79	0.71	0.43	0.71



Alt Model-Shift Uniqueness Test

006699023-02, P = 60.935686 Days, E = 108.562546 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.93	3.42	3.08	4.40	5.35	3.13	0.98	1.85	0.54	0.34	-0.98	1.98	0.65	0.47	0.61



Stellar Parameters For KIC 006699023

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6297^{+169}_{-206}	$4.314^{+0.128}_{-0.192}$	$-0.240^{+0.250}_{-0.300}$	$1.171^{+0.366}_{-0.197}$	$1.027^{+0.185}_{-0.108}$	$0.902^{+0.550}_{-0.464}$
	+3%/-3%	+3%/-4%	+104%/-125%	+31%/-17%	+18%/-11%	+61%/-51%
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 006699023-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-143 ± 31	$3.00^{+2.86}_{-2.00}$	765^{+52}_{-48}	4685^{+3377}_{-1022}	782^{+6542}_{-570}
Alt.	-110 ± 32	$2.95^{+2.90}_{-2.06}$	762^{+51}_{-48}	4433^{+3195}_{-972}	599^{+6071}_{-448}

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 $A_{obs} \gg 1.0$

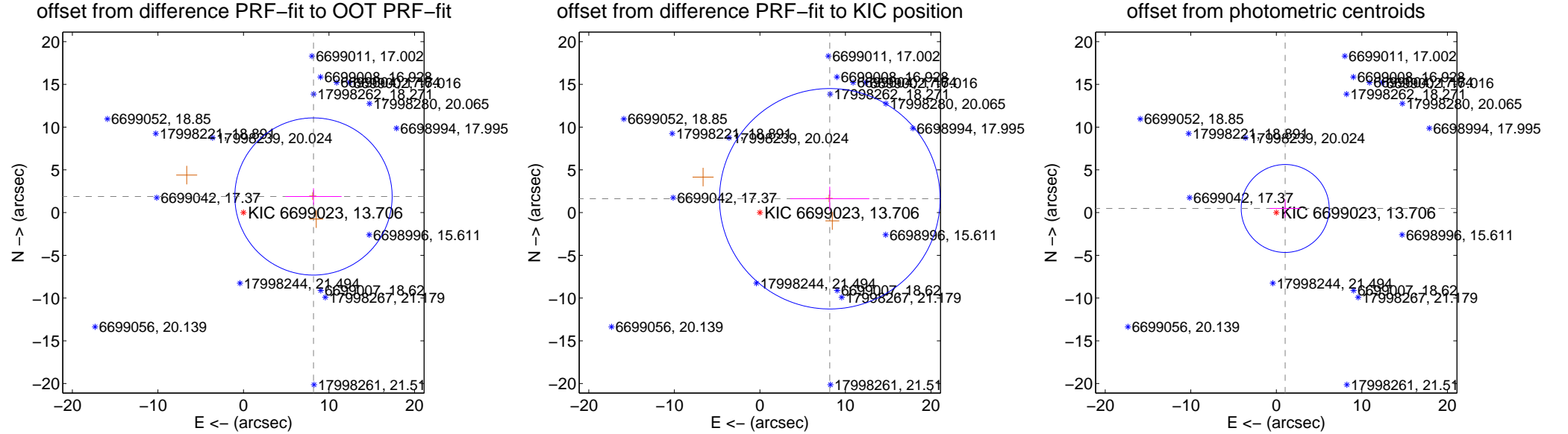
DV Centroid Data

Supplemental centroid analysis for 006699023-02. Kepler magnitude: 13.71. Transit SNR 7.91

There are 0 quarters with good PRF difference image offsets

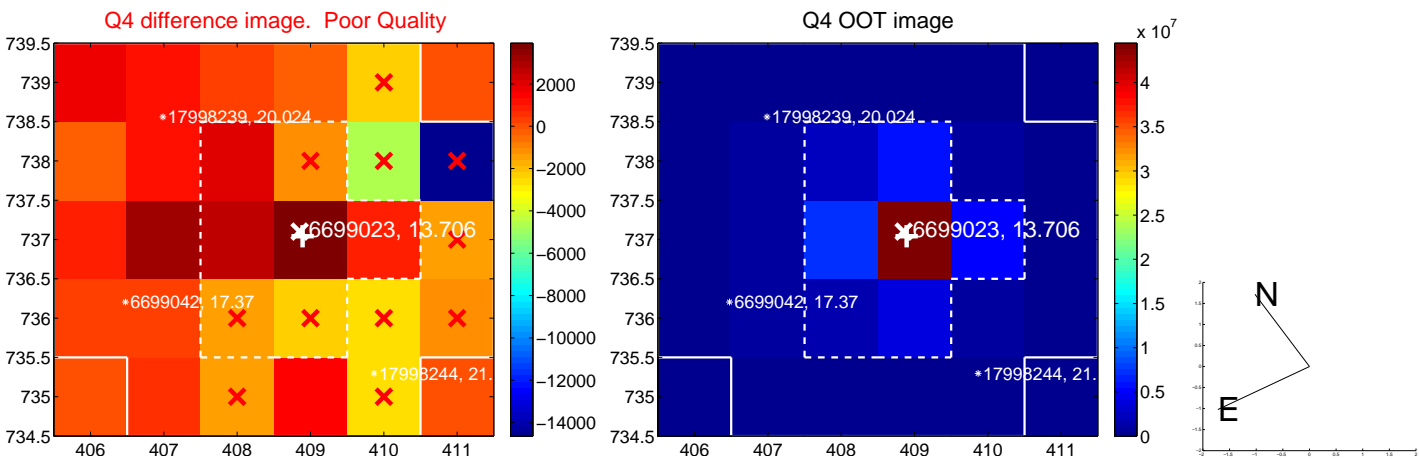
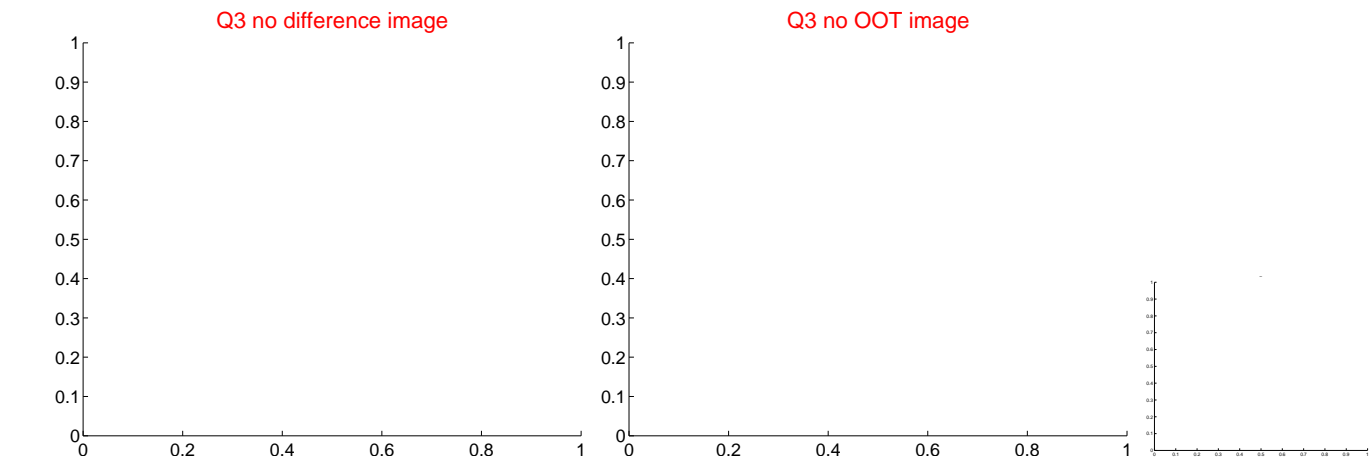
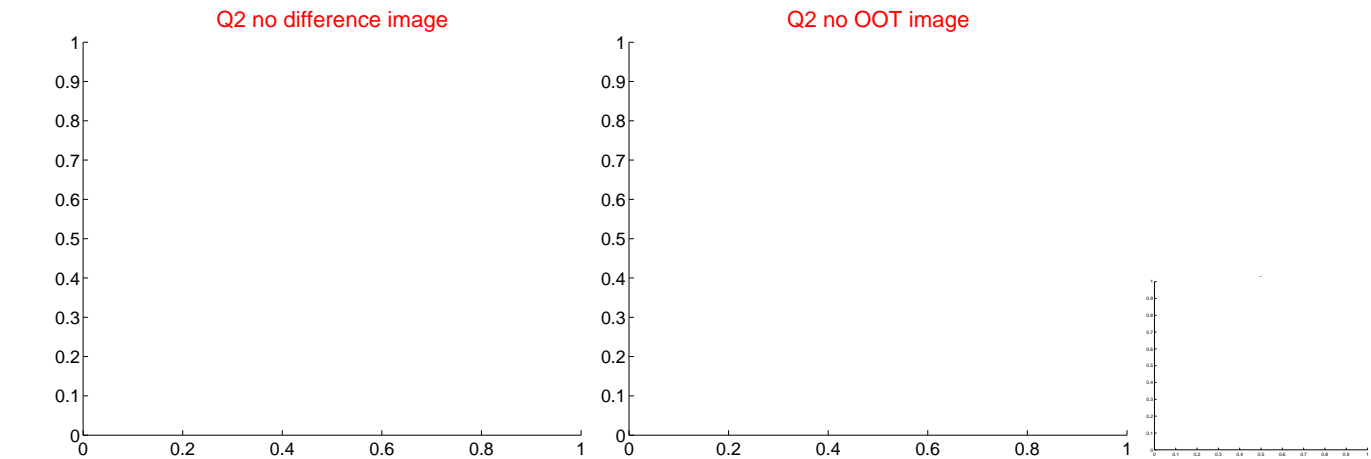
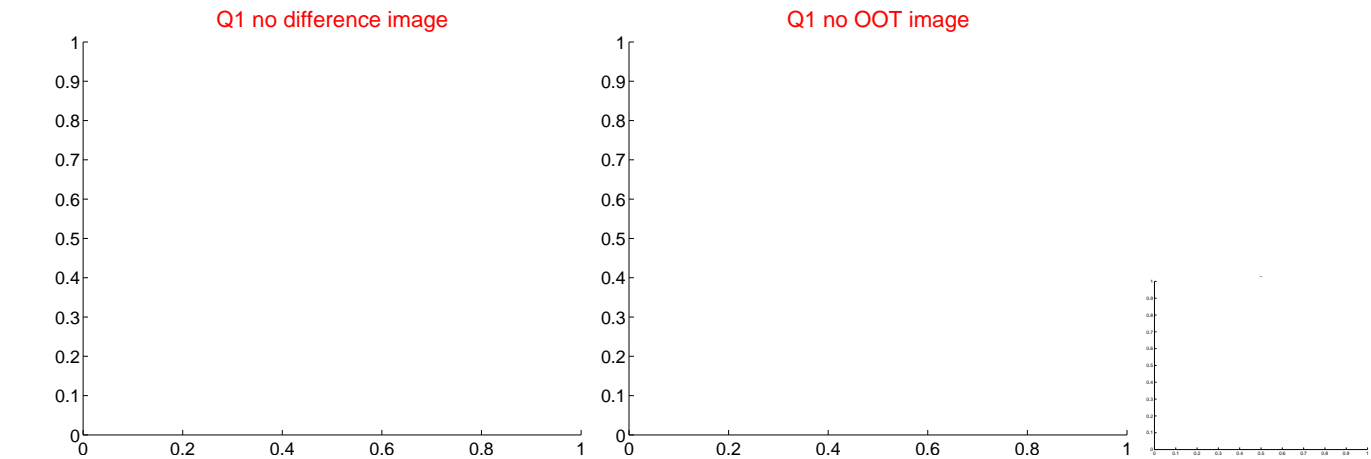
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.400 ± 3.065	2.74	-8.186 ± 3.289	1.884 ± 0.970
PRF-fit source offset from KIC position	8.330 ± 4.298	1.94	-8.171 ± 4.623	1.619 ± 1.418
photometric centroid source offset	1.14 ± 1.71	0.67	-1.04 ± 1.82	0.48 ± 1.08

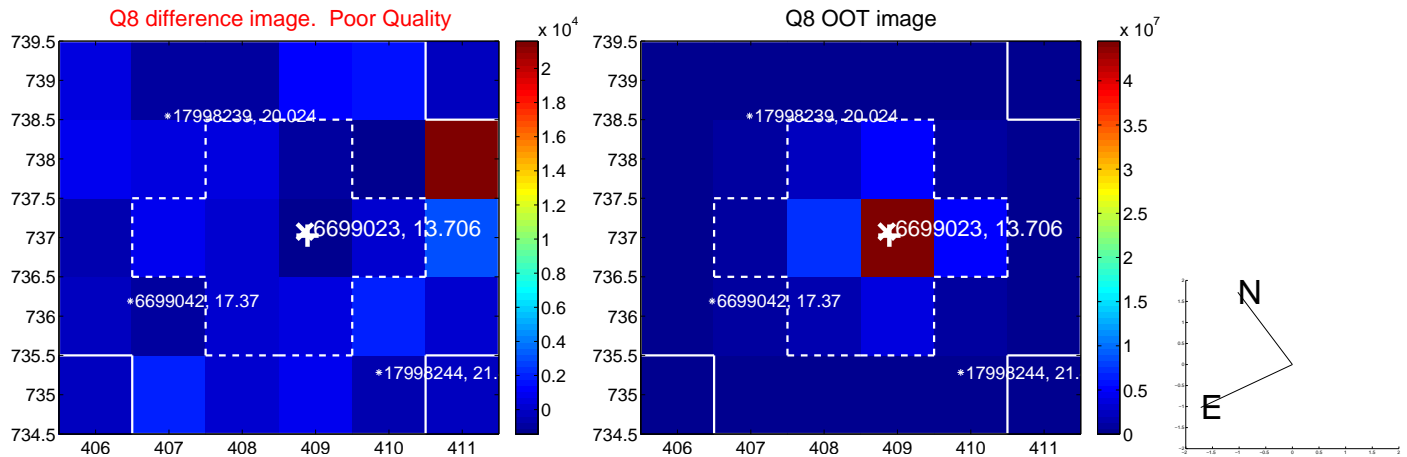
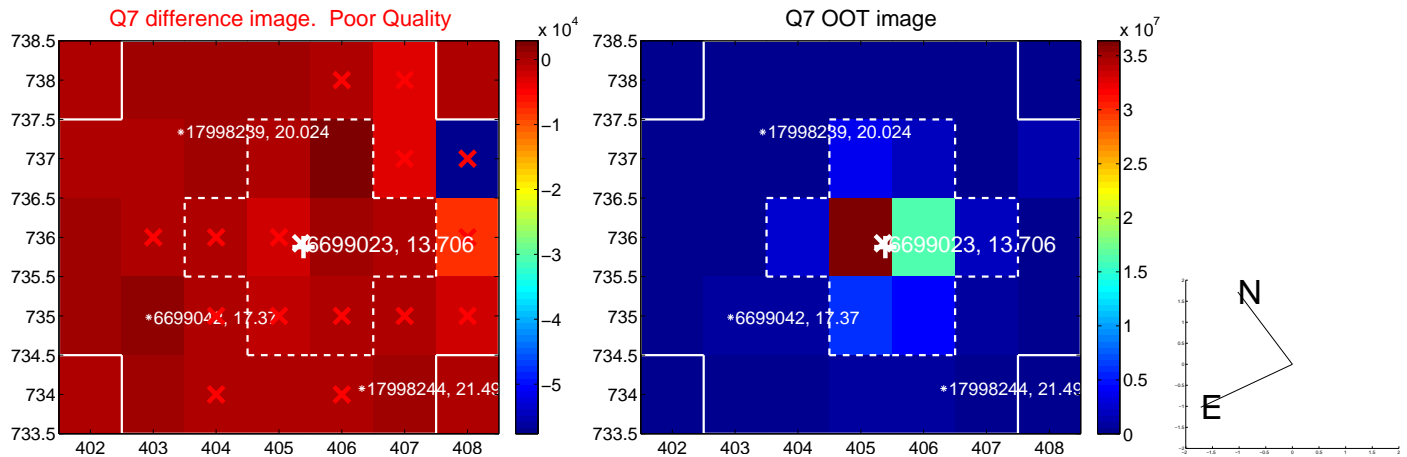
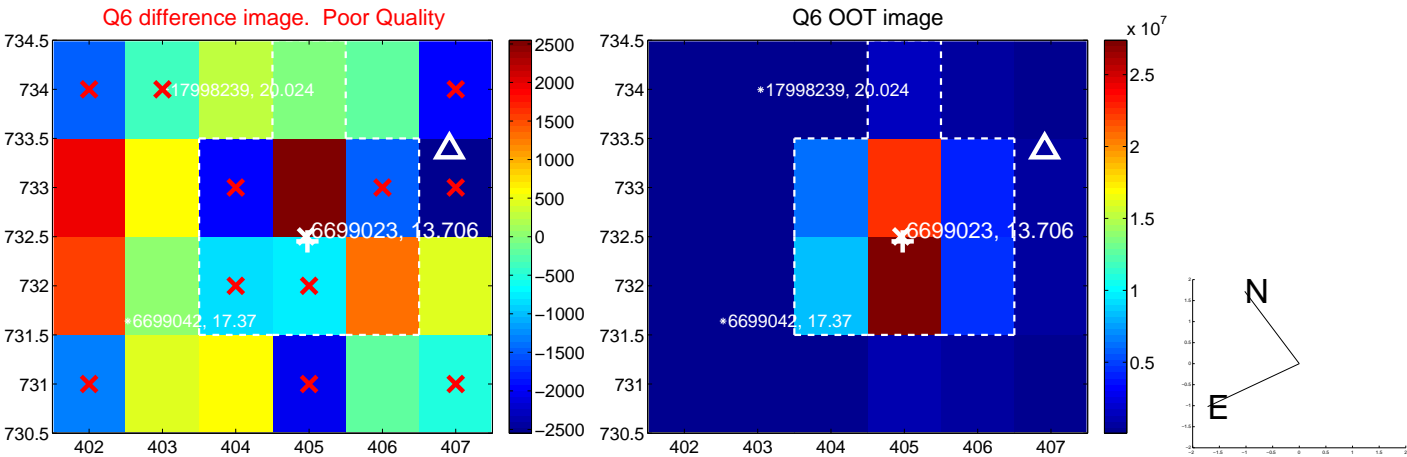
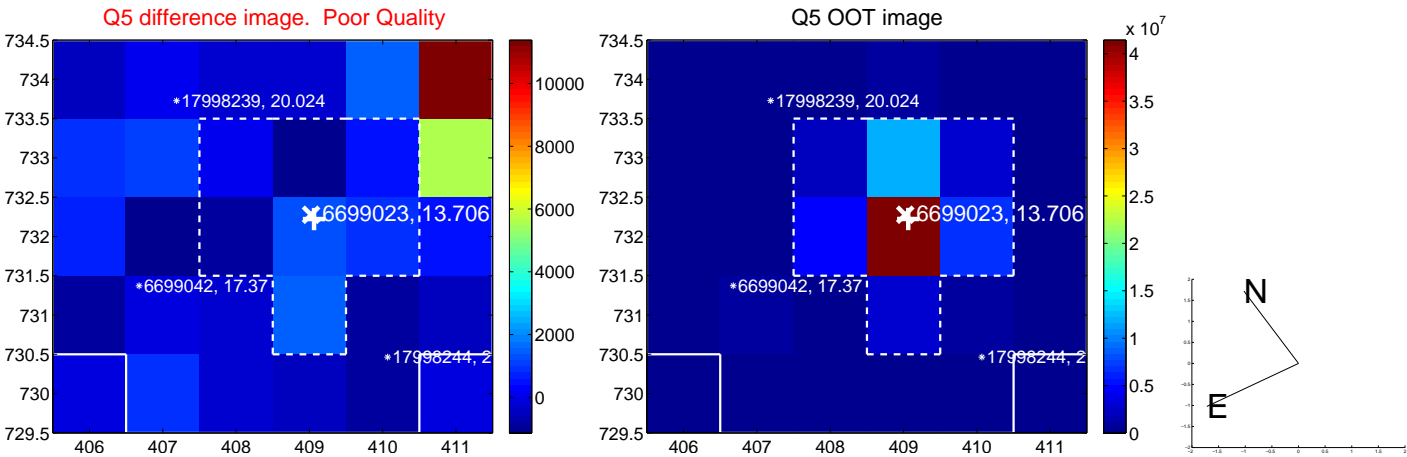


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

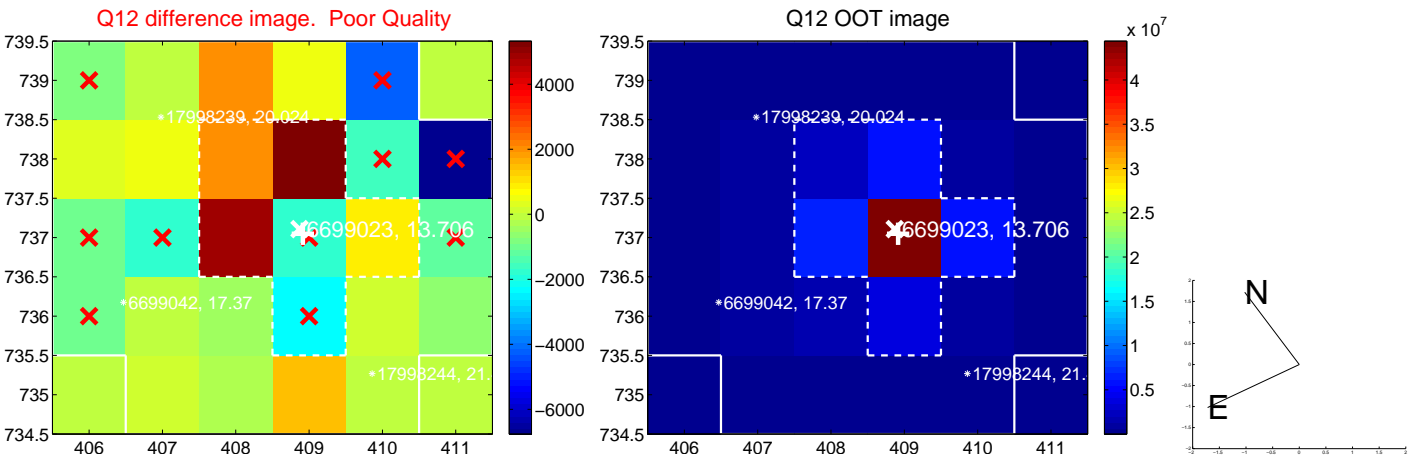
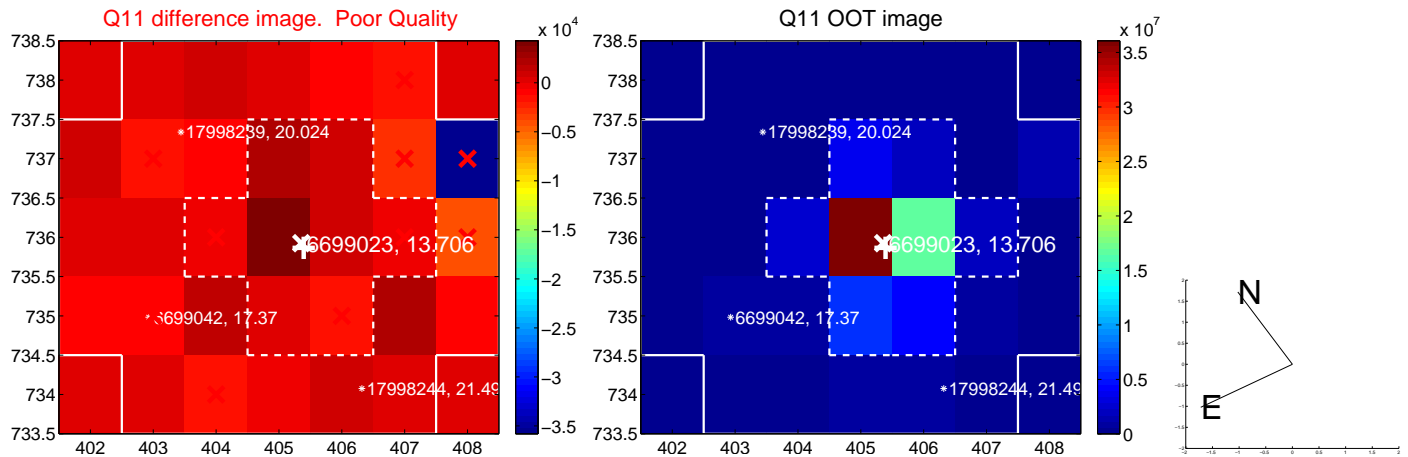
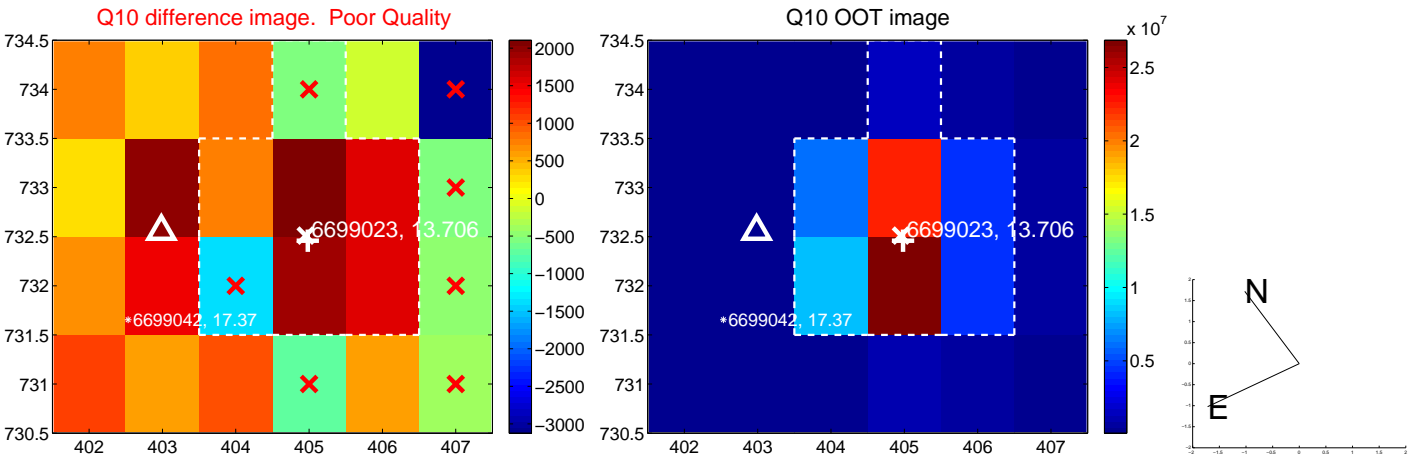
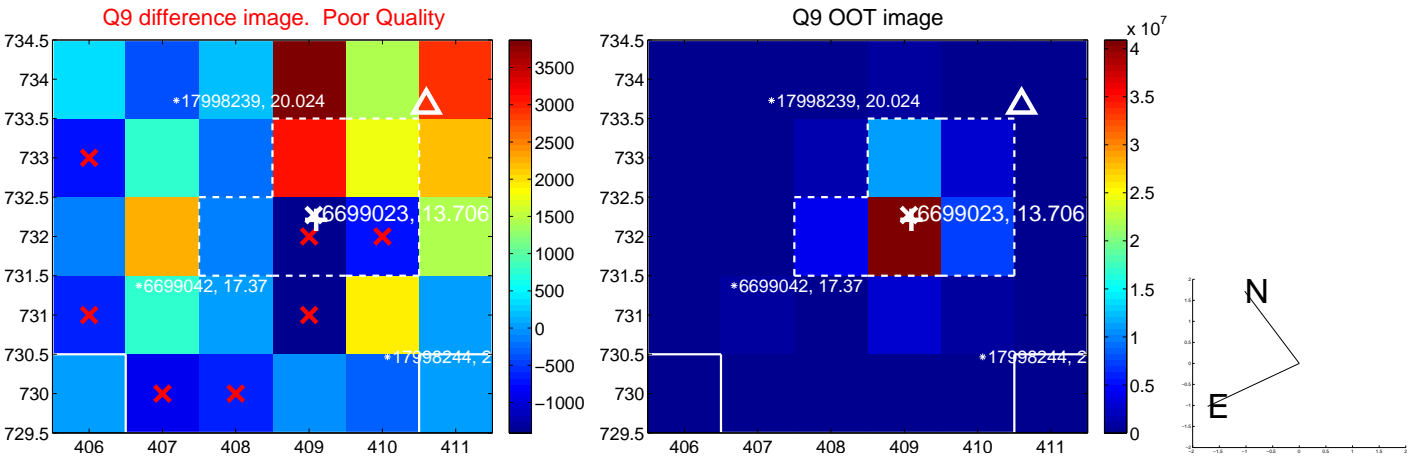
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



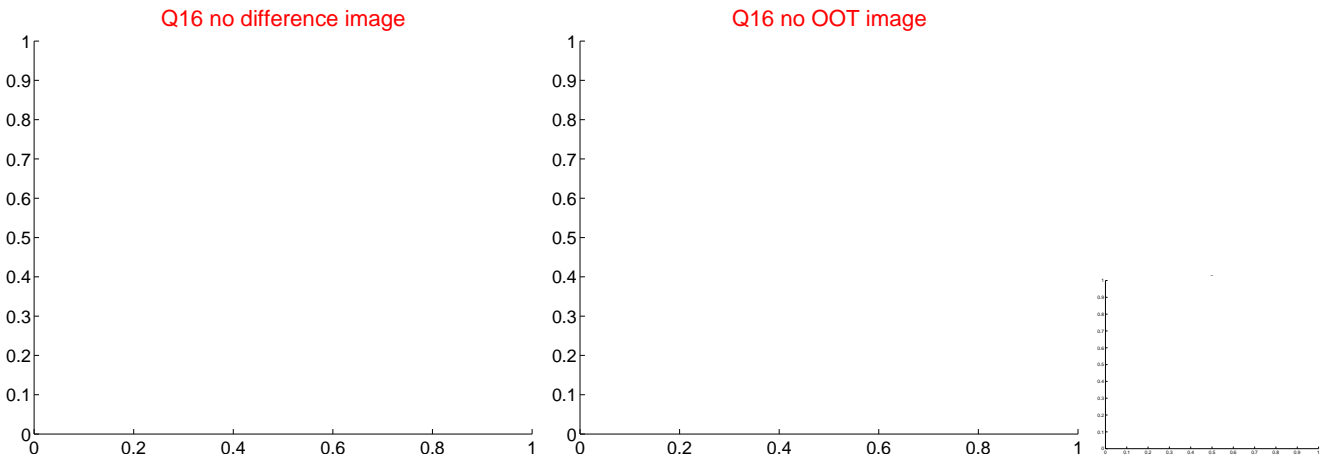
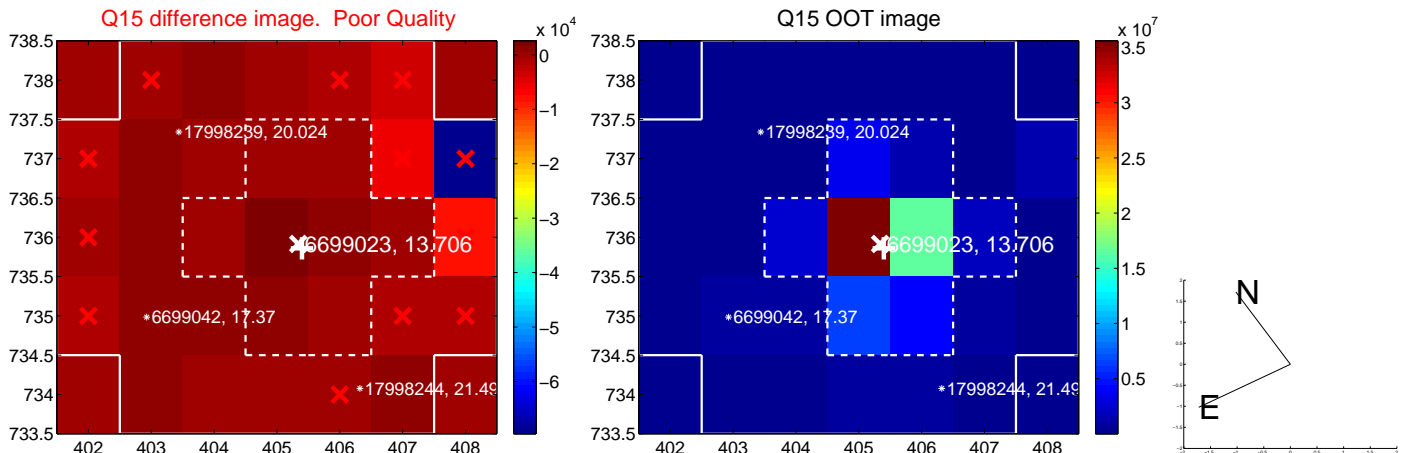
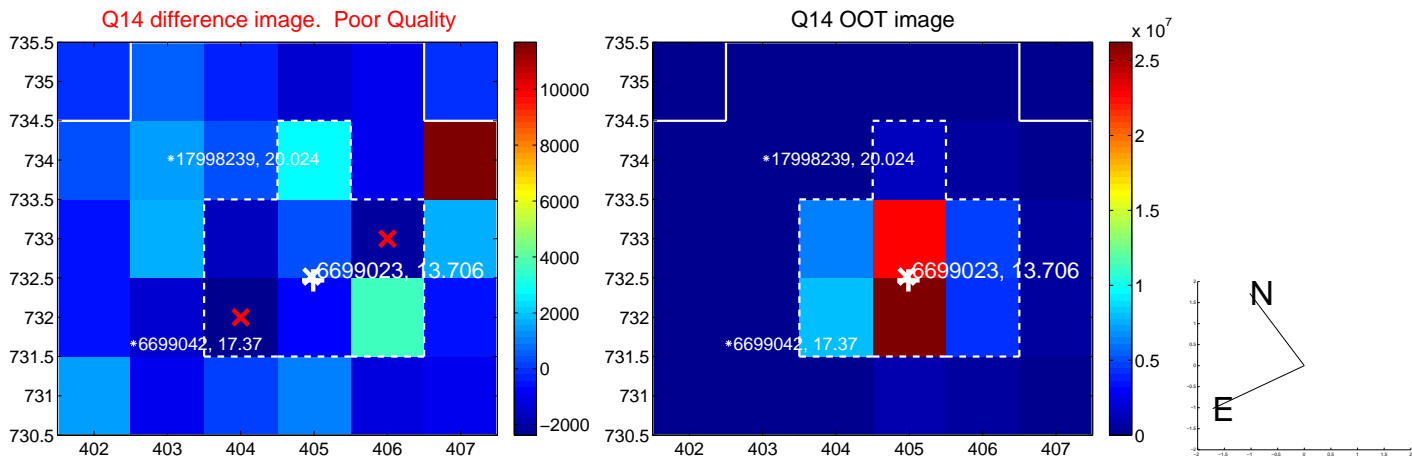
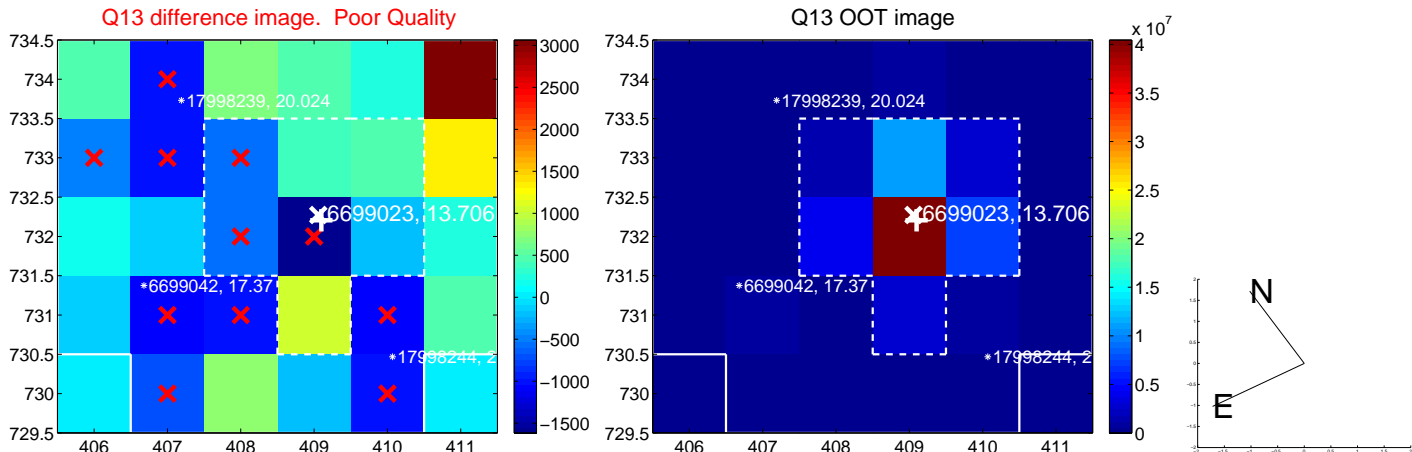
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



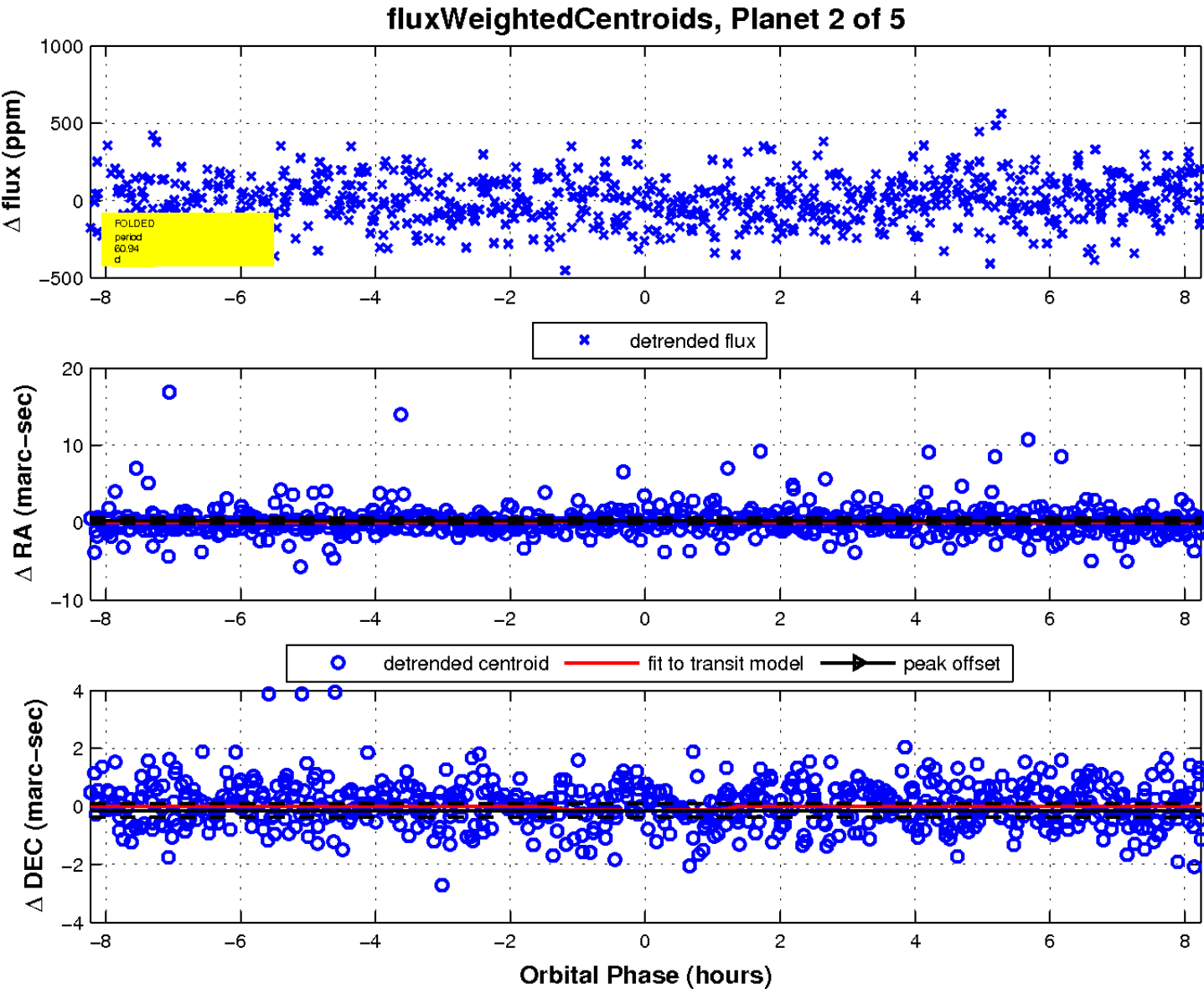
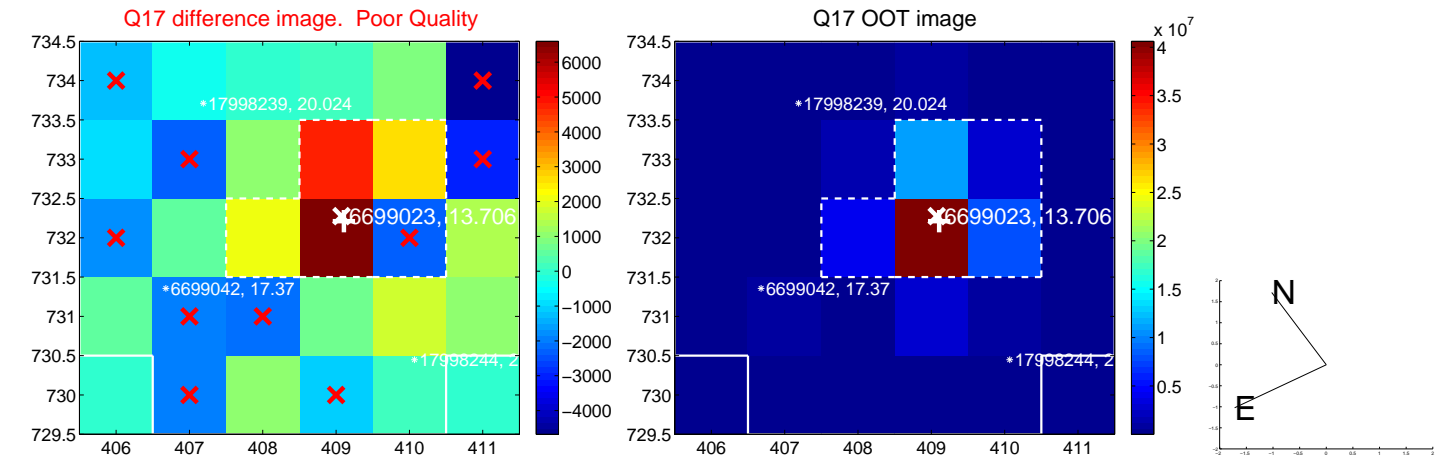
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

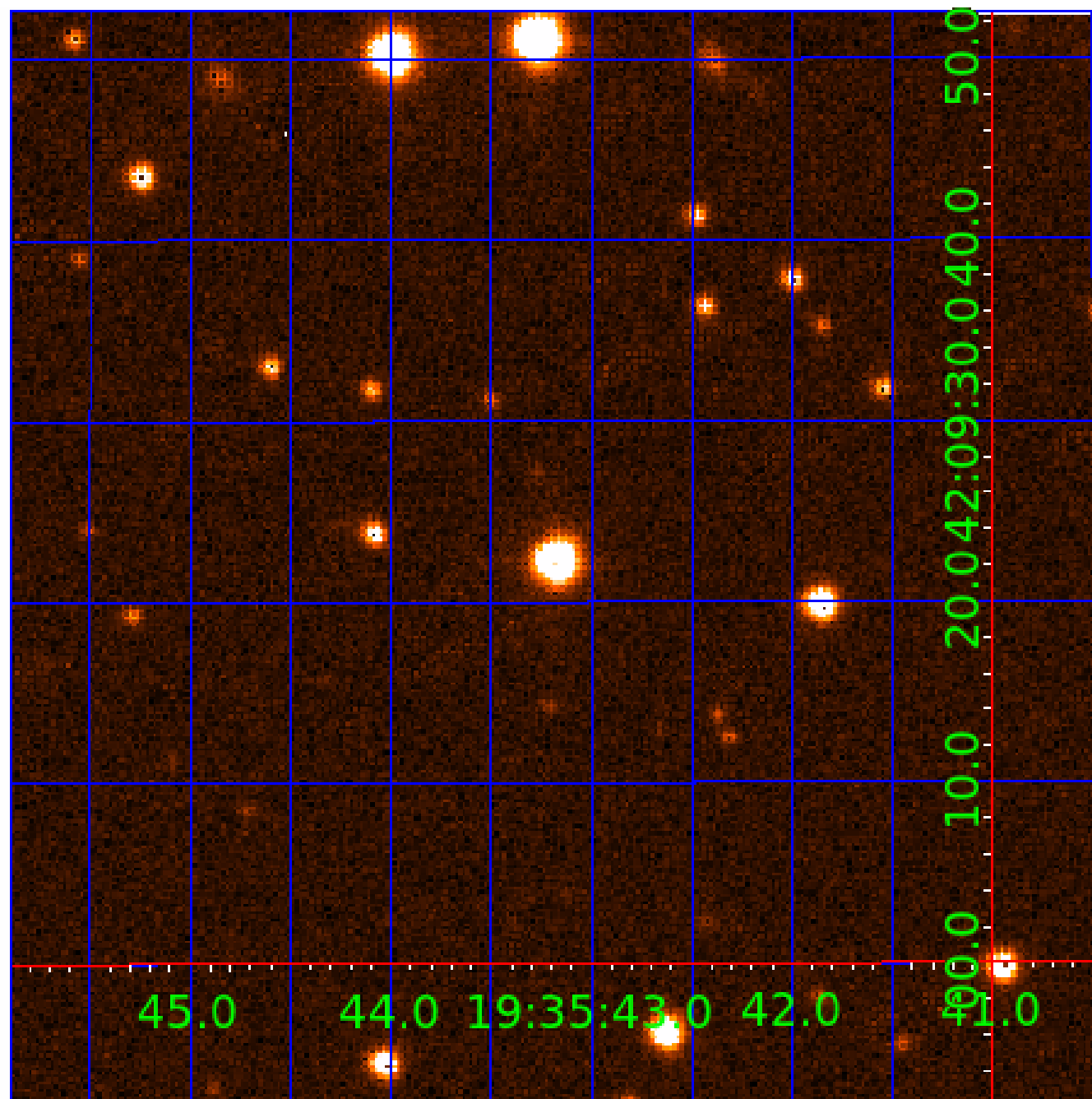


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006699023

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})
006699023-01	OBS	No	0.695730	131.886487	15.6	4.443	12.1	11.0	1.17	6297	0.47	8014.56
006699023-02	OBS	No	60.935202	169.503885	201.5	2.752	8.7	7.9	1.17	6297	1.85	20.61
006699023-03	OBS	No	45.689490	151.057383	211.5	3.110	8.2	8.6	1.17	6297	1.95	30.25
006699023-05	OBS	No	451.520375	450.880725	333.6	3.500	7.8	-1.0	1.17	6297	2.15	1.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006699023-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
006699023-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006699023-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_RESOLVED_OFFSET
006699023-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

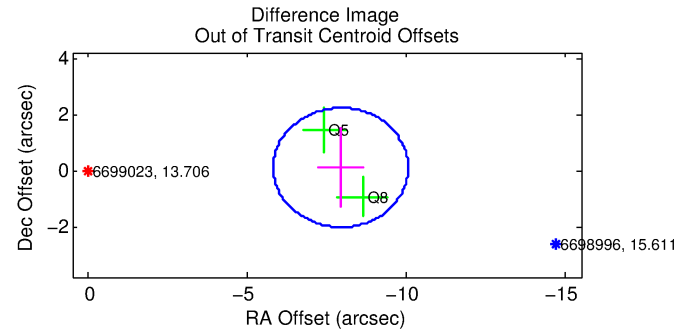
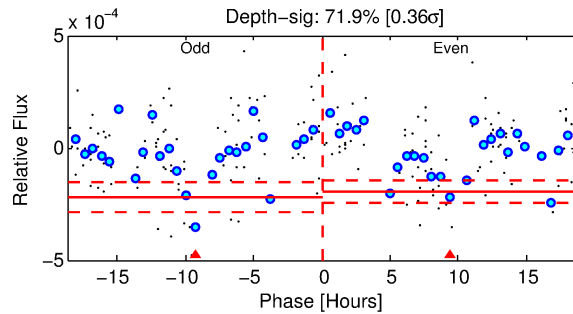
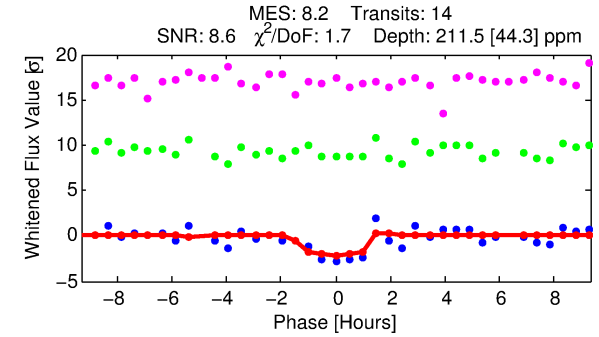
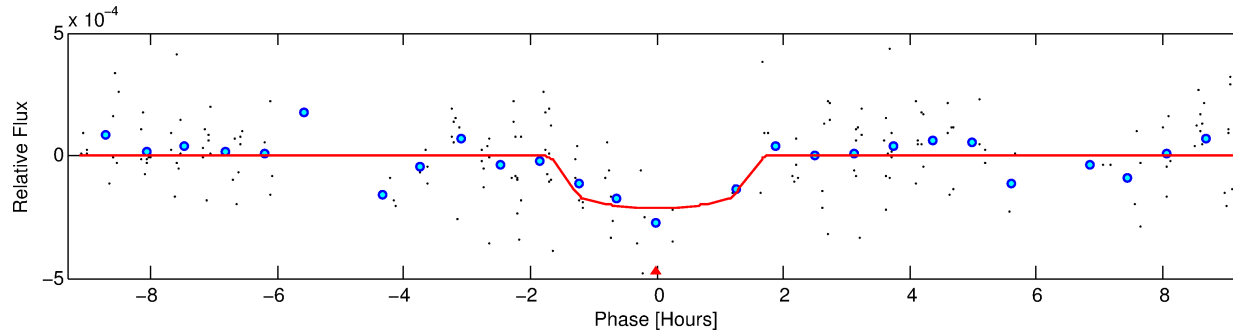
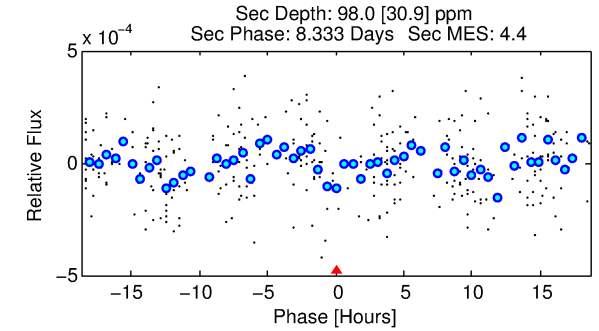
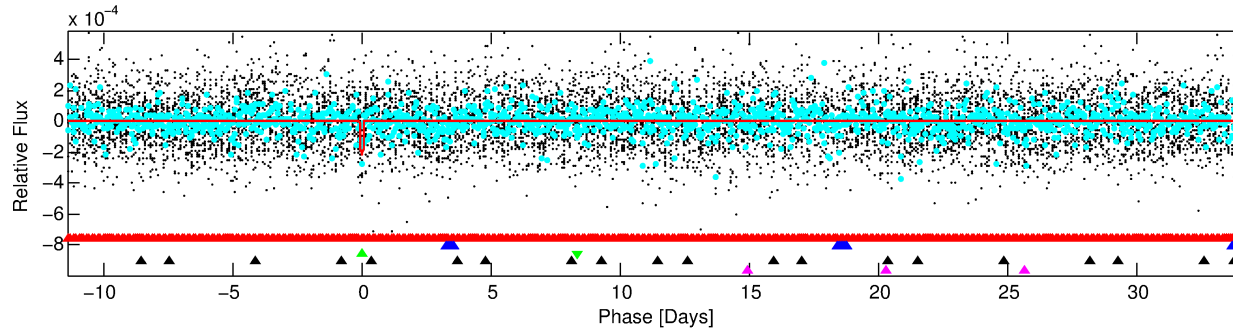
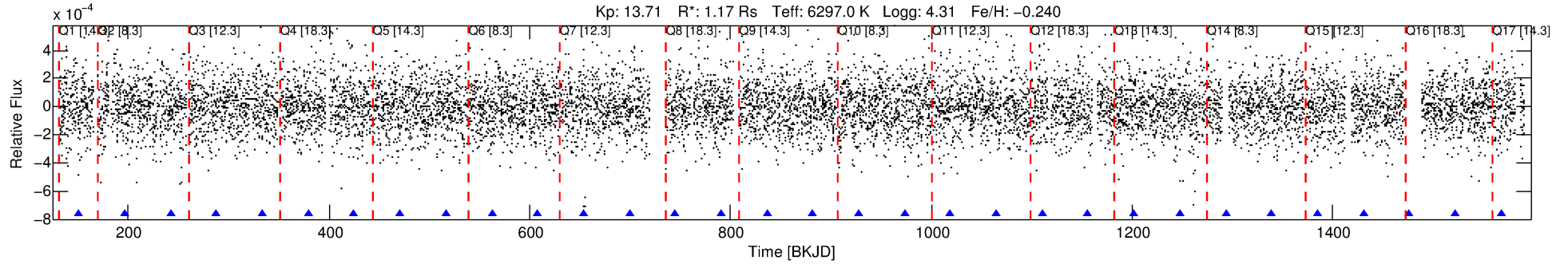
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006699023-03

No Significant Match Found

DV One-Page Summary

KIC: 6699023 Candidate: 3 of 5 Period: 45.689 d



DV Fit Results:

Period = 45.68949 [0.00064] d
Epoch = 151.0574 [0.0144] BKJD
Rp/R* = 0.0152 [0.0084]
a/R* = 59.82 [167.69]
b = 0.86 [0.85]
Seff = 30.25 [11.61]
Teq = 598 [57] K
Rp = 1.95 [1.23] Re
a = 0.2527 [0.0645] AU
Ag = 907.95 [1091.00] [0.83σ]
Teff = 5075 [1464] K [3.06σ]

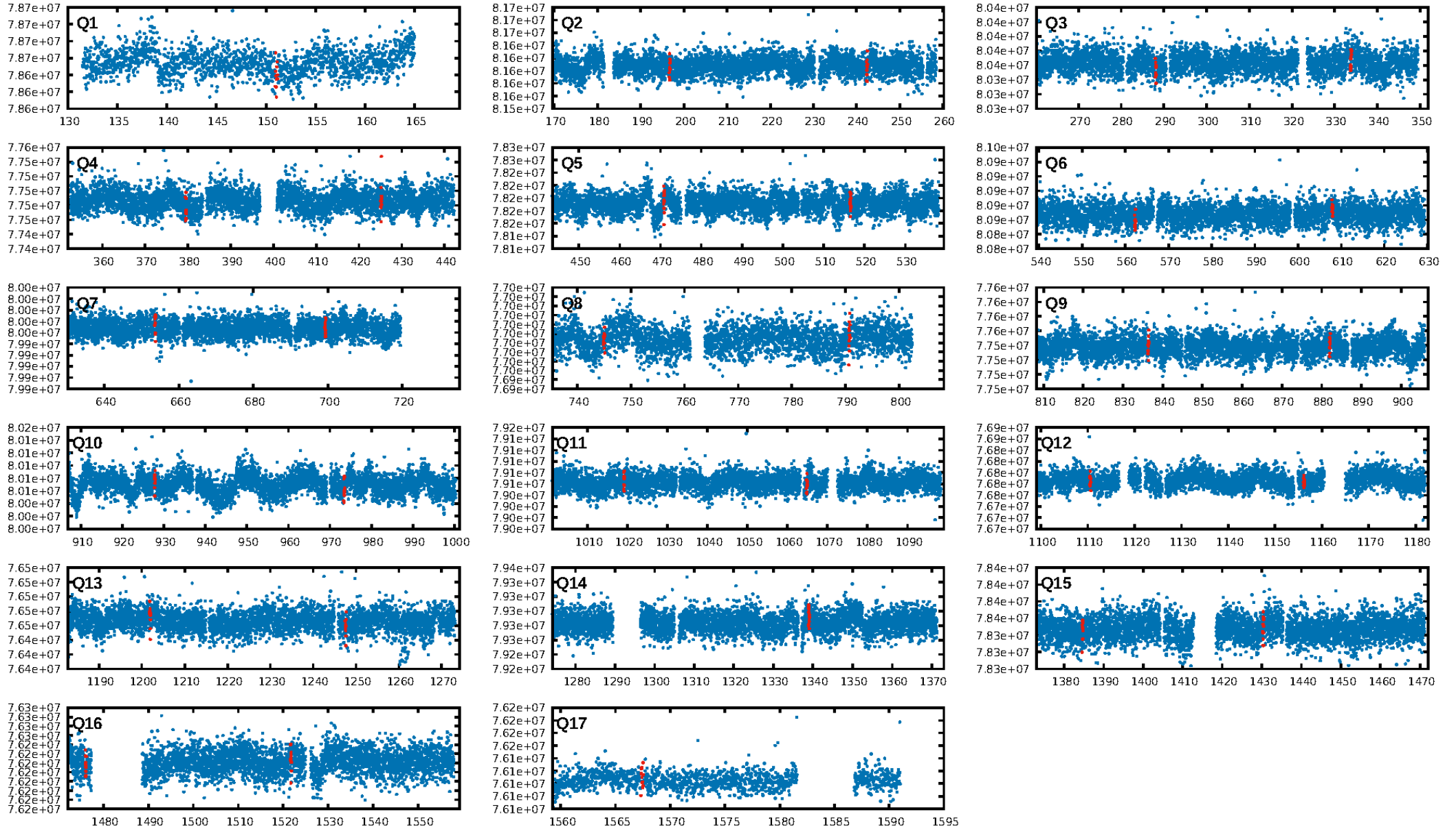
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [199.13σ]
LongPeriod-sig: 100.0% [88.11σ]
ModelChiSquare2-sig: 13.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.86e-08
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -2.393
Centroid-sig: 28.5%
Centroid-so: 1.139 arcsec [1.01σ]
OotOffset-rm: 7.937 arcsec [11.21σ]
KicOffset-rm: 7.958 arcsec [11.28σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/17]

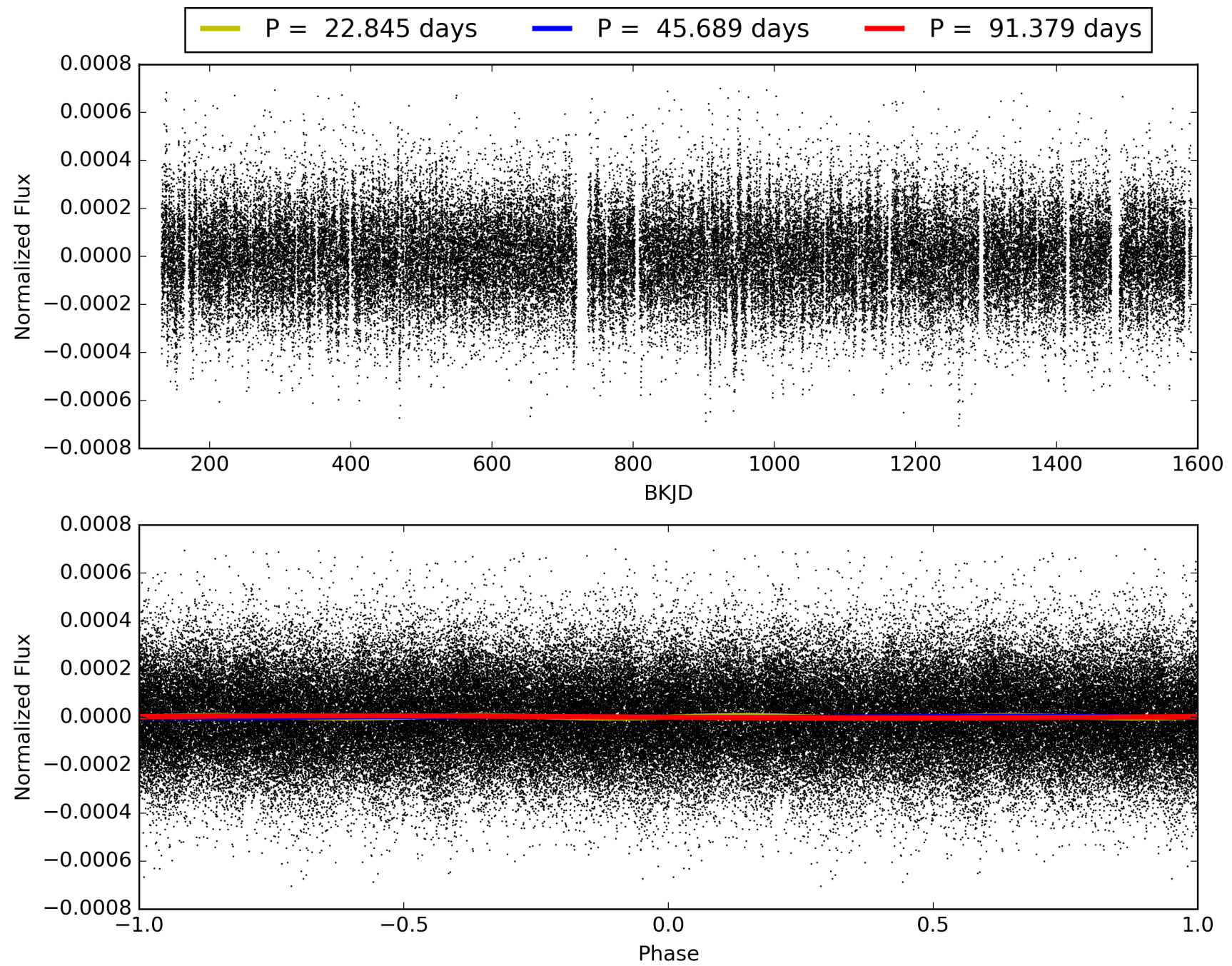
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:17:56 Z

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

TCE 006699023-03, PDC Light Curves

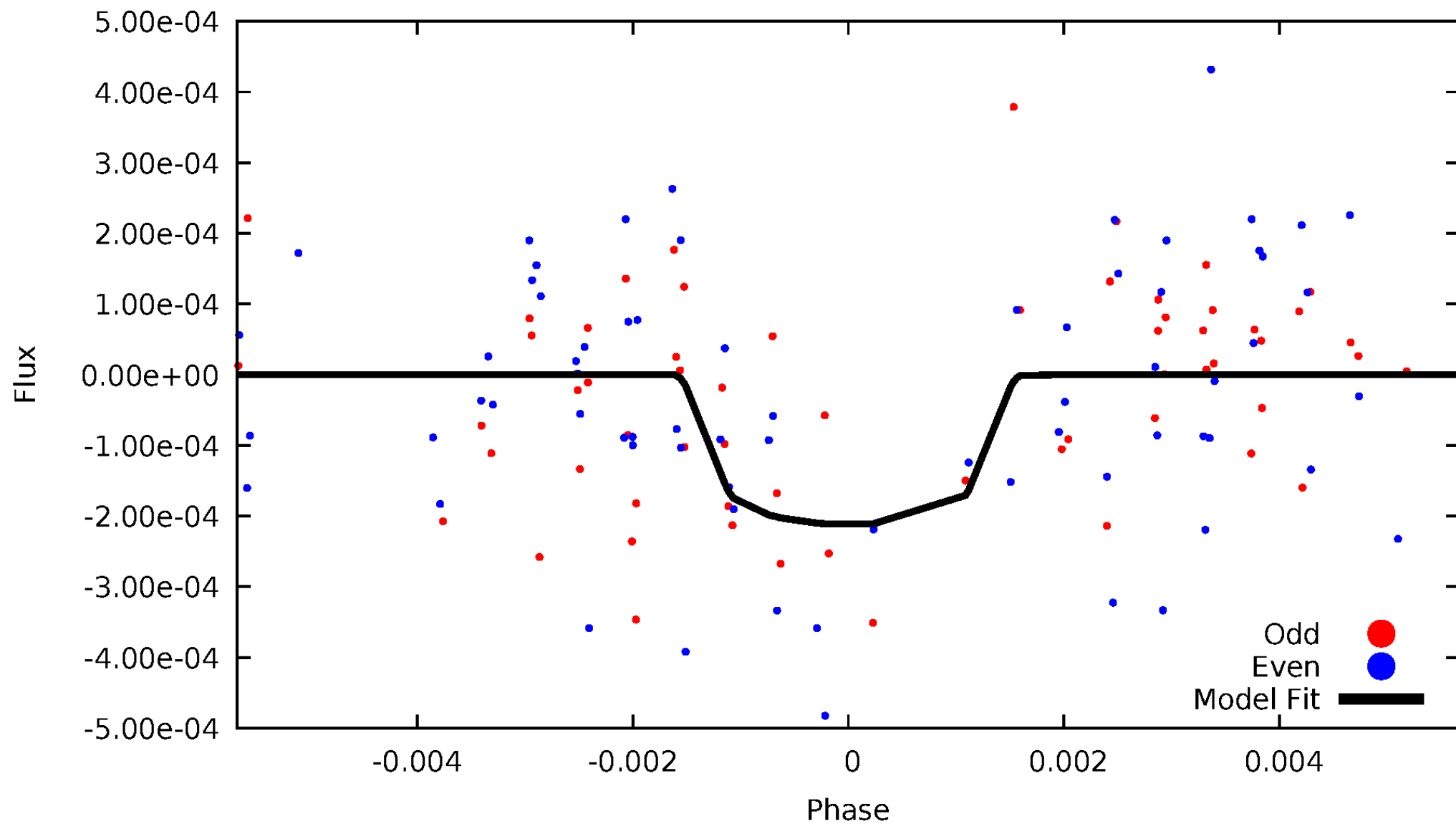


TCE 006699023-03



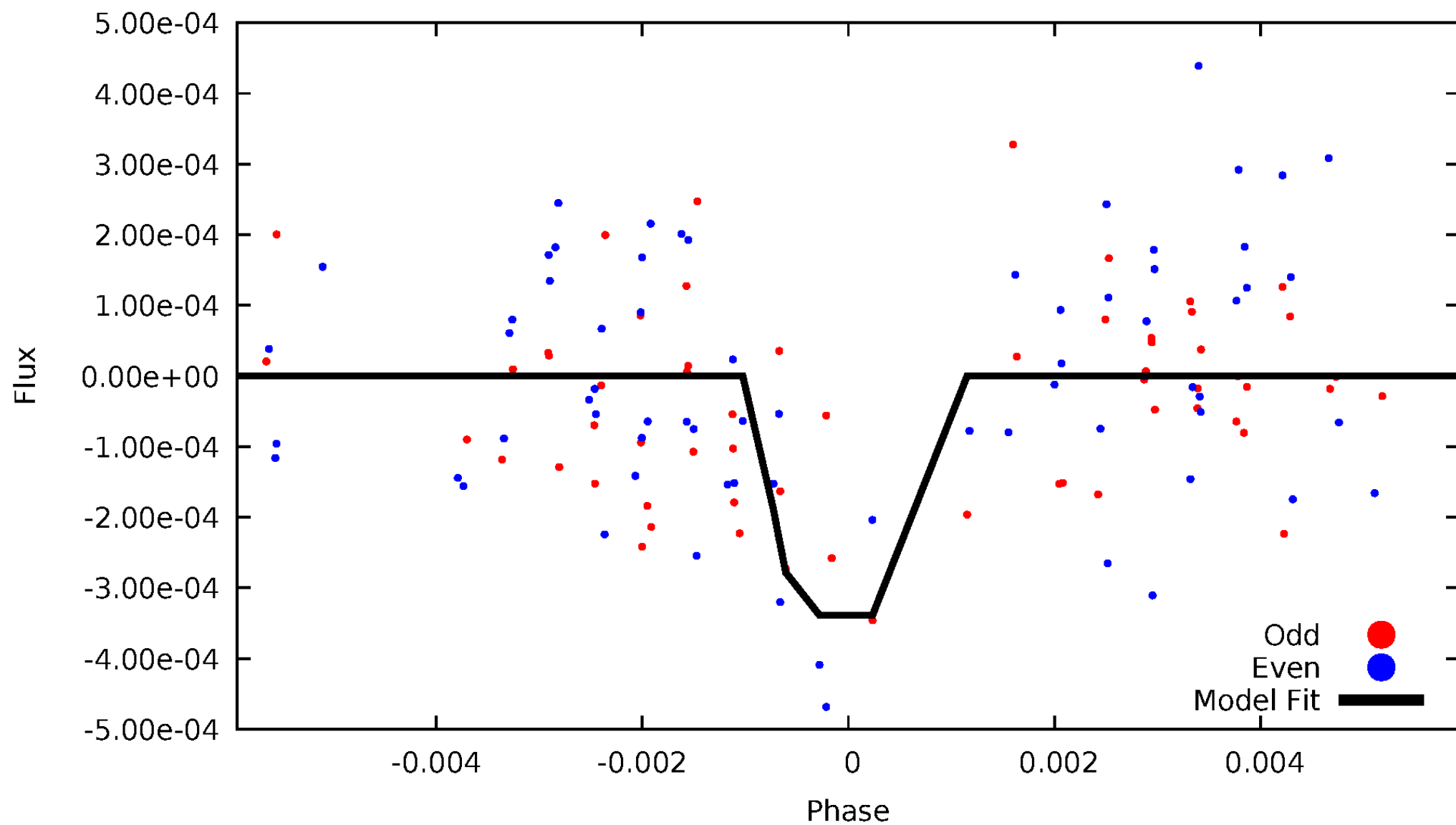
DV Odd/Even

TCE 006699023-03



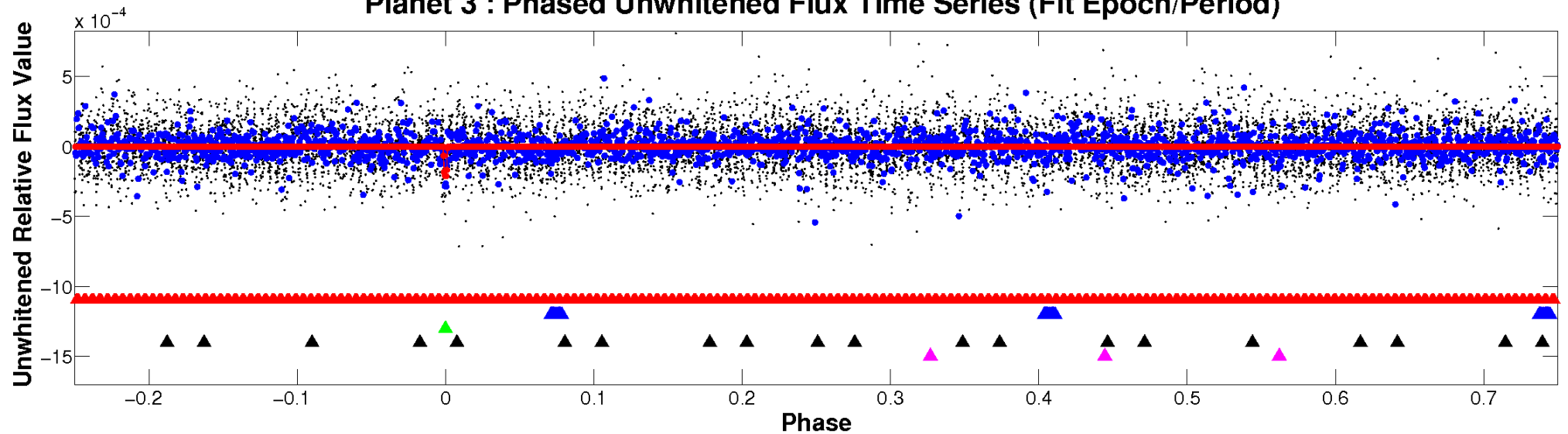
ALT Odd/Even

TCE 006699023-03

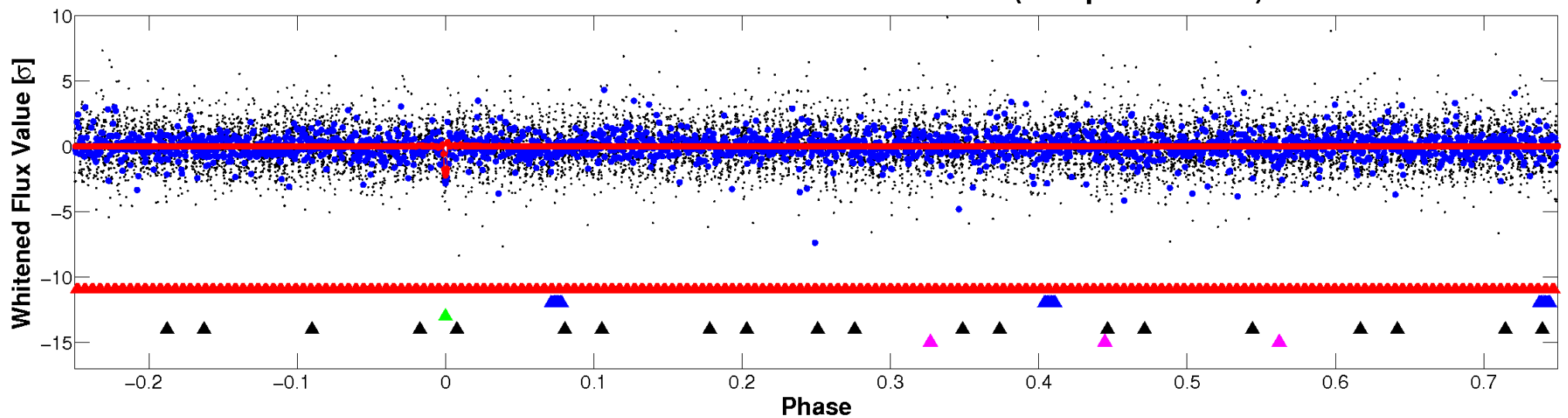


Non-Whitened Vs. Whitened Light Curve

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

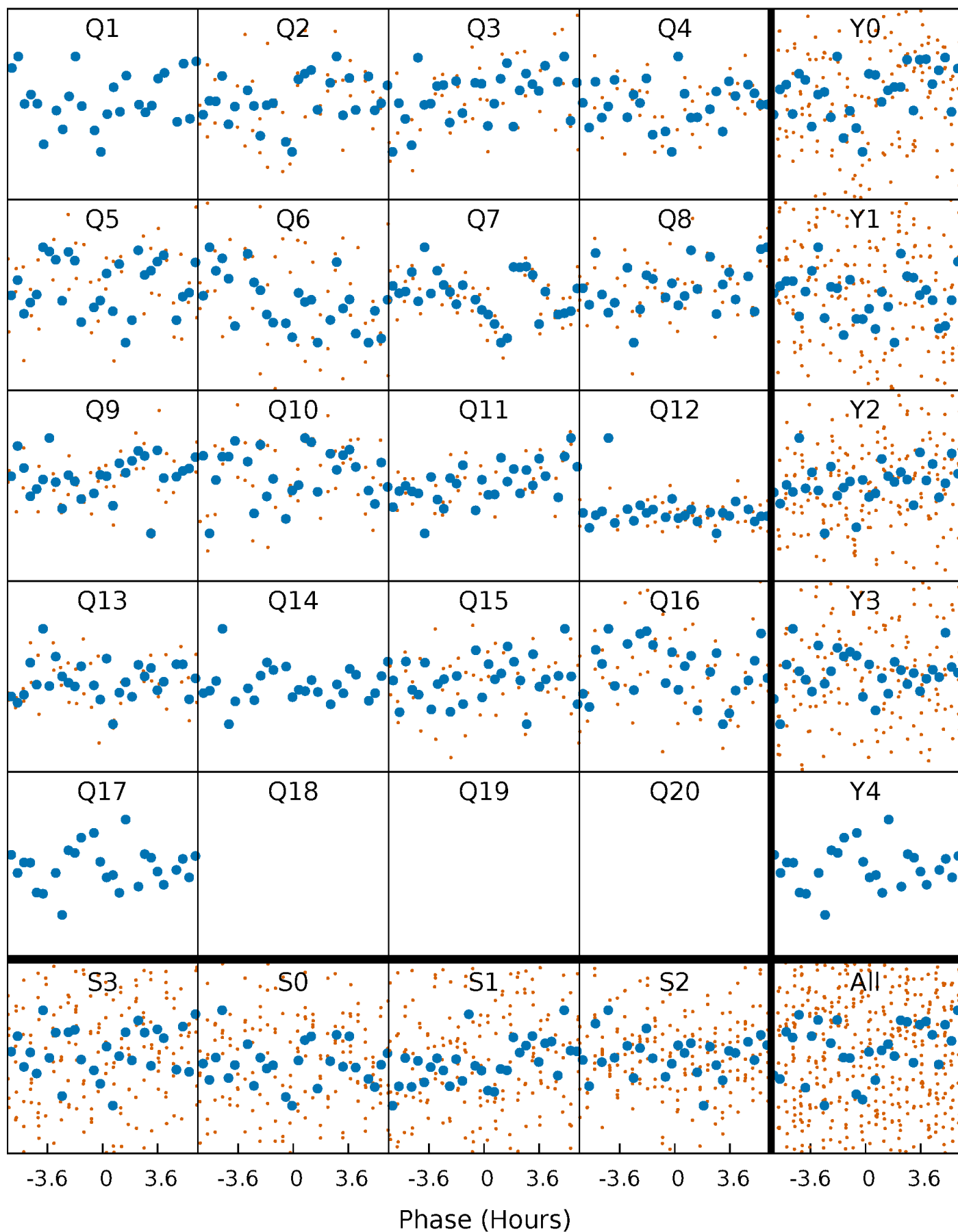


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



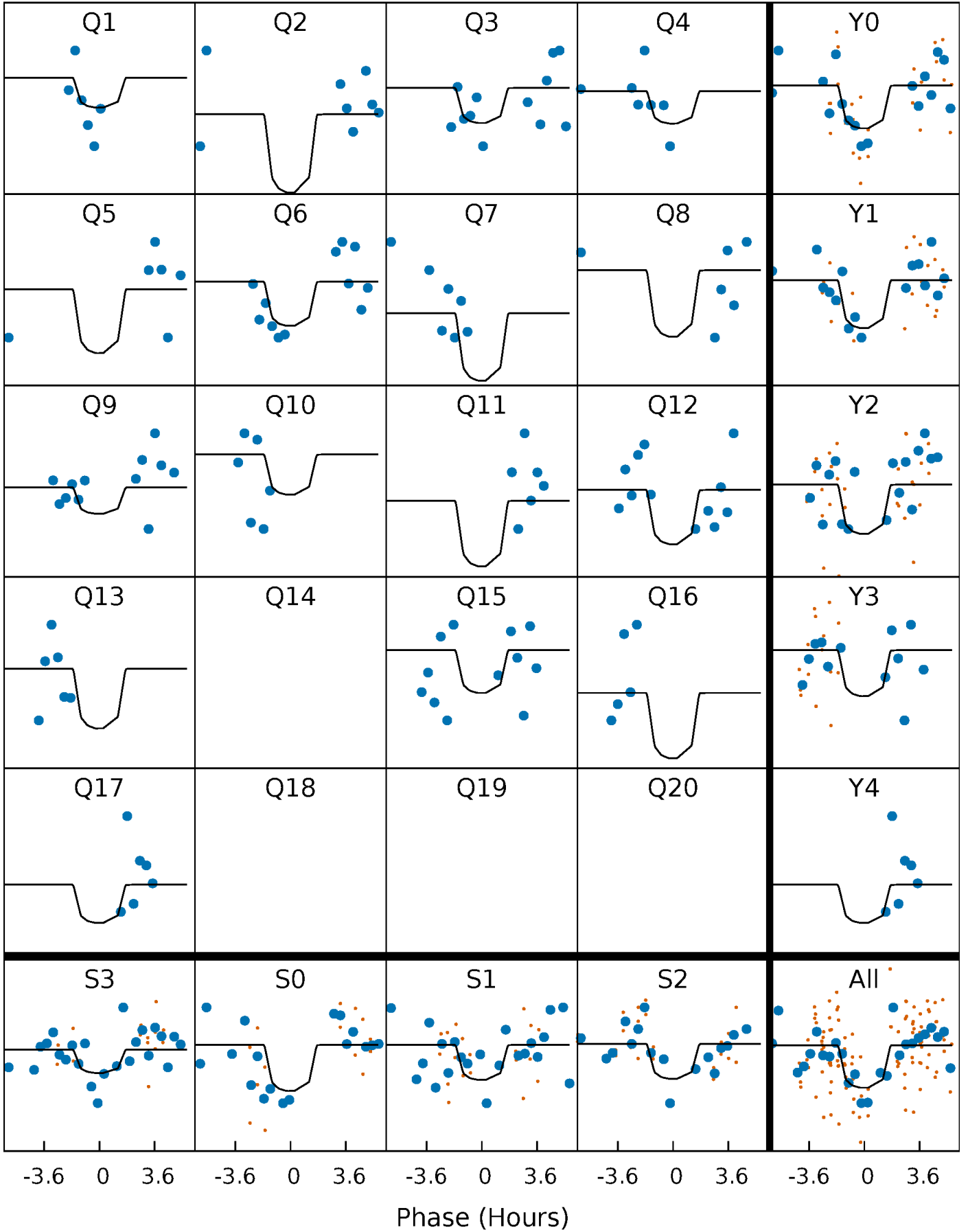
PDC Quarter-Phased Transit Curves

TCE 006699023-03 P= 45.689490 Days $T_0=151.057383$ (BKJD)



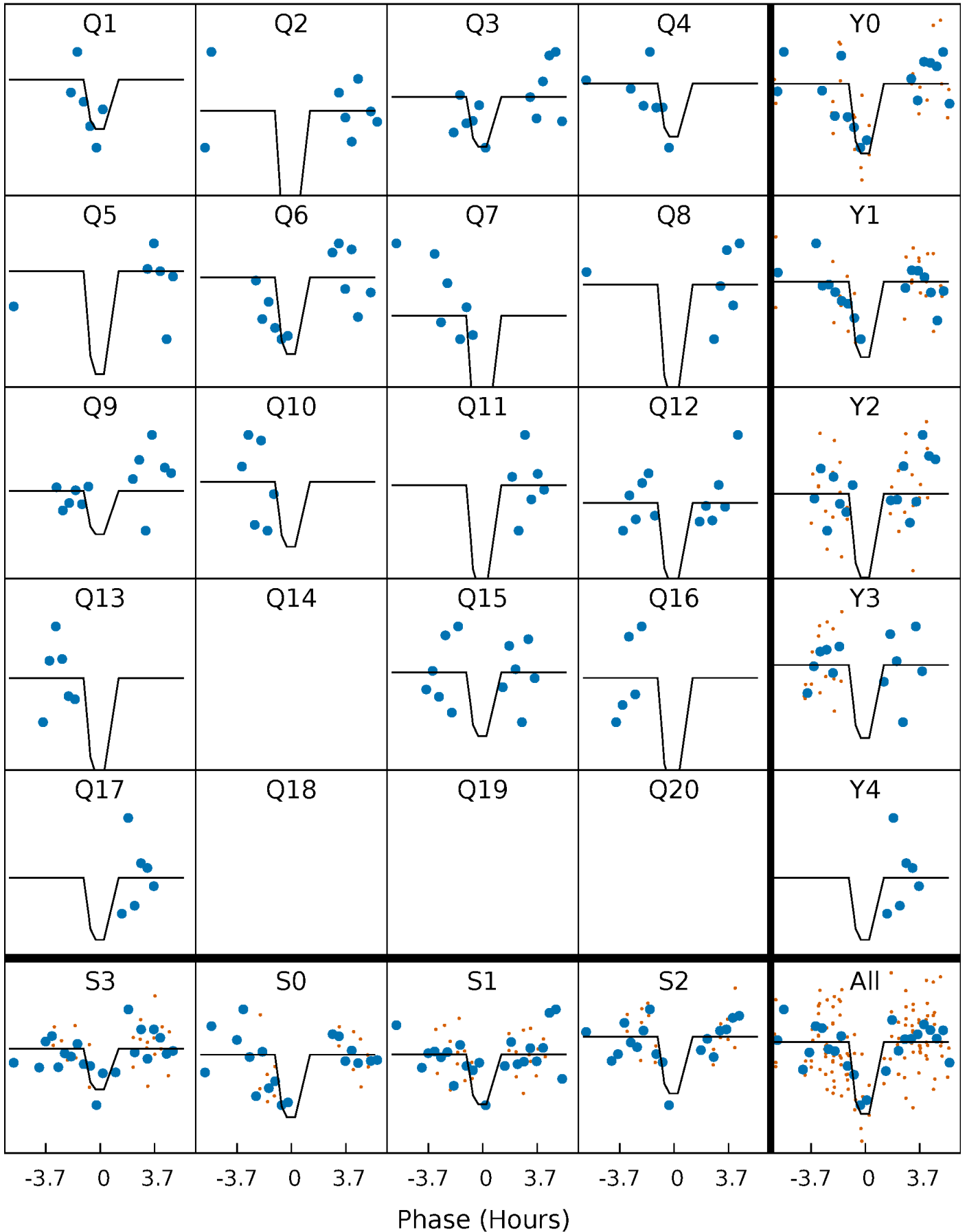
DV Quarter-Phased Transit Curves

TCE 006699023-03 P= 45.689490 Days $T_0=151.057383$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

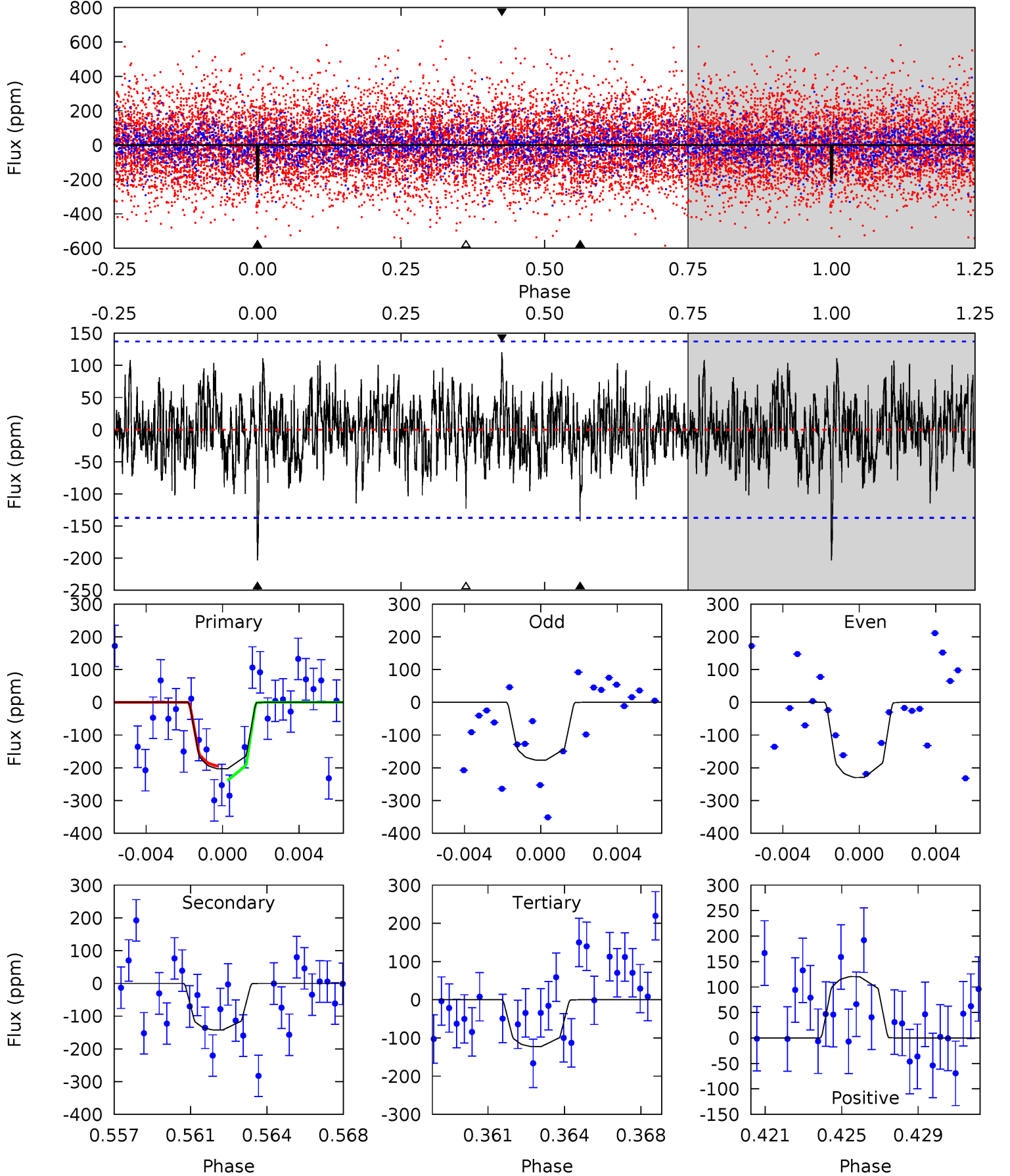
TCE 006699023-03 P= 45.689390 Days $T_0=151.057423$ (BKJD)



DV Model-Shift Uniqueness Test

006699023-03, P = 45.689490 Days, E = 105.367893 Days

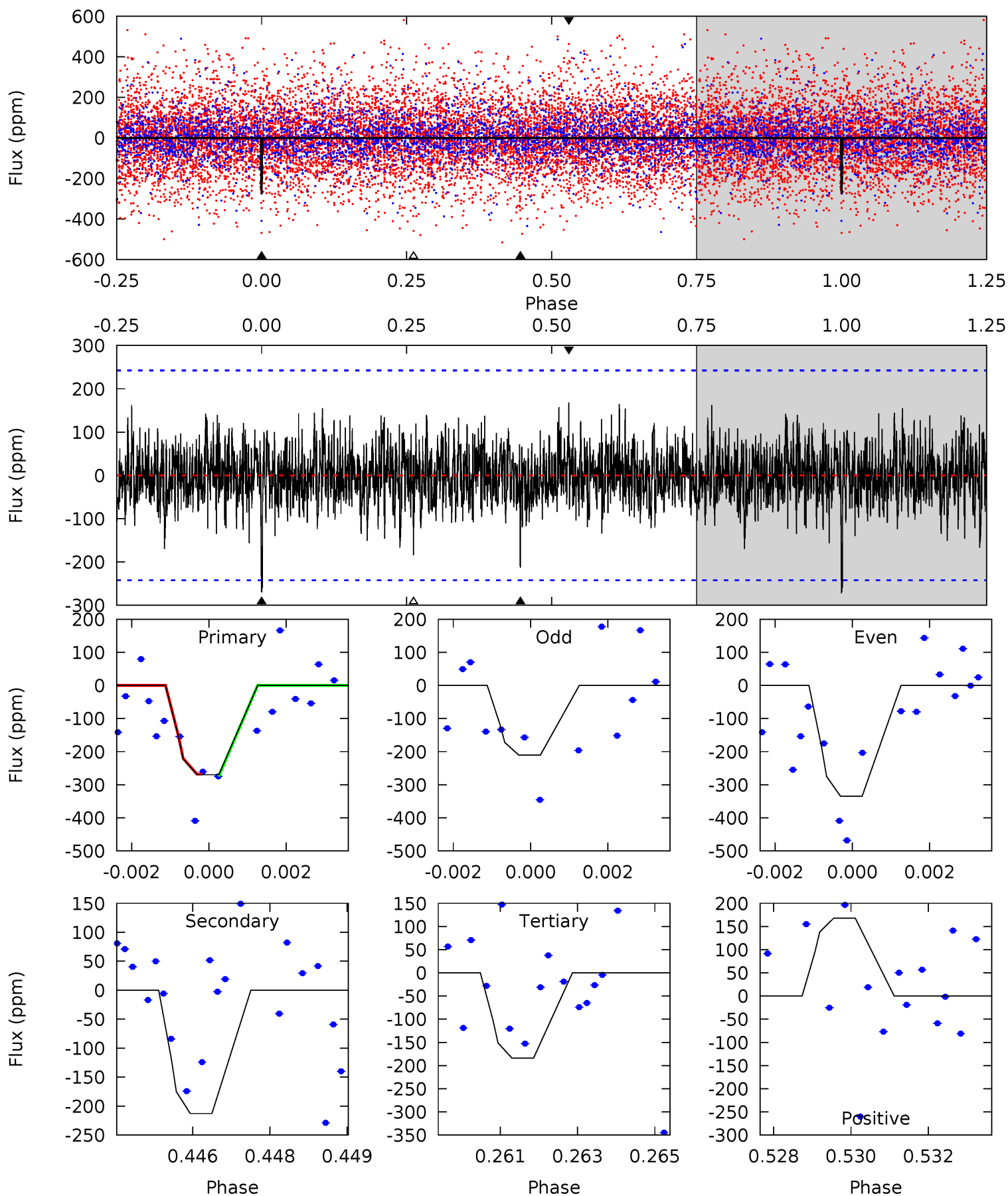
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.74	5.42	4.67	4.58	5.22	2.91	1.39	3.07	3.16	0.74	0.83	1.01	0.92	0.37	0.71



Alt Model-Shift Uniqueness Test

006699023-03, P = 45.689390 Days, E = 105.368033 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.95	4.70	4.06	3.70	5.34	3.12	1.03	1.89	2.25	0.64	0.99	1.35	0.95	0.38	0.06



Stellar Parameters For KIC 006699023

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6297^{+169}_{-206}	$4.314^{+0.128}_{-0.192}$	$-0.240^{+0.250}_{-0.300}$	$1.171^{+0.366}_{-0.197}$	$1.027^{+0.185}_{-0.108}$	$0.902^{+0.550}_{-0.464}$
	+3%/-3%	+3%/-4%	+104%/-125%	+31%/-17%	+18%/-11%	+61%/-51%
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 006699023-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-142 ± 26	$2.05^{+1.18}_{-1.04}$	840^{+64}_{-53}	5471^{+2590}_{-891}	1201^{+3774}_{-695}
Alt.	-213 ± 45	$2.40^{+1.24}_{-1.12}$	839^{+58}_{-51}	5571^{+2341}_{-874}	1322^{+3598}_{-767}

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

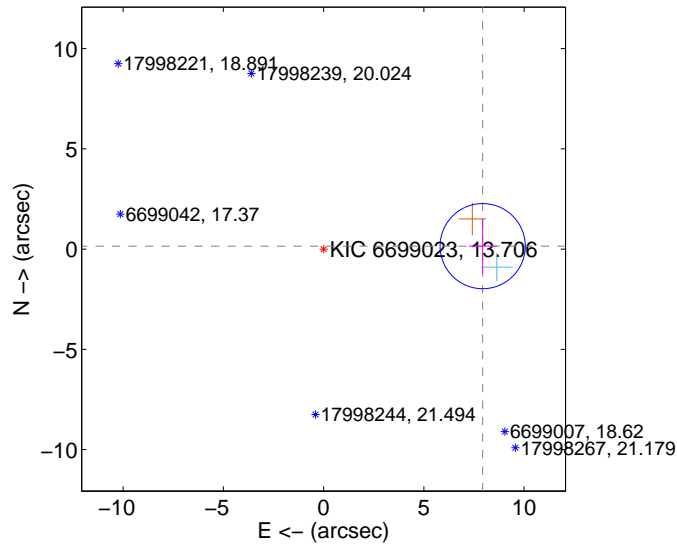
Supplemental centroid analysis for 006699023-03. Kepler magnitude: 13.71. Transit SNR 8.56

There are 1 quarters with good PRF difference image offsets

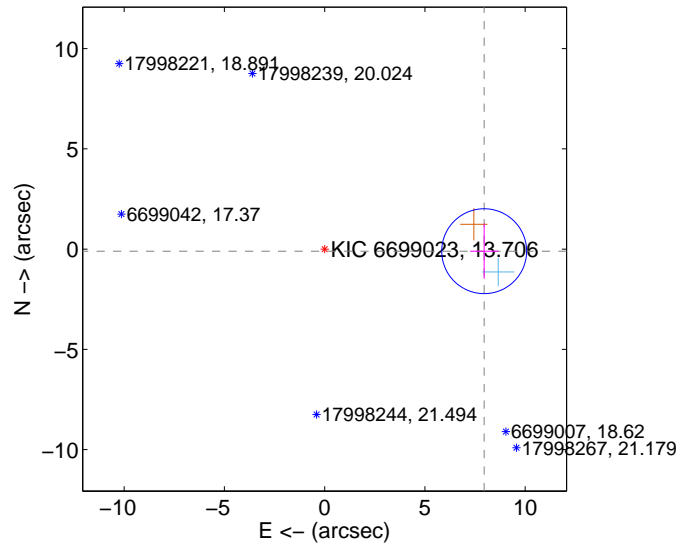
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.937 ± 0.708	11.21	-7.935 ± 0.708	0.148 ± 1.393
PRF-fit source offset from KIC position	7.958 ± 0.706	11.28	-7.957 ± 0.706	-0.105 ± 1.379
photometric centroid source offset	1.14 ± 1.13	1.01	-0.89 ± 1.31	-0.71 ± 0.76

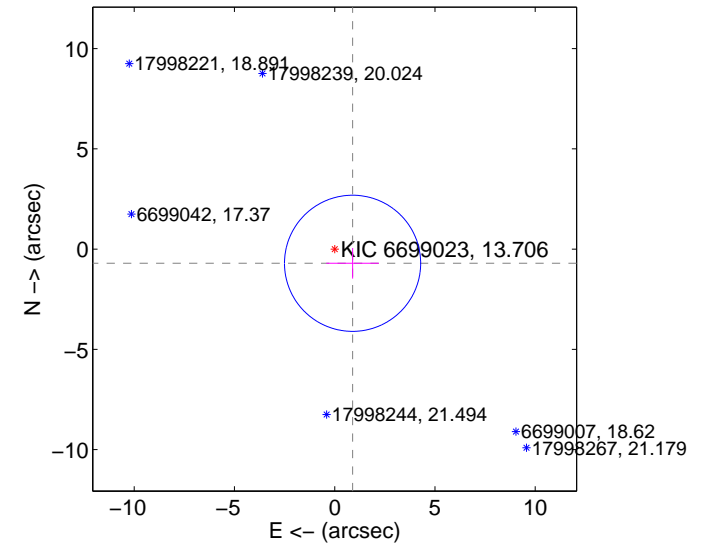
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

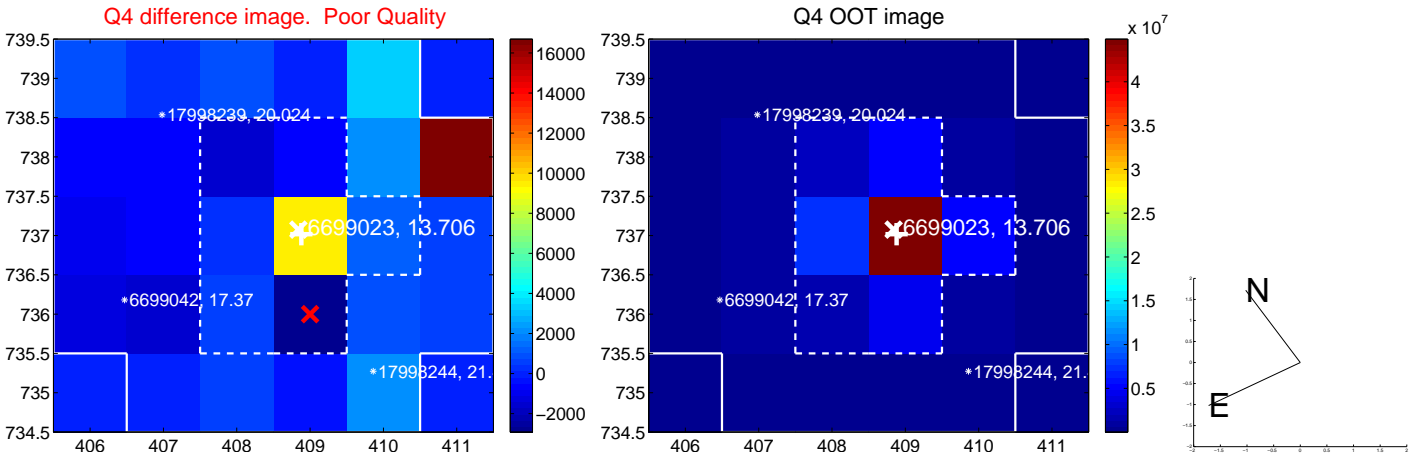
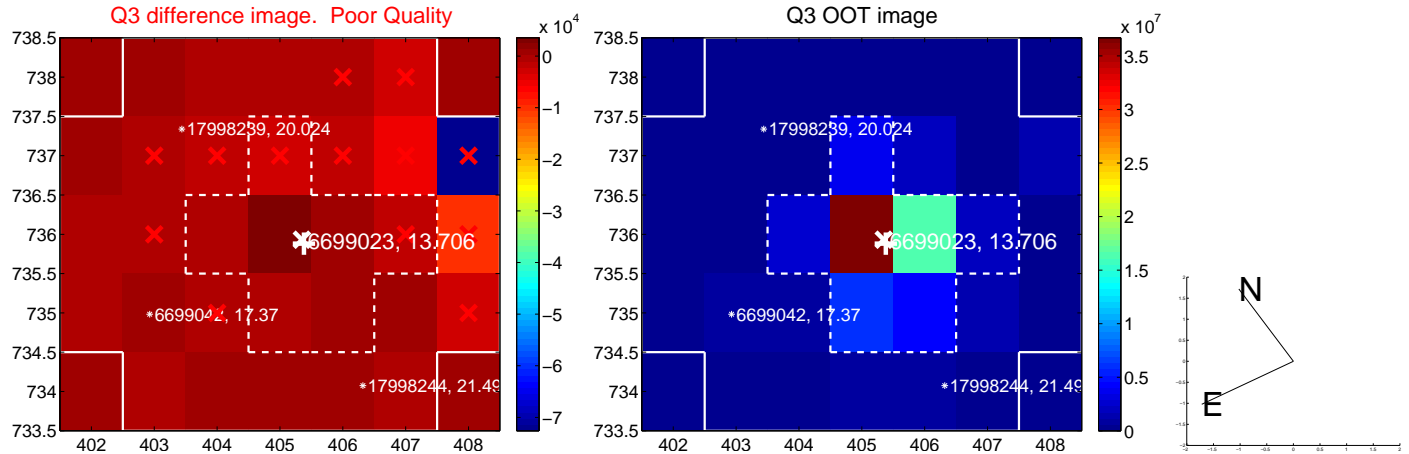
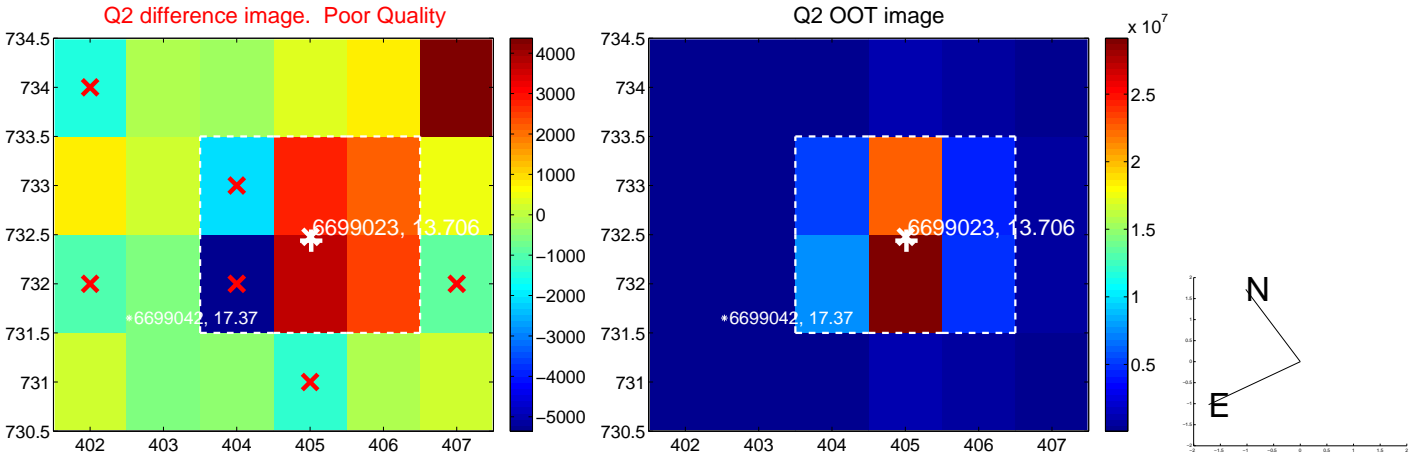
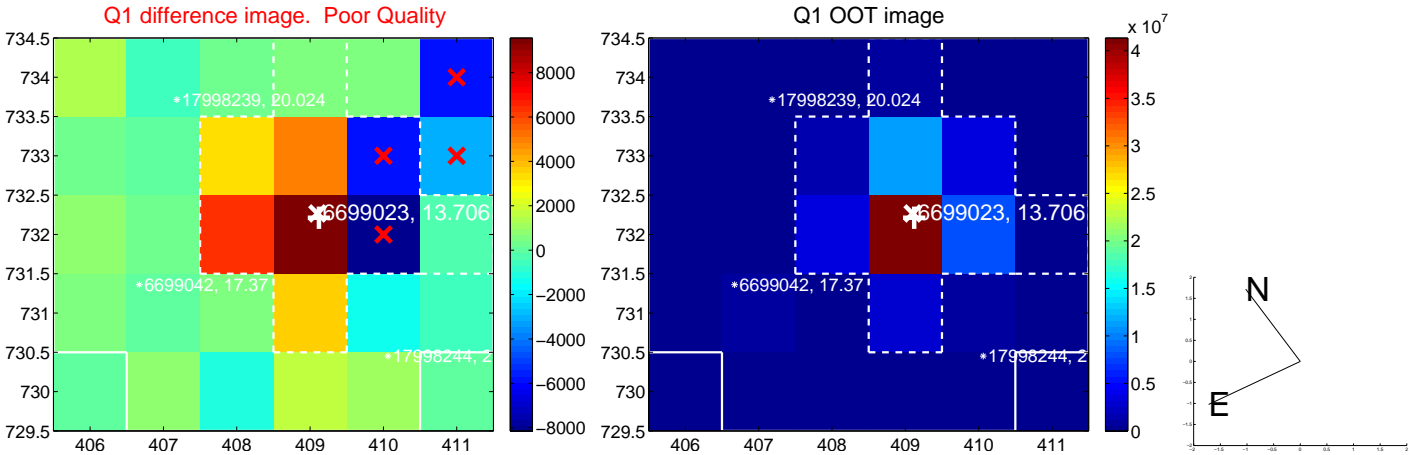


offset from photometric centroids

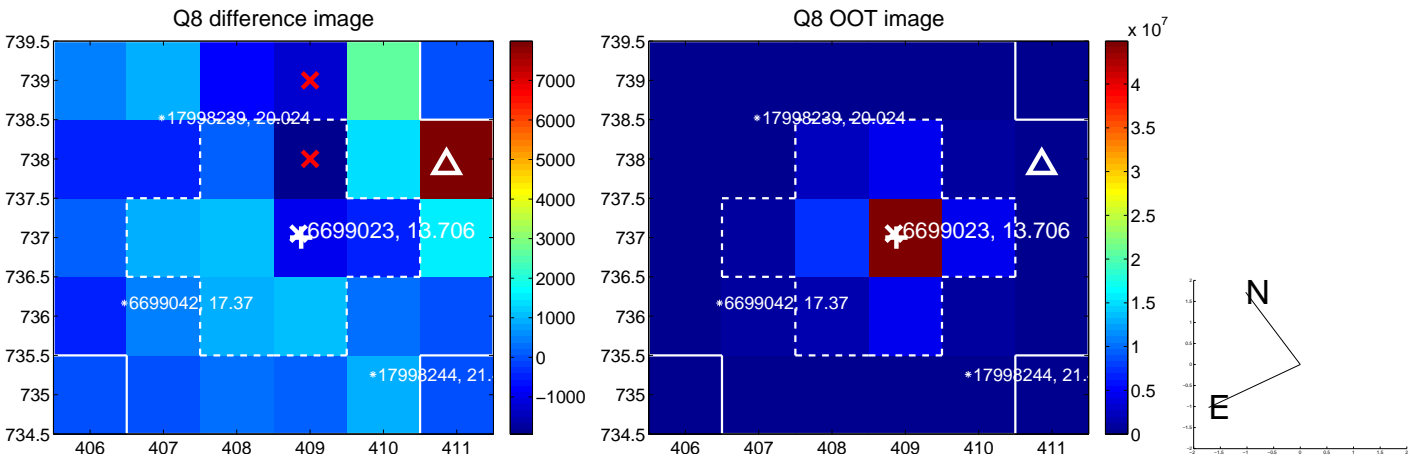
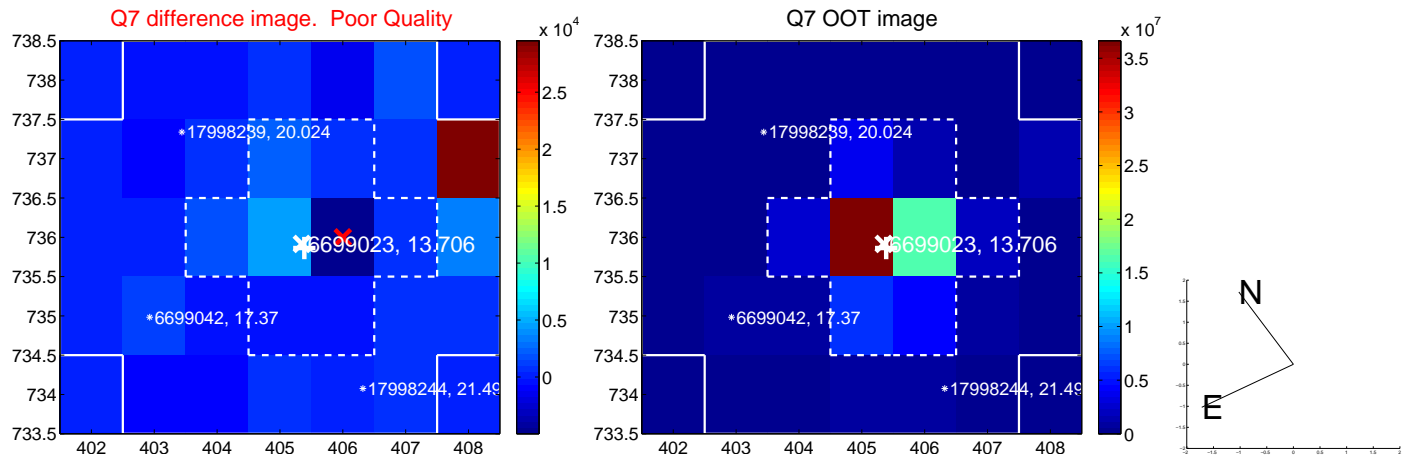
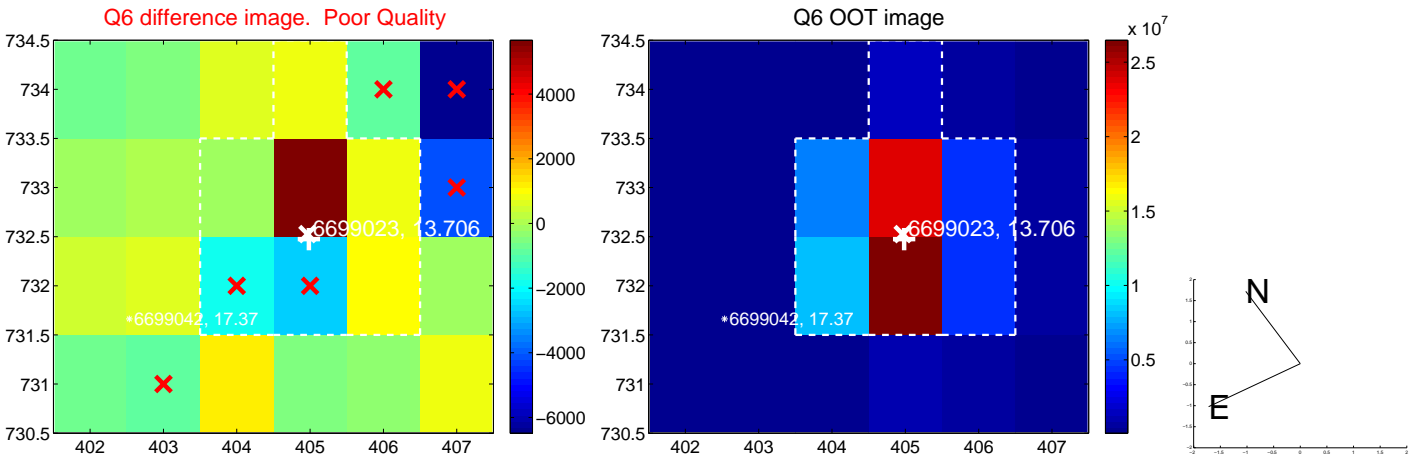
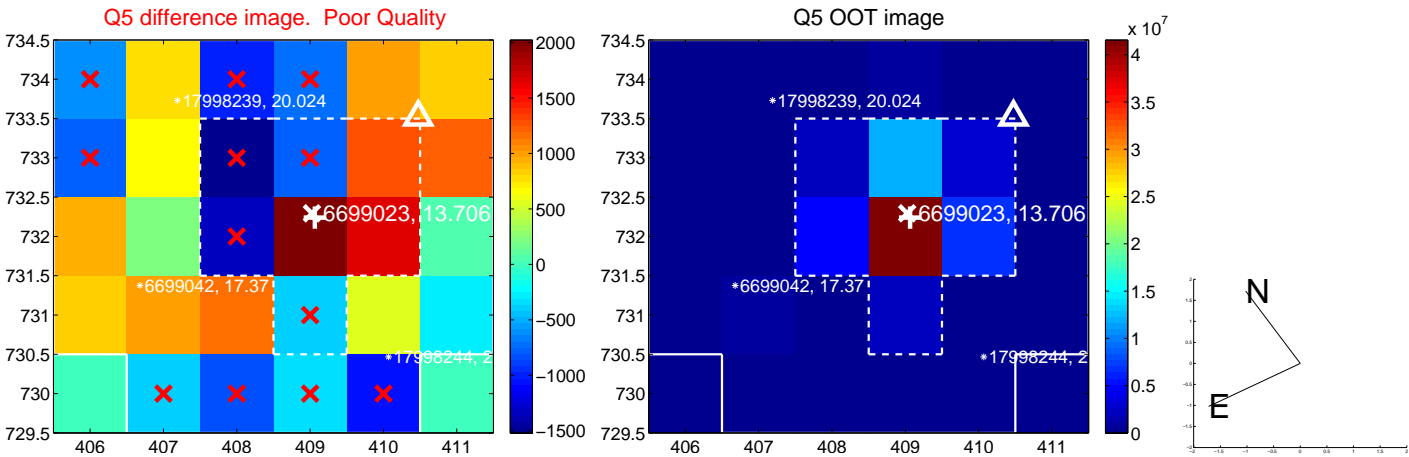


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

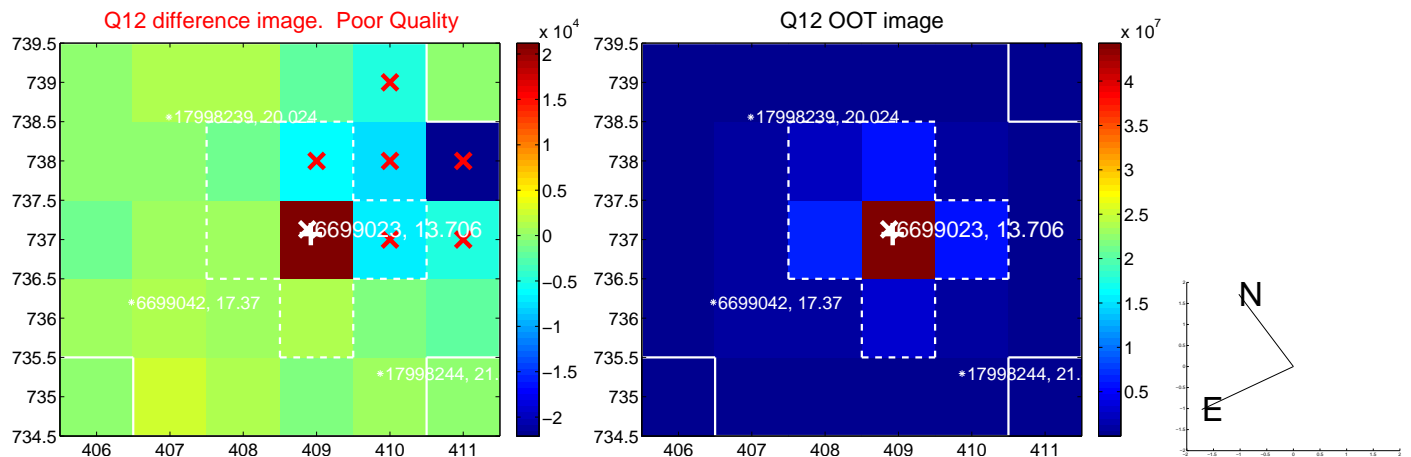
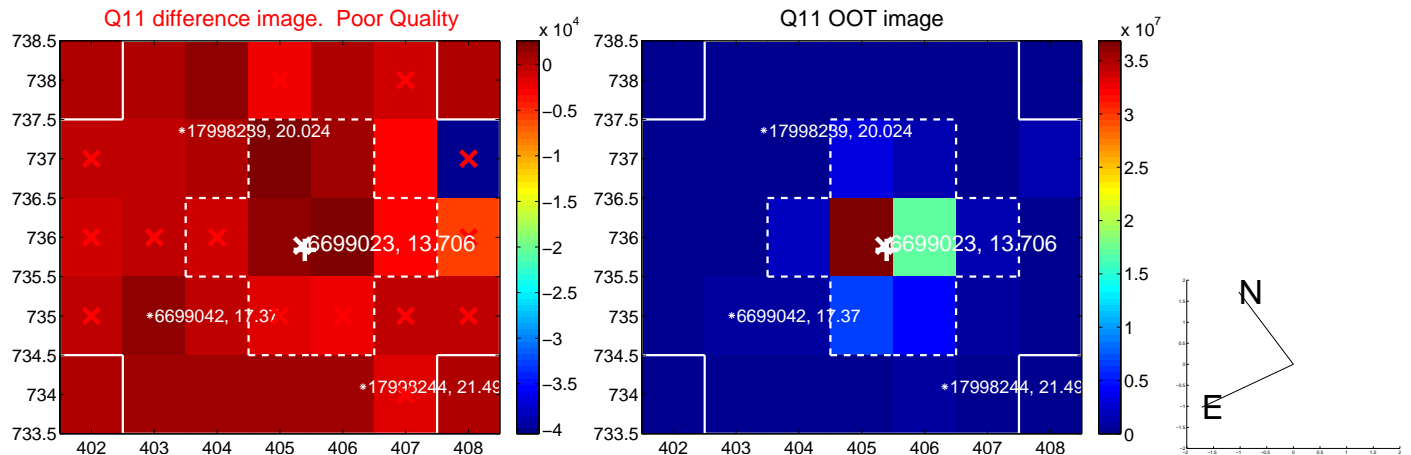
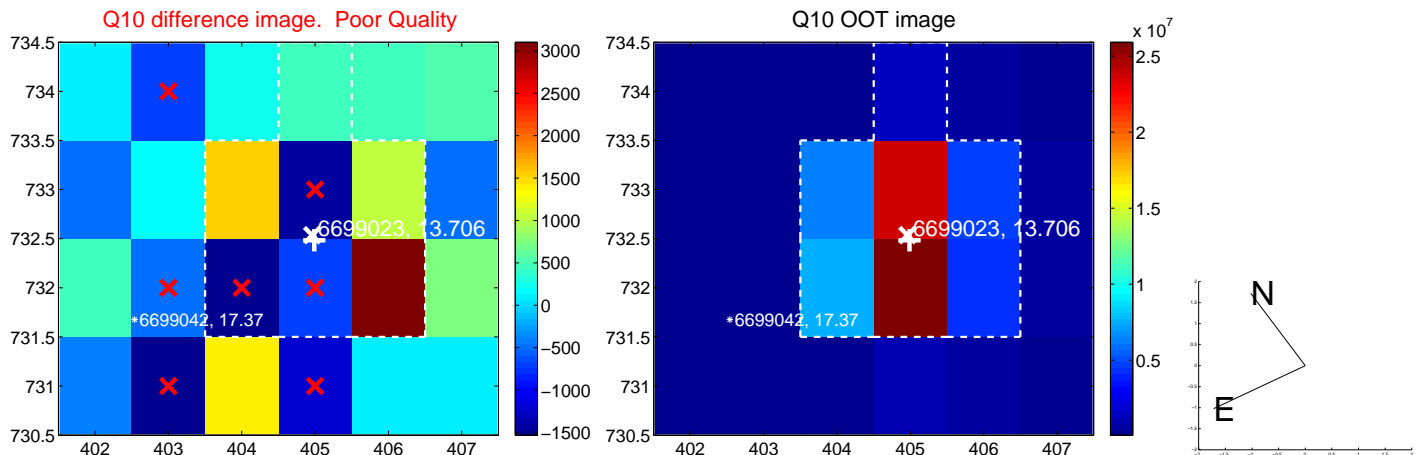
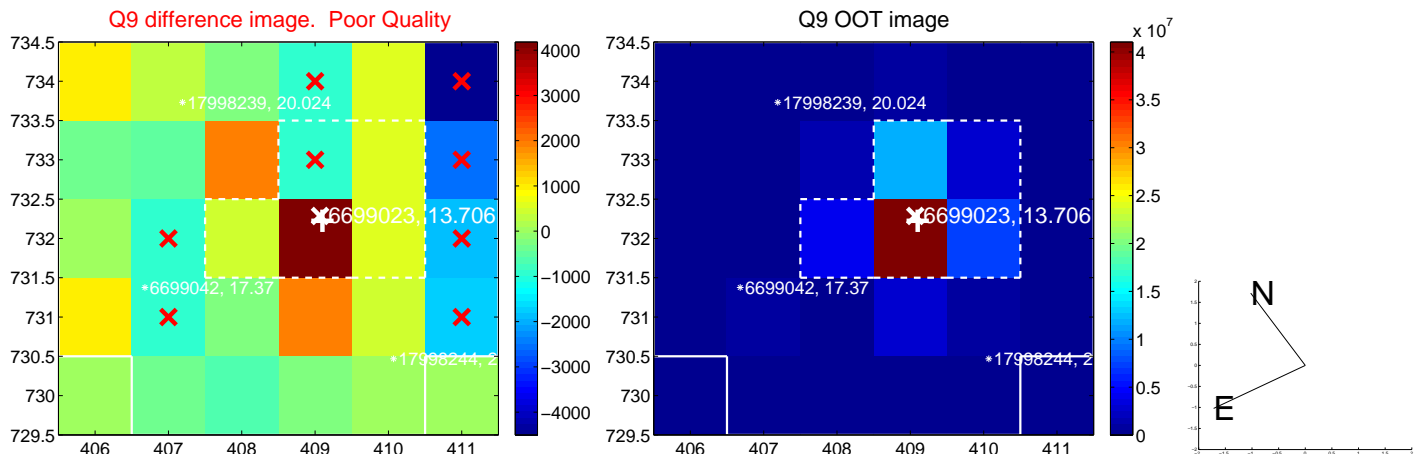
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



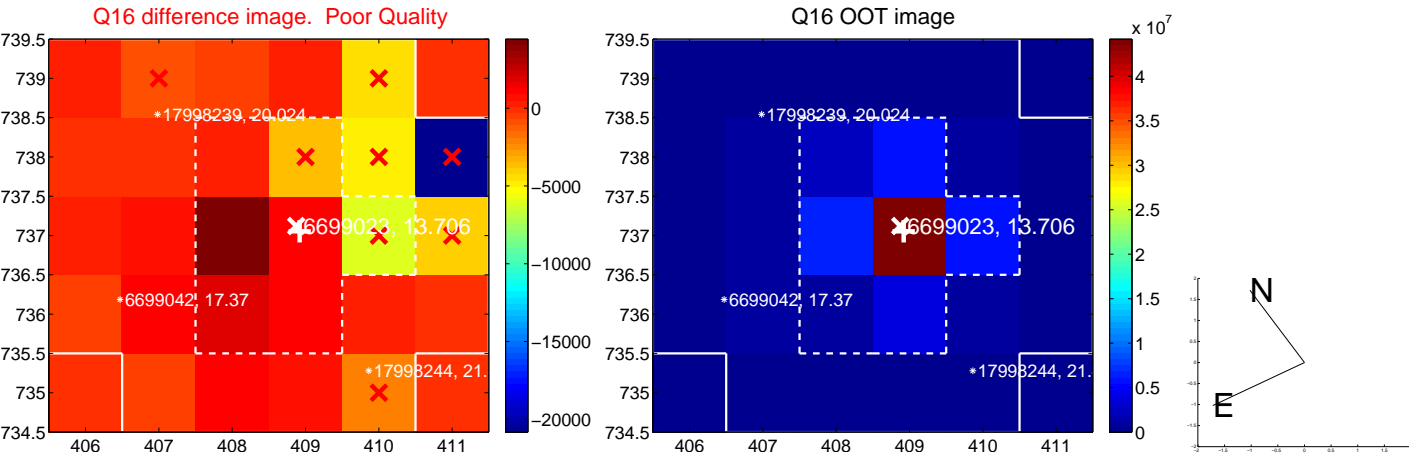
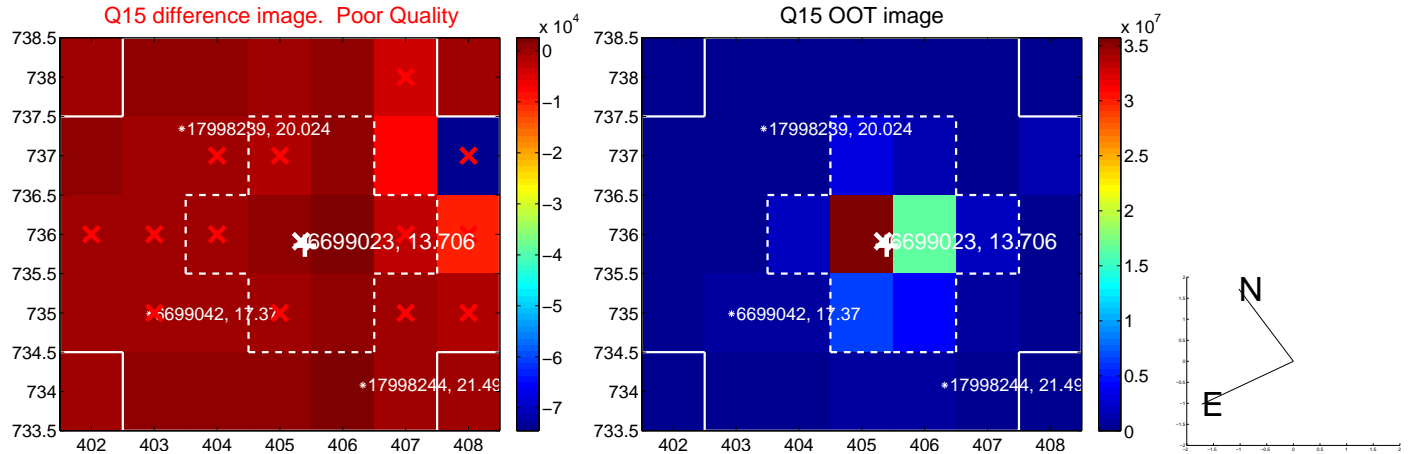
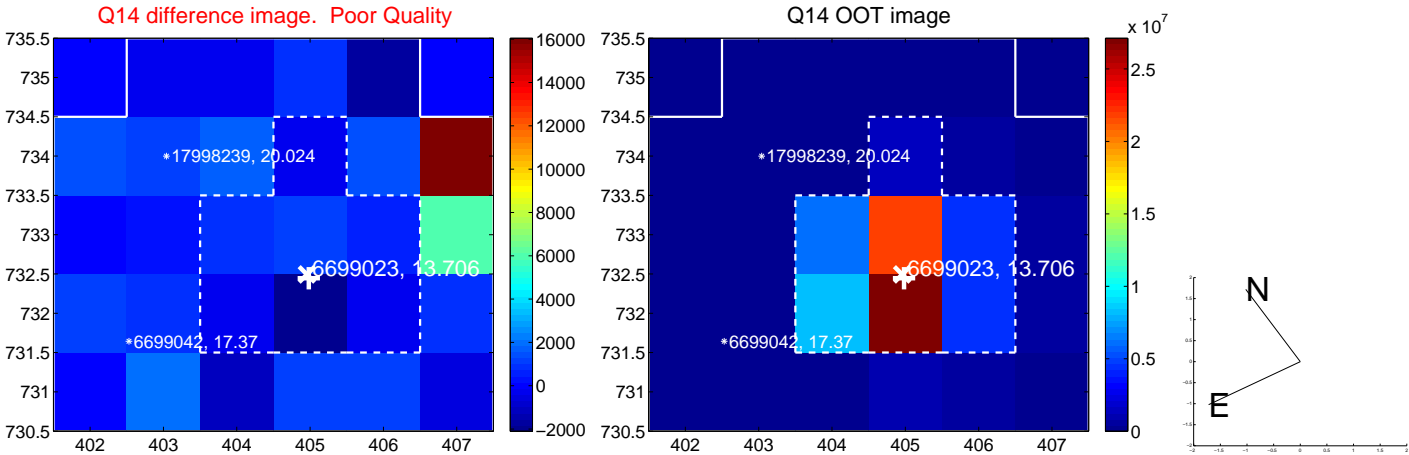
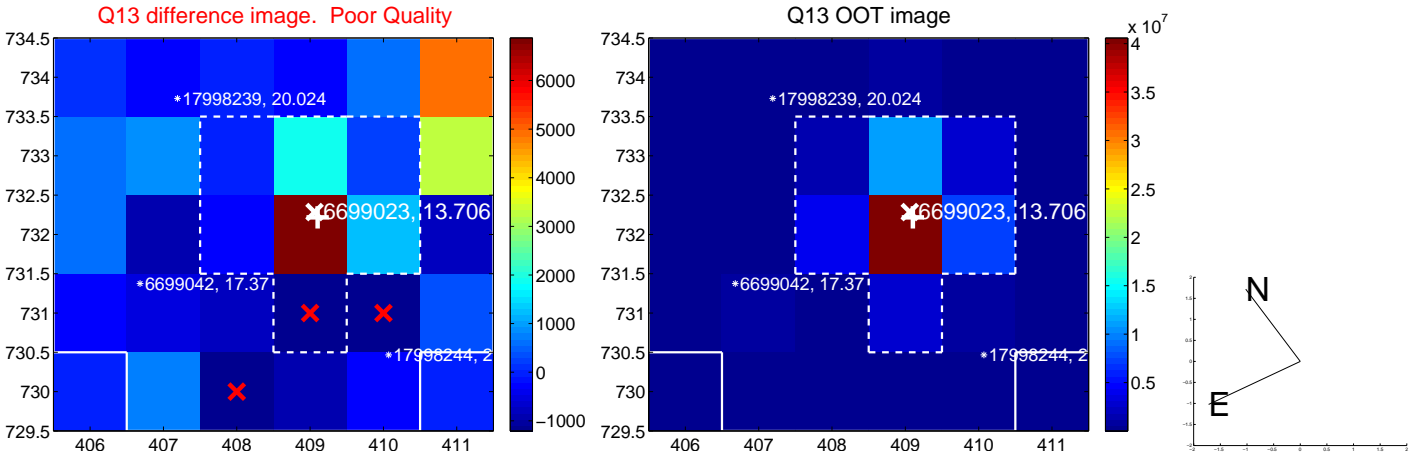
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



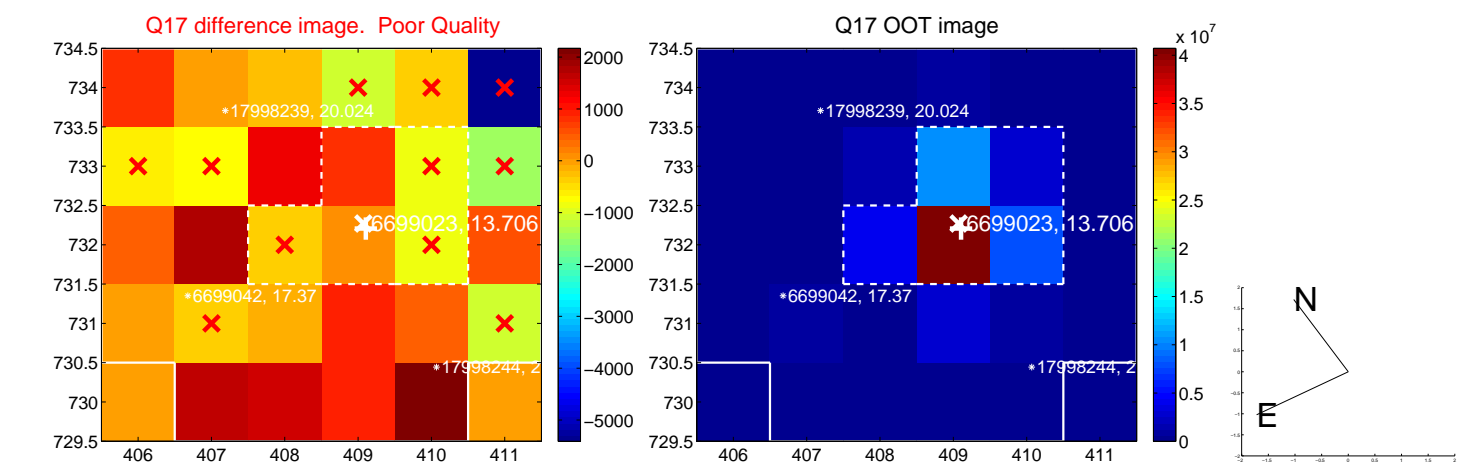
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



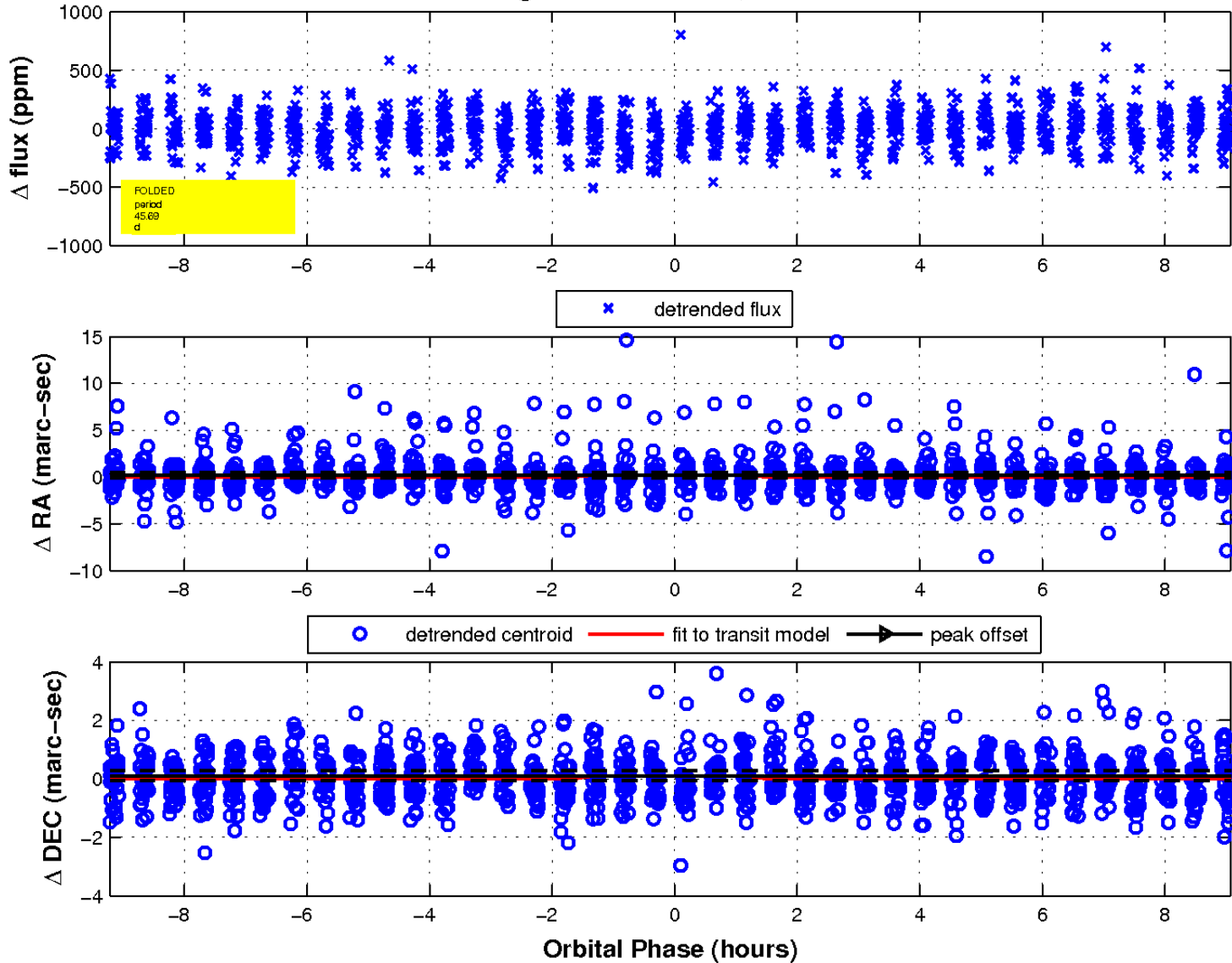
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

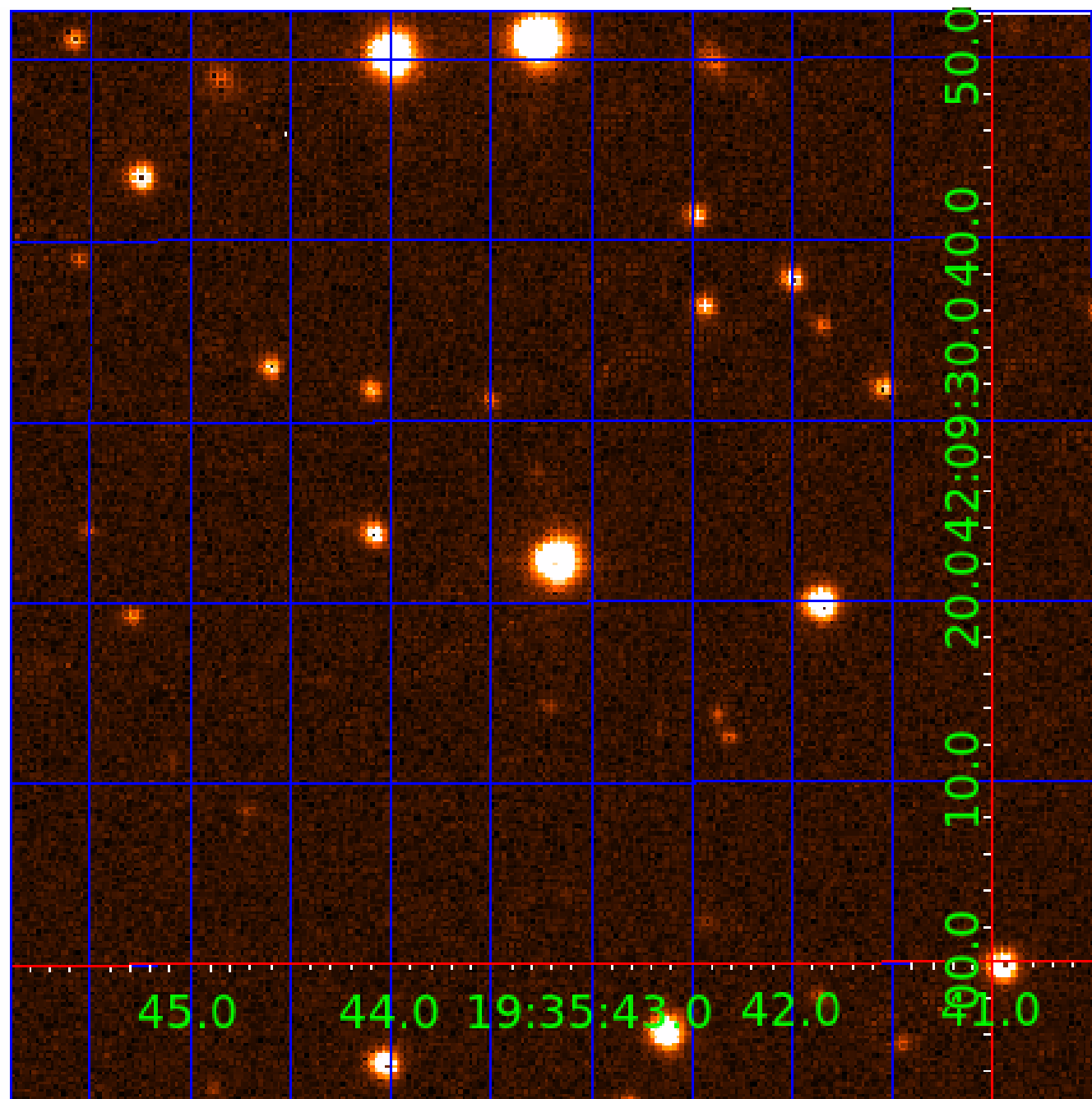


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 006699023

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})
006699023-01	OBS	No	0.695730	131.886487	15.6	4.443	12.1	11.0	1.17	6297	0.47	8014.56
006699023-02	OBS	No	60.935202	169.503885	201.5	2.752	8.7	7.9	1.17	6297	1.85	20.61
006699023-03	OBS	No	45.689490	151.057383	211.5	3.110	8.2	8.6	1.17	6297	1.95	30.25
006699023-05	OBS	No	451.520375	450.880725	333.6	3.500	7.8	-1.0	1.17	6297	2.15	1.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006699023-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
006699023-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006699023-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_RESOLVED_OFFSET
006699023-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

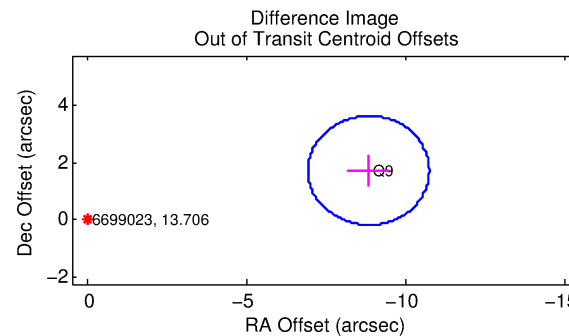
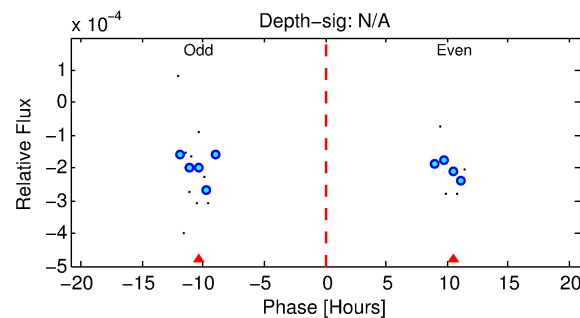
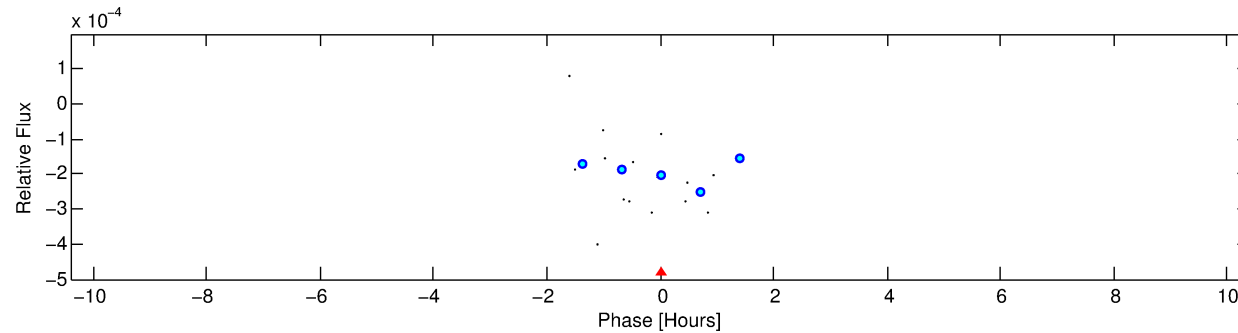
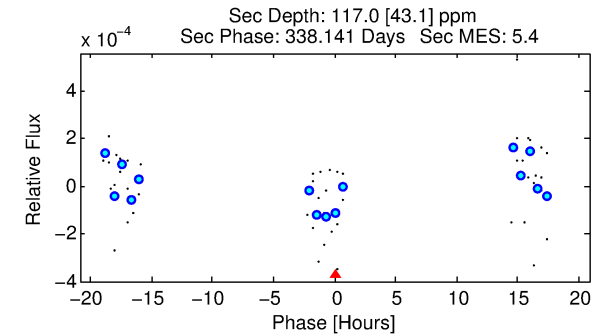
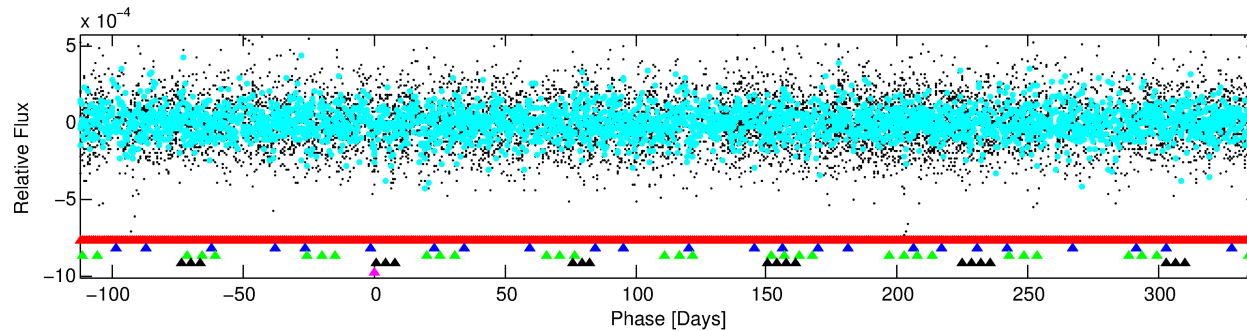
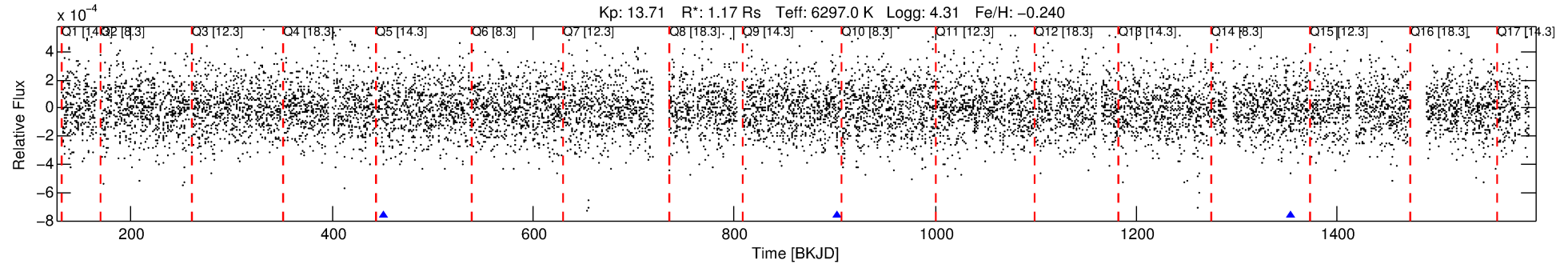
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006699023-05

No Significant Match Found

DV One-Page Summary

KIC: 6699023 Candidate: 5 of 5 Period: 451.520 d



TPS TCE Results:

Period = 451.52038 d
Epoch = 450.8807 BKJD

DV fit results are unavailable

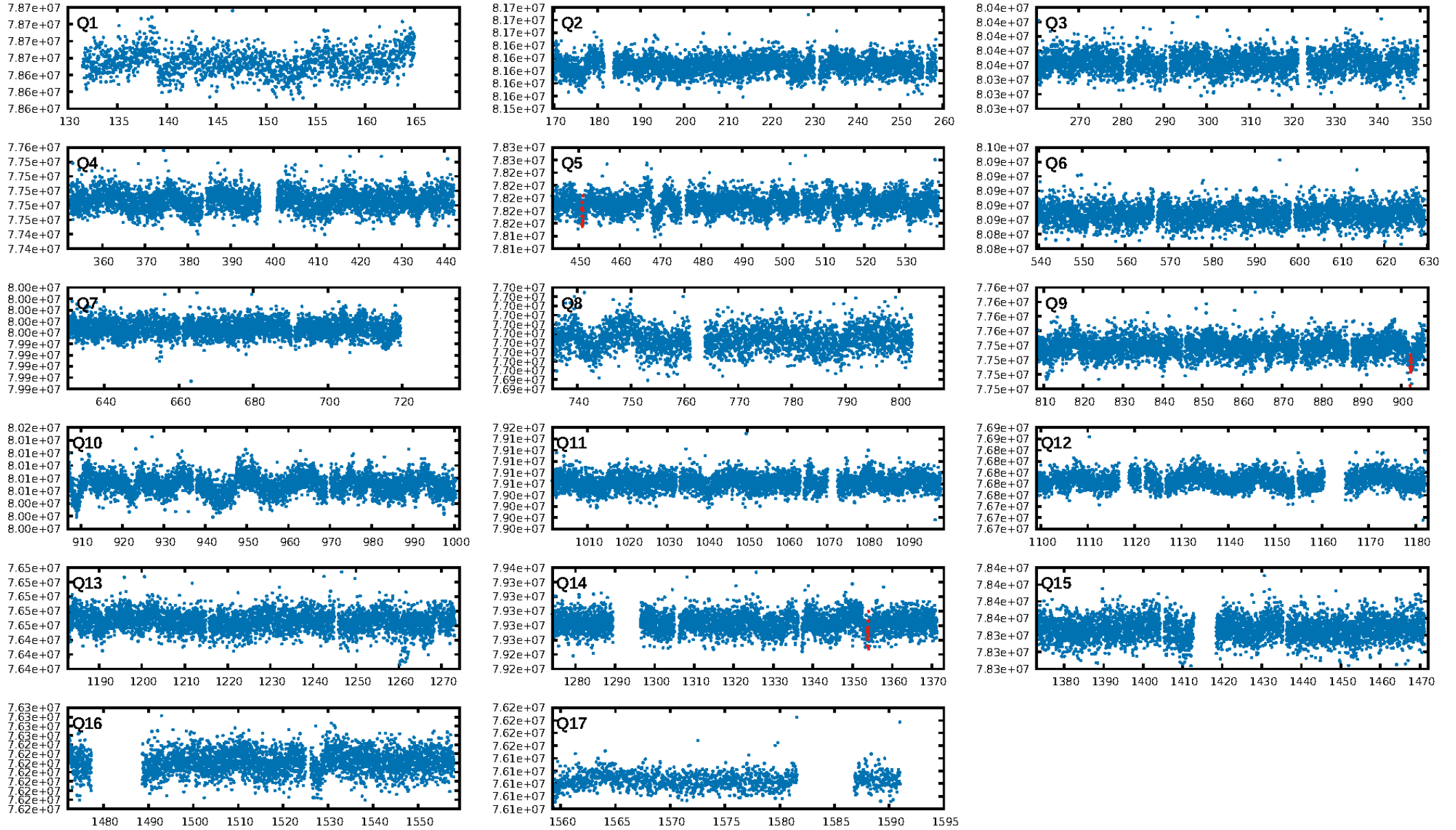
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1469.82 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.37e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -7.624
Centroid-sig: 59.1%
Centroid-so: 1.380 arcsec [0.65 σ]
OotOffset-rm: 8.996 arcsec [14.15 σ]
KicOffset-rm: 8.949 arcsec [14.05 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/3]

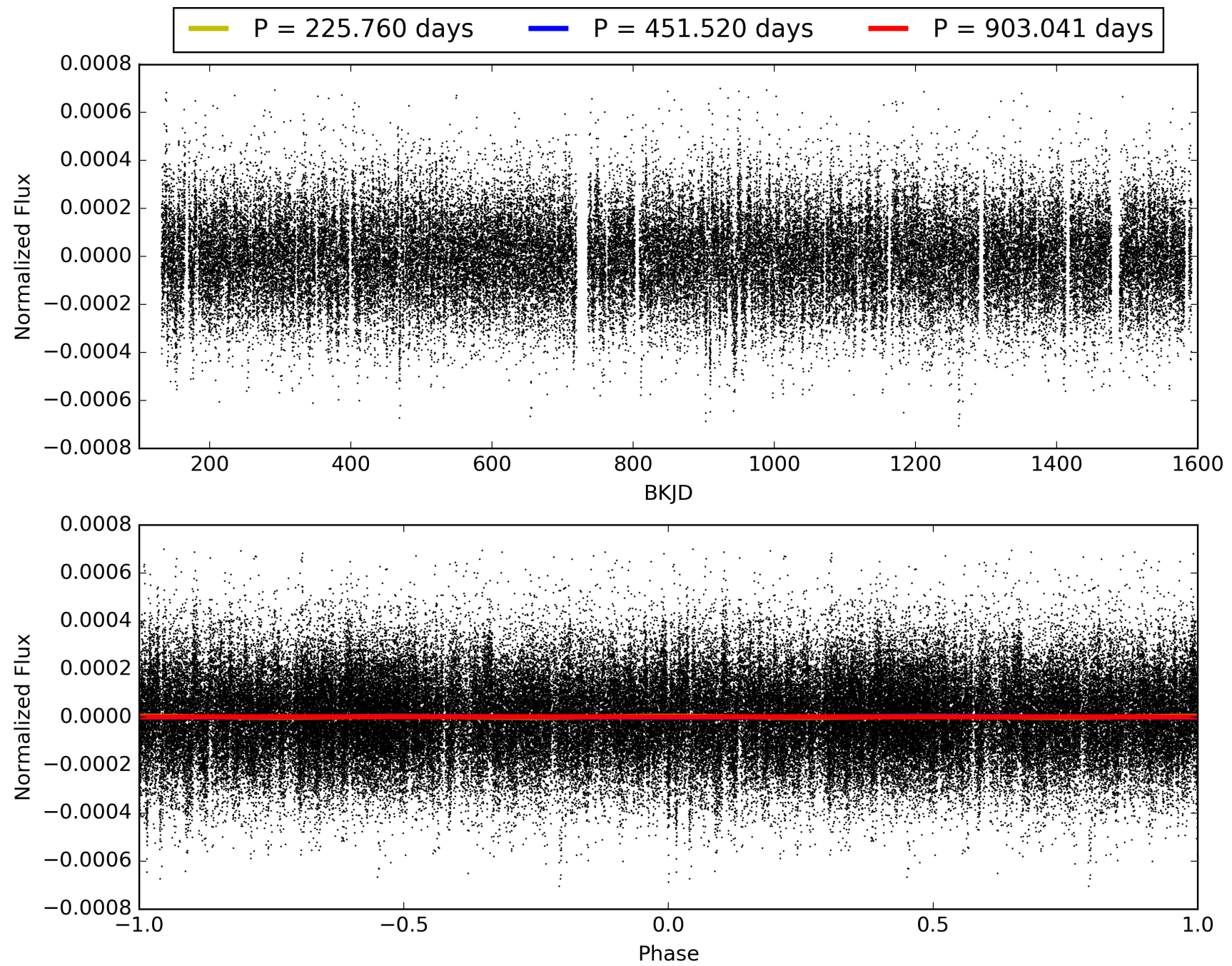
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:18:05 Z

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

TCE 006699023-05, PDC Light Curves

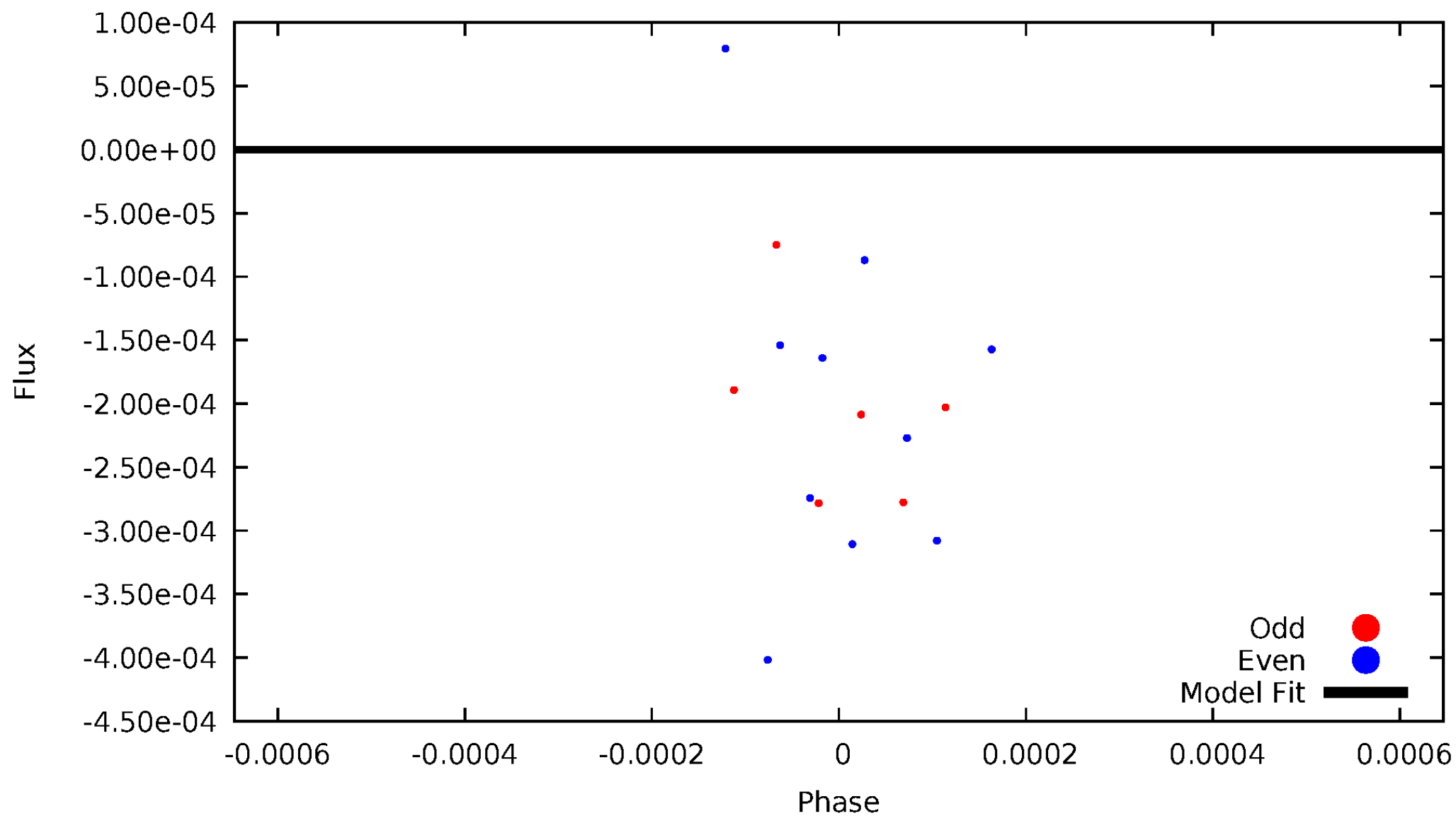


TCE 006699023-05



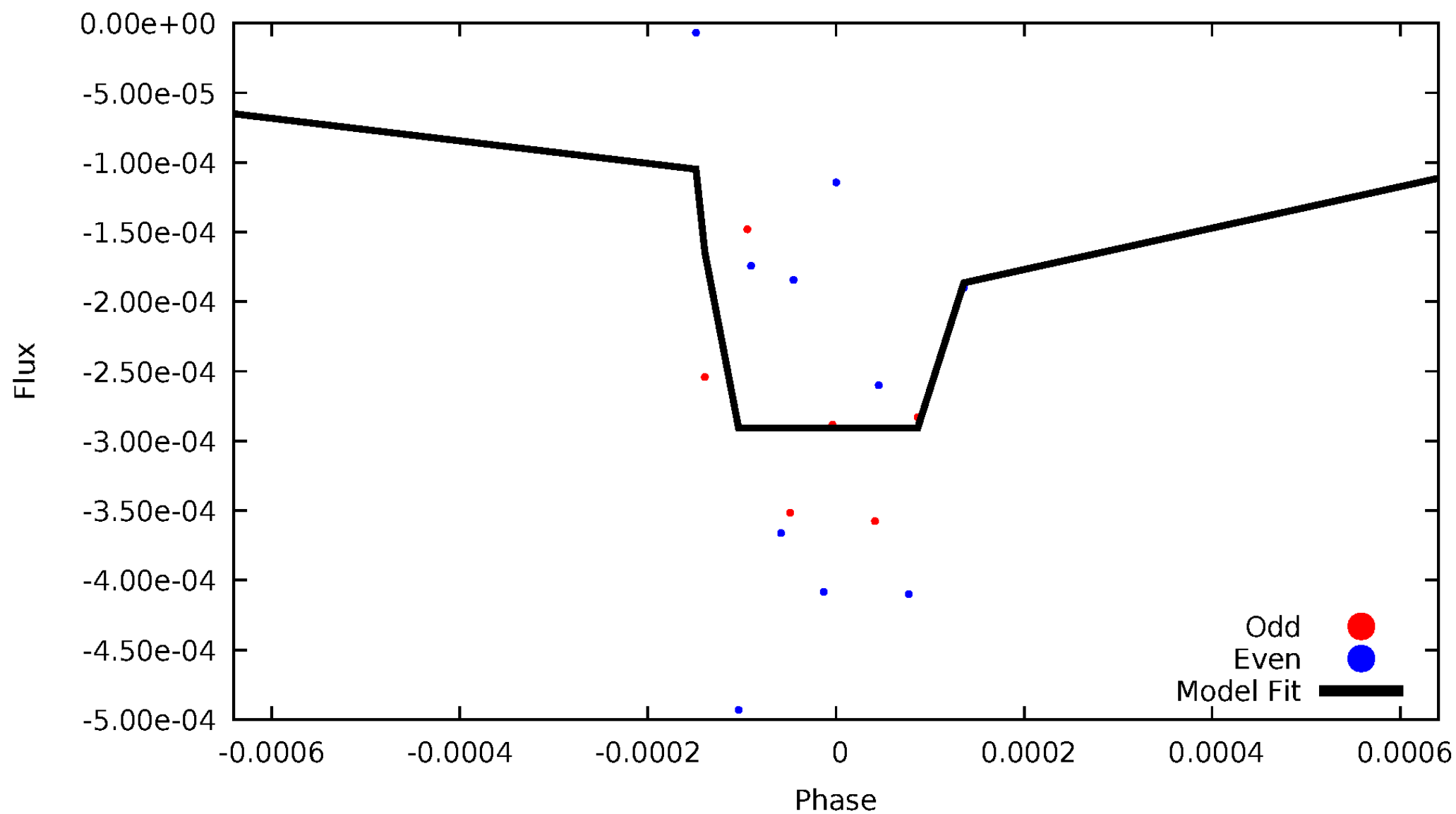
DV Odd/Even

TCE 006699023-05



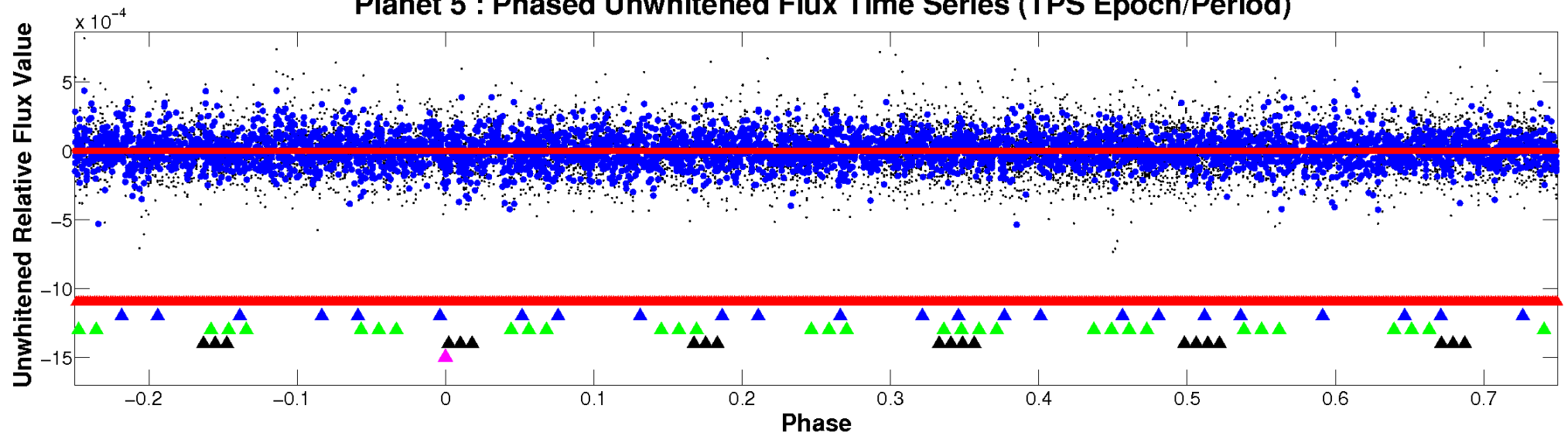
ALT Odd/Even

TCE 006699023-05

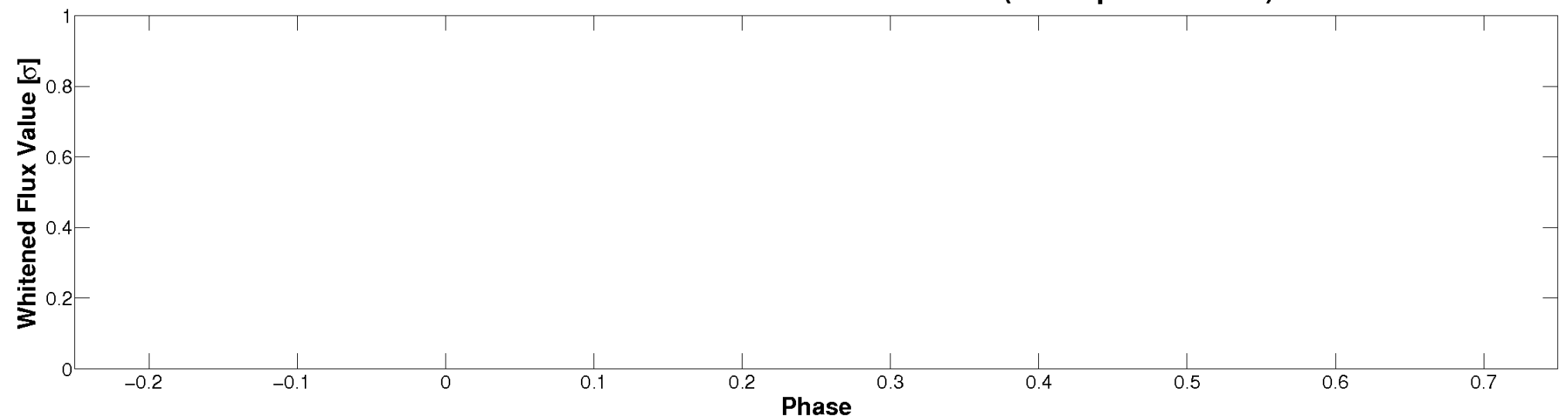


Non-Whitened Vs. Whitened Light Curve

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

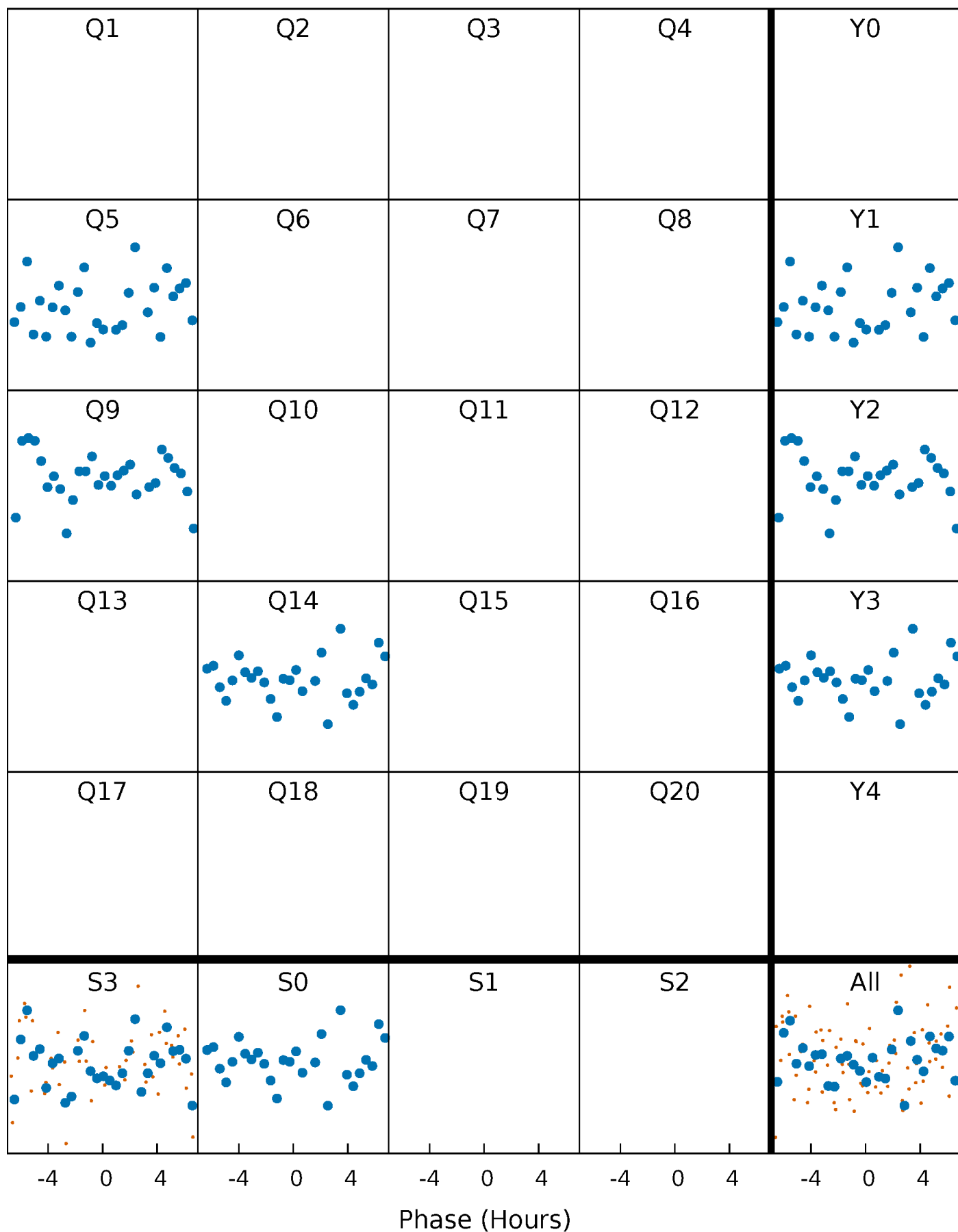


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



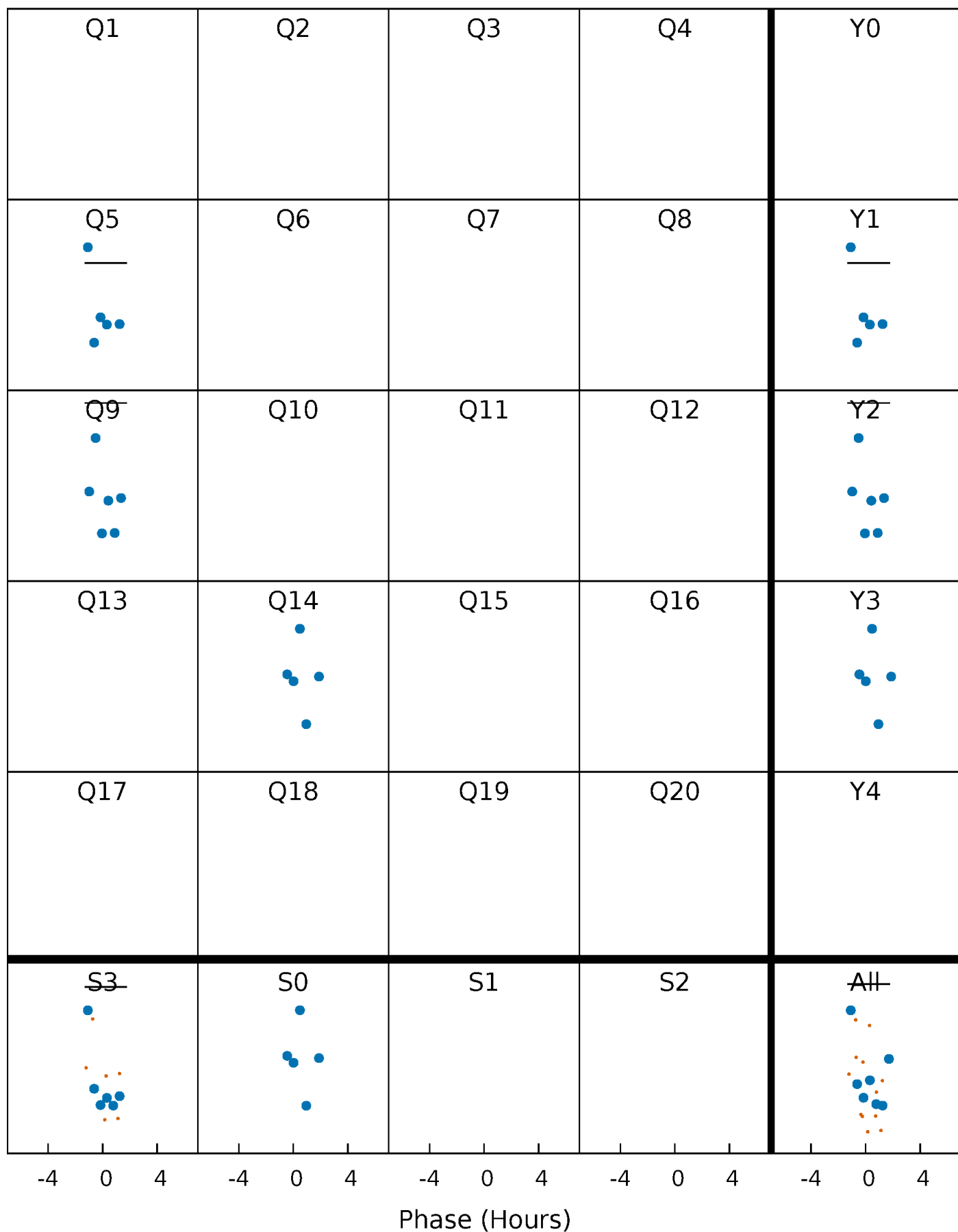
PDC Quarter-Phased Transit Curves

TCE 006699023-05 $P=451.520375$ Days $T_0=450.880725$ (BKJD)



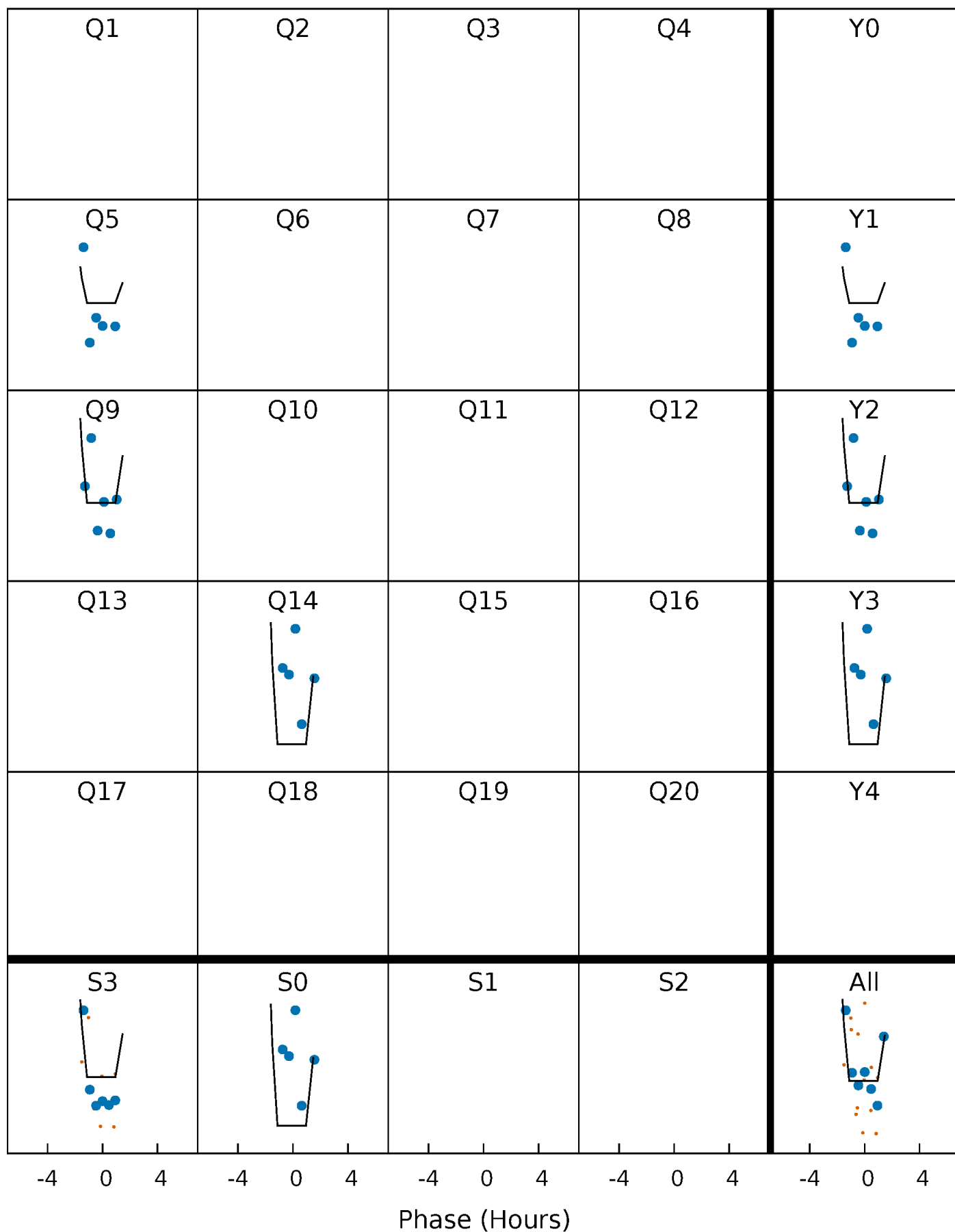
DV Quarter-Phased Transit Curves

TCE 006699023-05 $P=451.520375$ Days $T_0=450.880725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

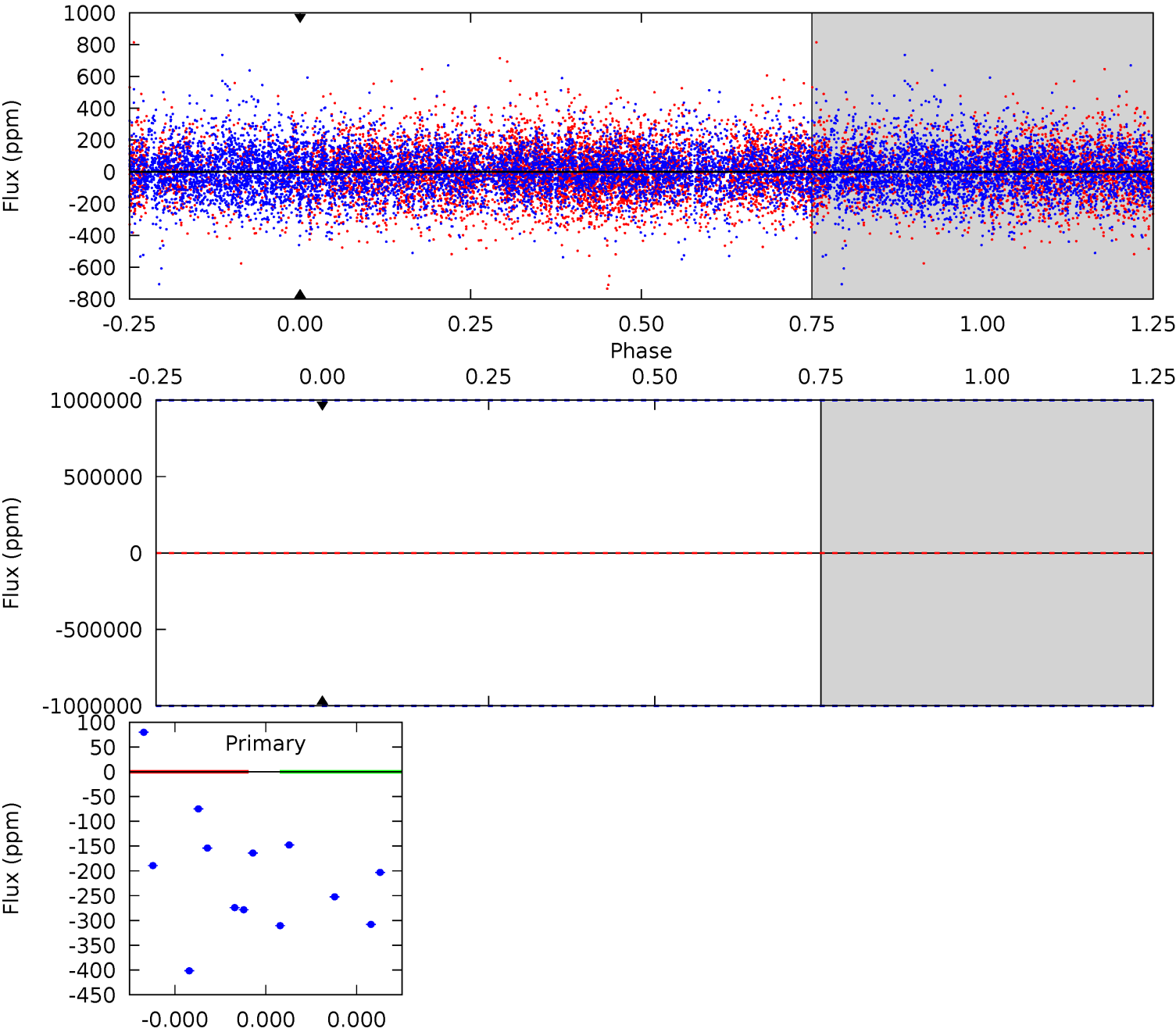
TCE 006699023-05 P=451.520375 Days $T_0=450.893155$ (BKJD)



DV Model-Shift Uniqueness Test

006699023-05, P = 451.520375 Days, E = 450.880725 Days

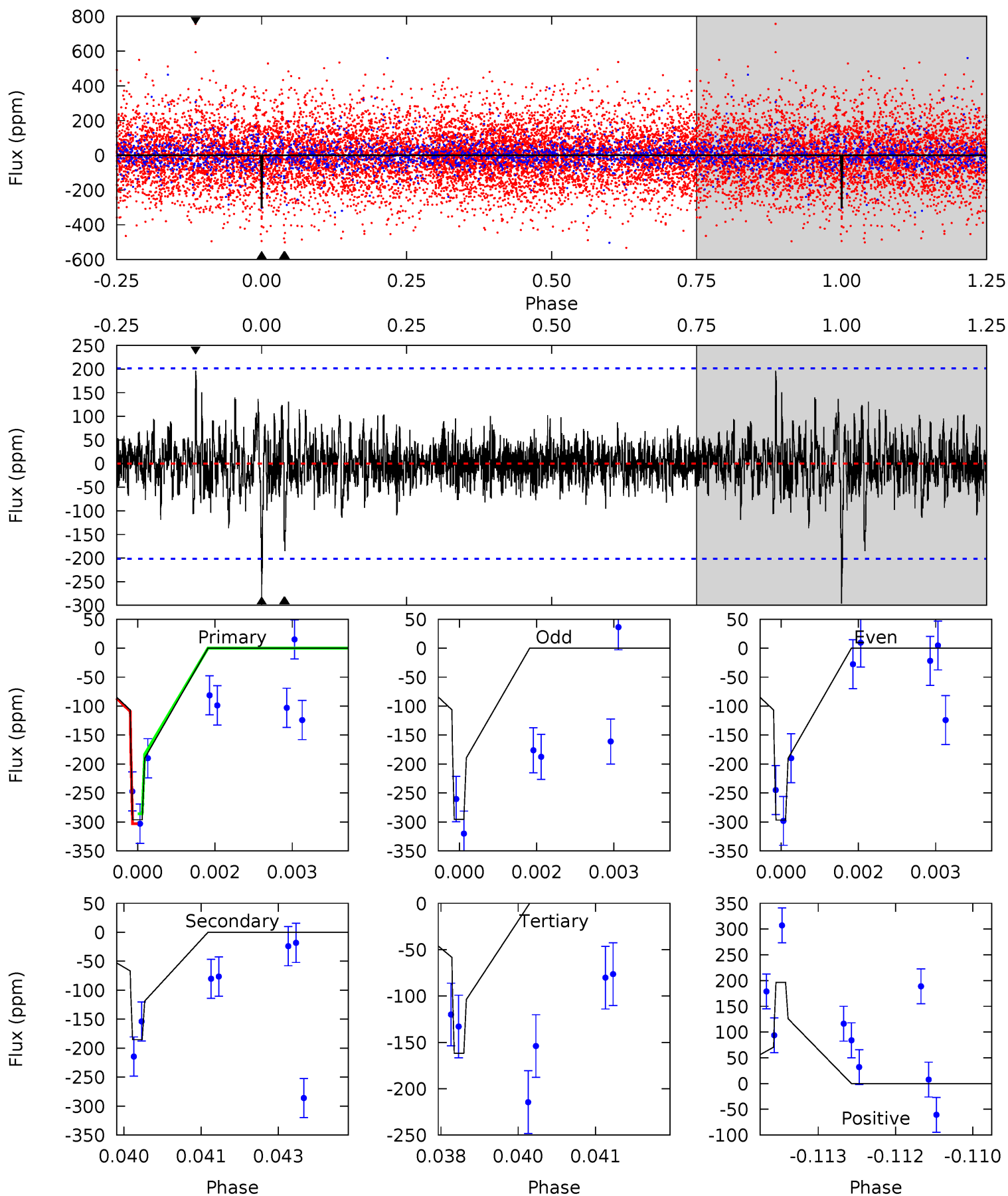
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006699023-05, P = 451.520375 Days, E = 450.893155 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.90	4.94	4.32	5.24	5.38	3.17	0.95	3.59	2.66	0.63	-0.30	0.02	1.01	0.40	0.23



Stellar Parameters For KIC 006699023

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6297^{+169}_{-206}	$4.314^{+0.128}_{-0.192}$	$-0.240^{+0.250}_{-0.300}$	$1.171^{+0.366}_{-0.197}$	$1.027^{+0.185}_{-0.108}$	$0.902^{+0.550}_{-0.464}$
	+3%/-3%	+3%/-4%	+104%/-125%	+31%/-17%	+18%/-11%	+61%/-51%
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 006699023-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$9.80^{+10.96}_{-6.87}$	390^{+28}_{-23}	-4800^{+32149}_{-19334}	$-12191.132^{+1570846.546}_{-1278364.632}$
Alt.	-185 ± 37	$9.70^{+9.33}_{-7.02}$	392^{+28}_{-24}	3280^{+1964}_{-595}	1495^{+19326}_{-1133}

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

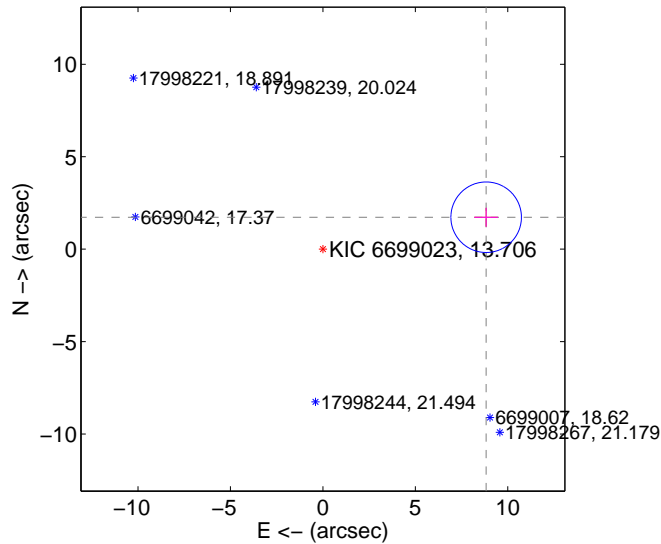
Supplemental centroid analysis for 006699023-05. Kepler magnitude: 13.71. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

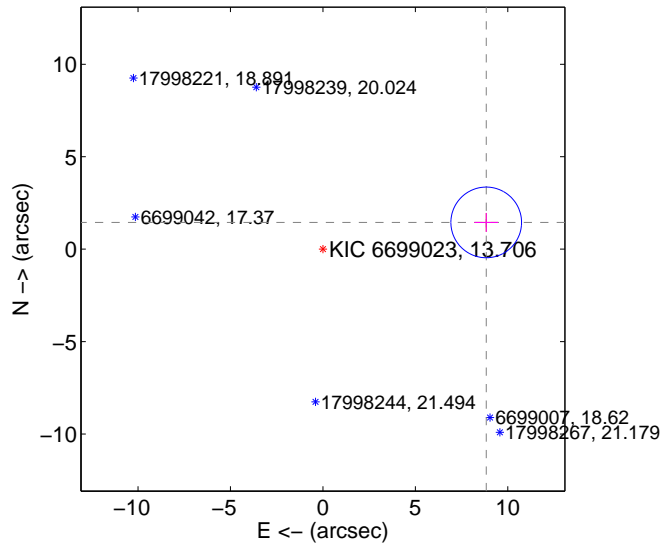
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.996 \pm 0.636	14.15	-8.829 \pm 0.640	1.727 \pm 0.512
PRF-fit source offset from KIC position	8.949 \pm 0.637	14.05	-8.831 \pm 0.640	1.447 \pm 0.512
photometric centroid source offset	1.38 \pm 2.11	0.65	-0.86 \pm 2.78	-1.08 \pm 1.55

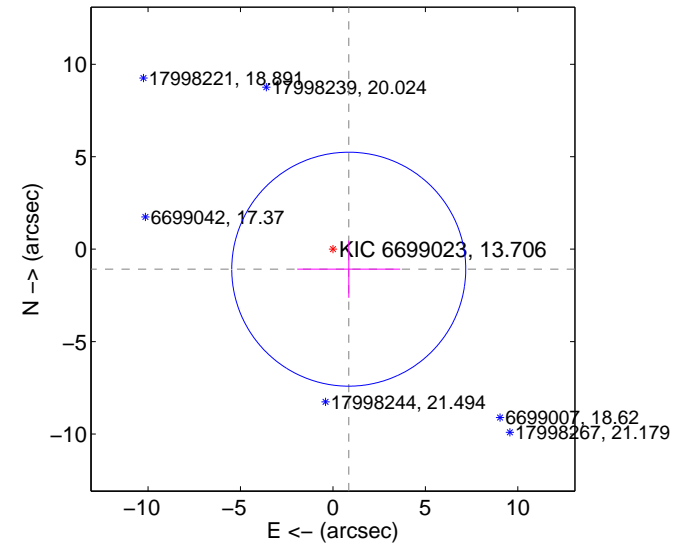
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

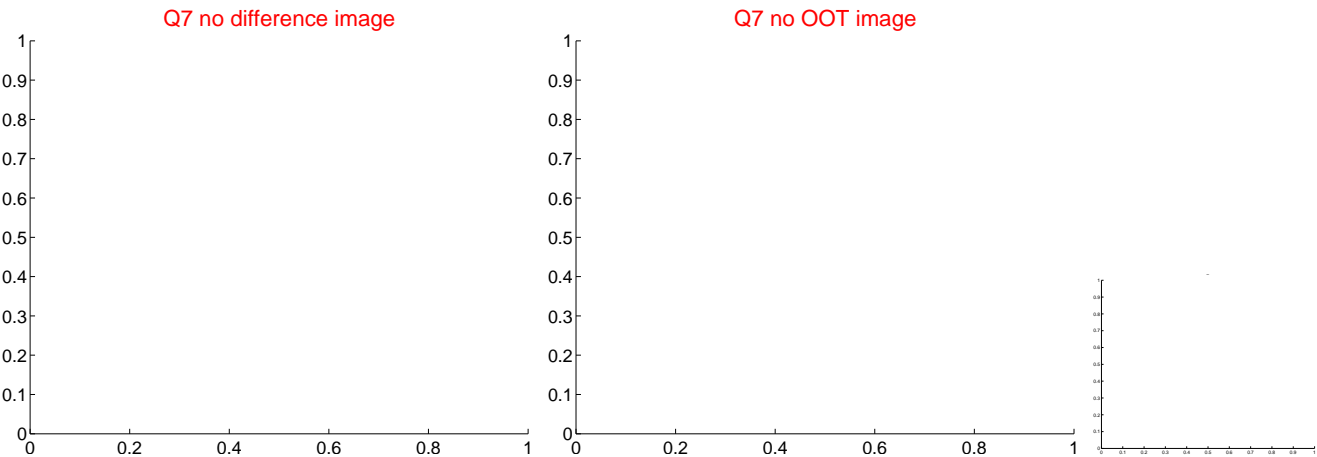
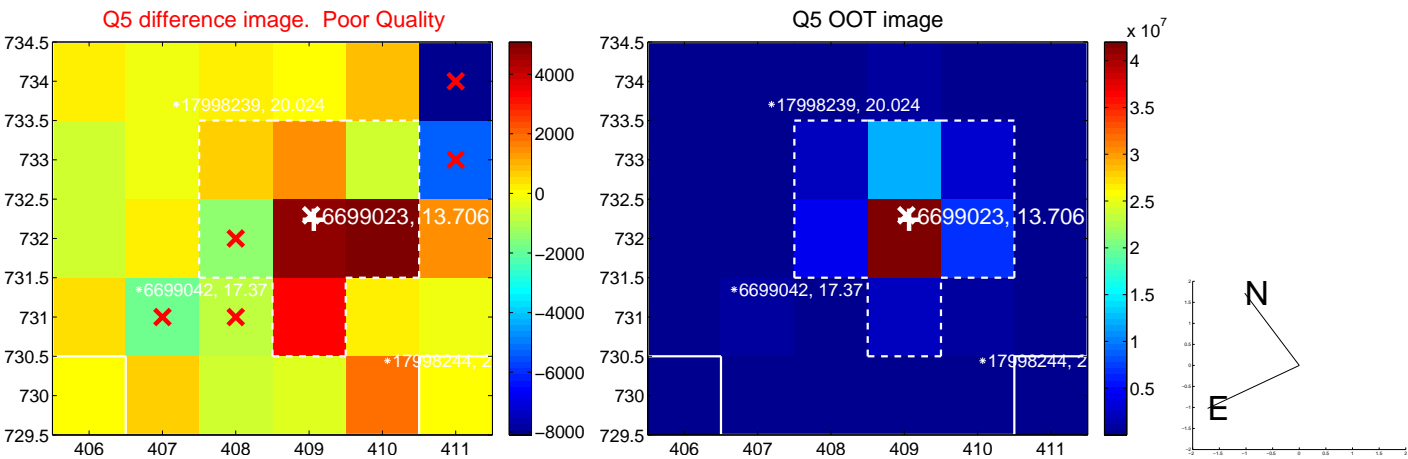


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

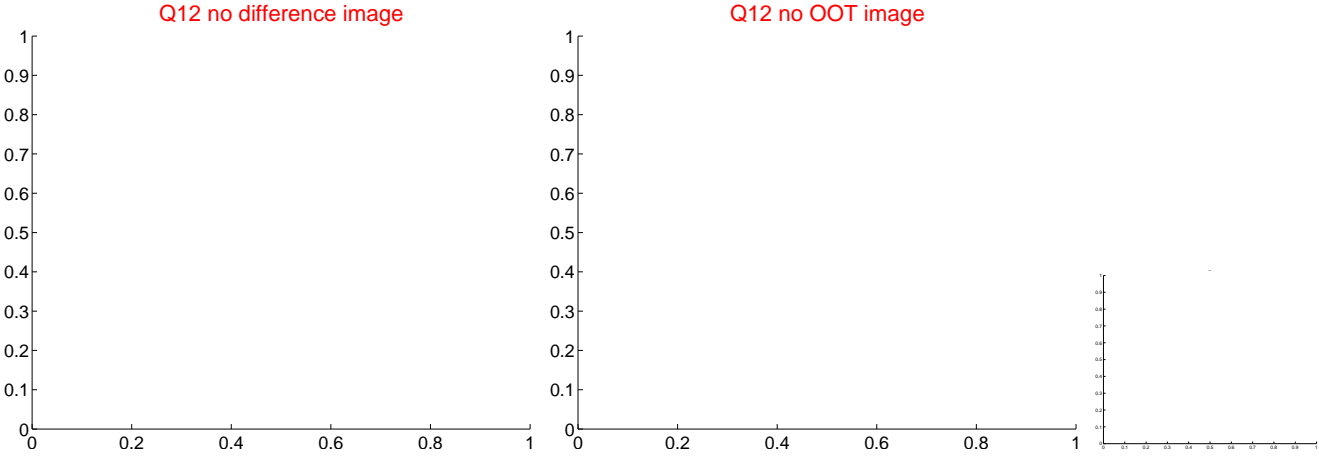
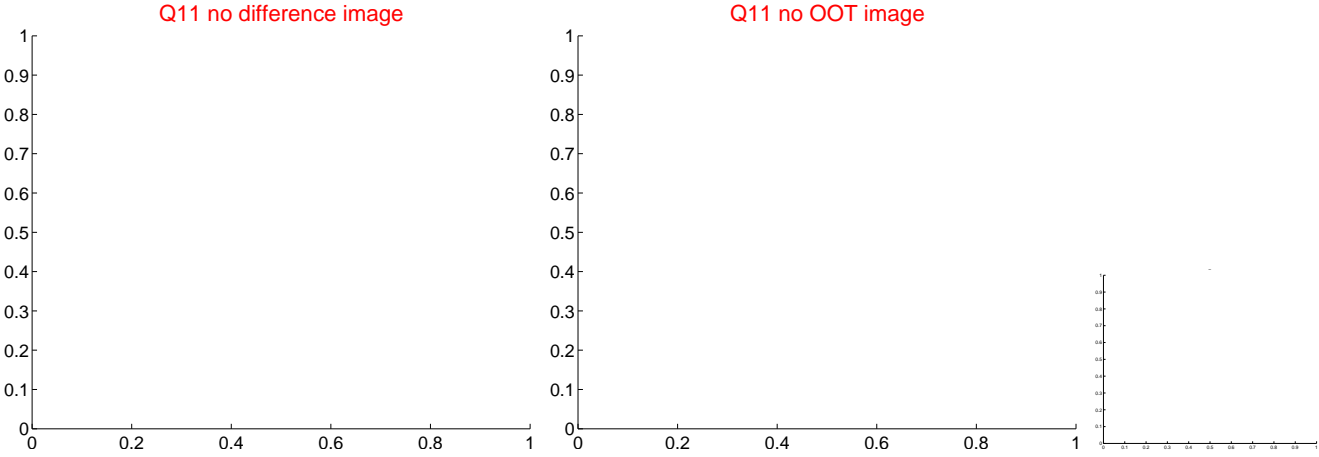
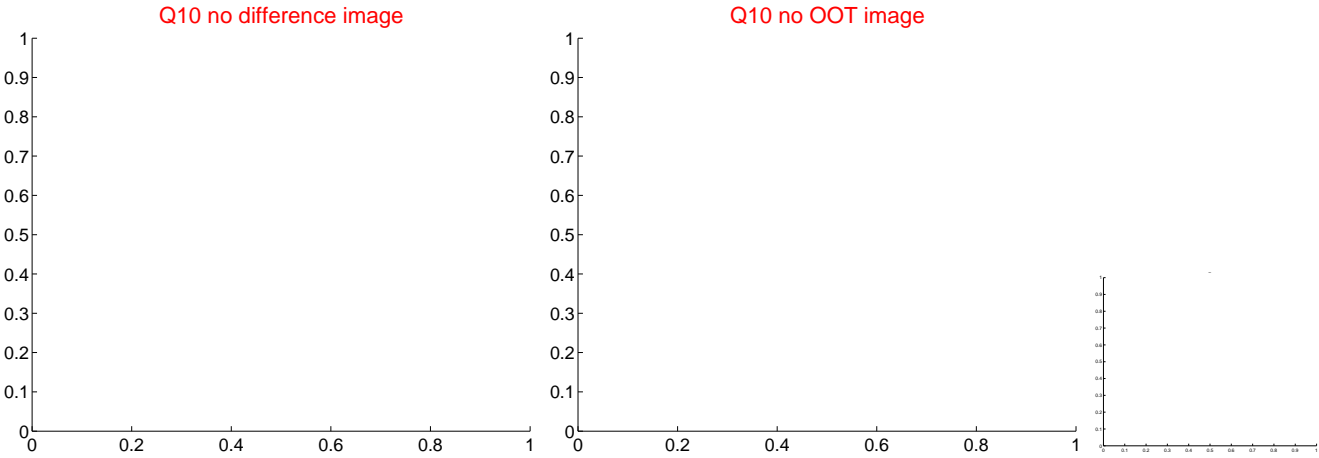
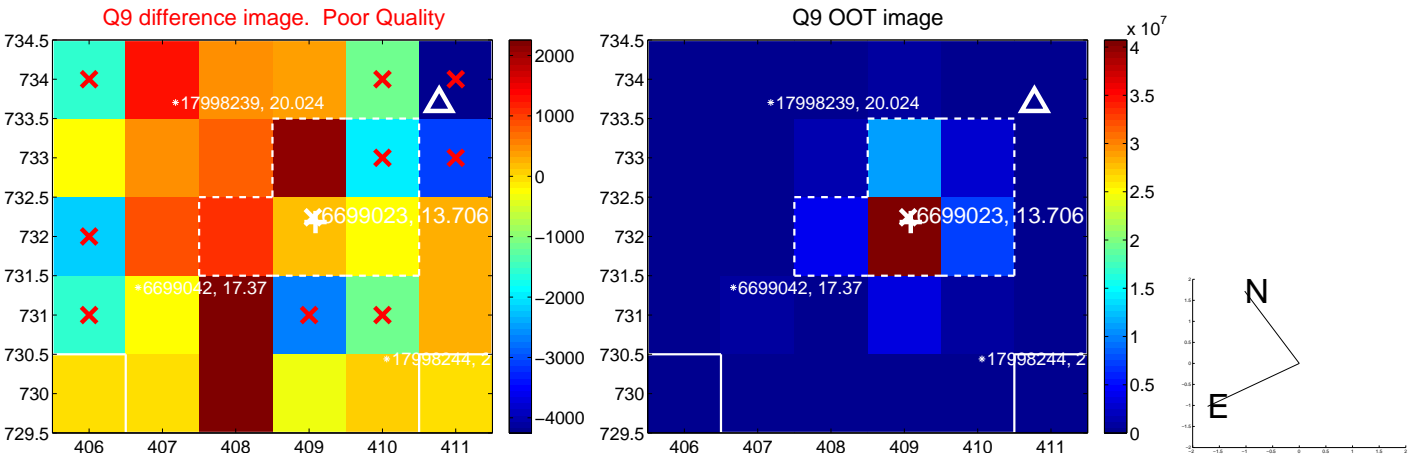
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



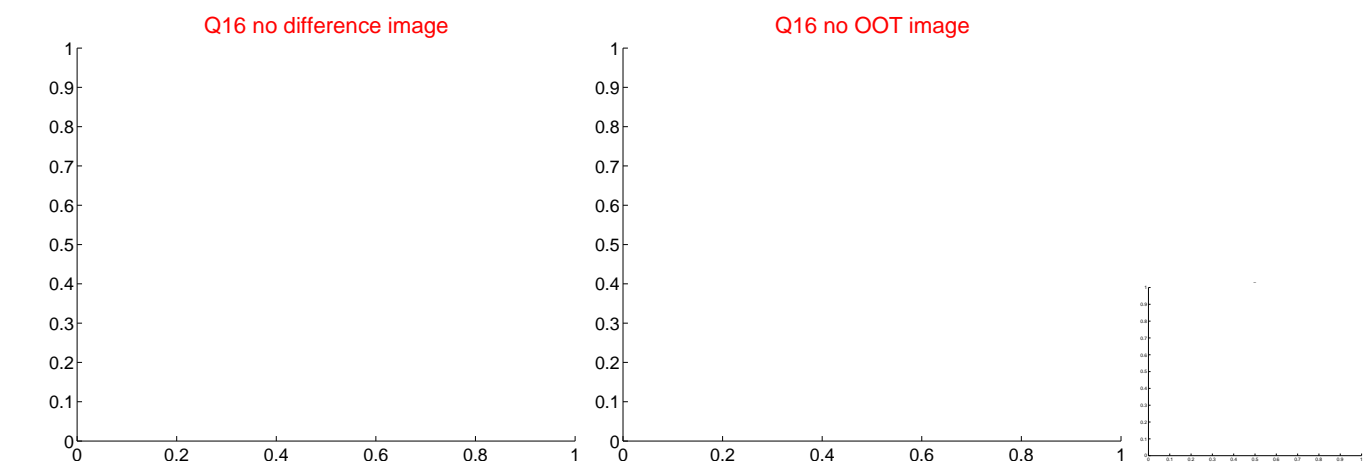
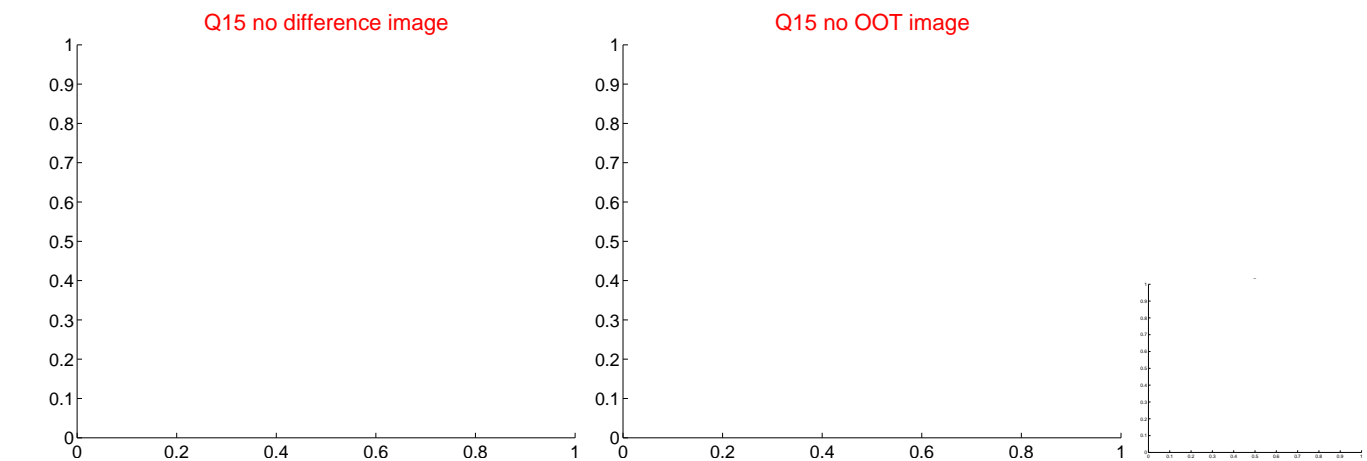
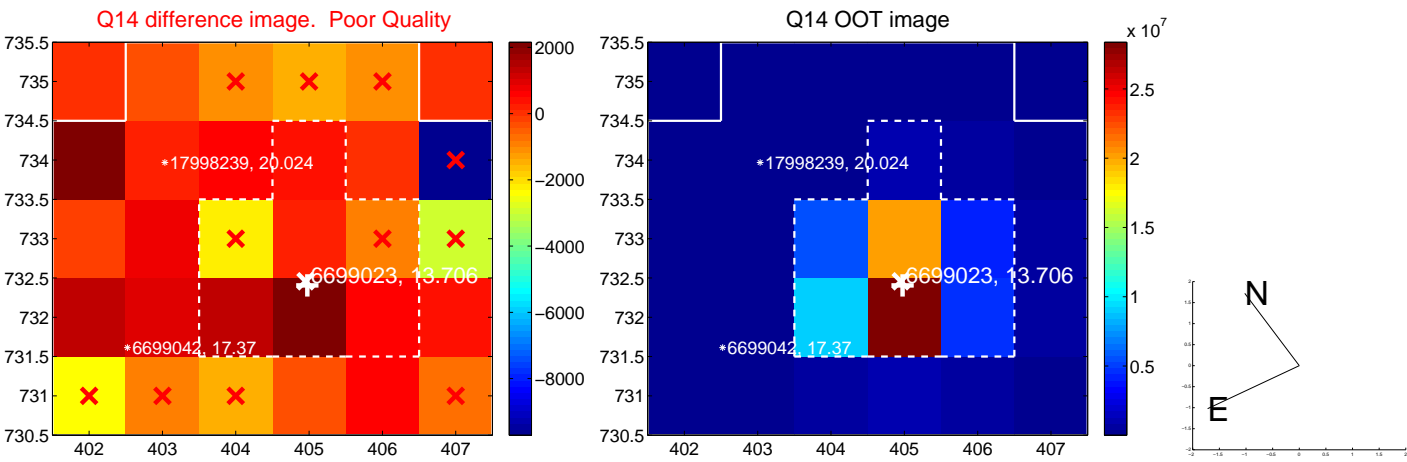
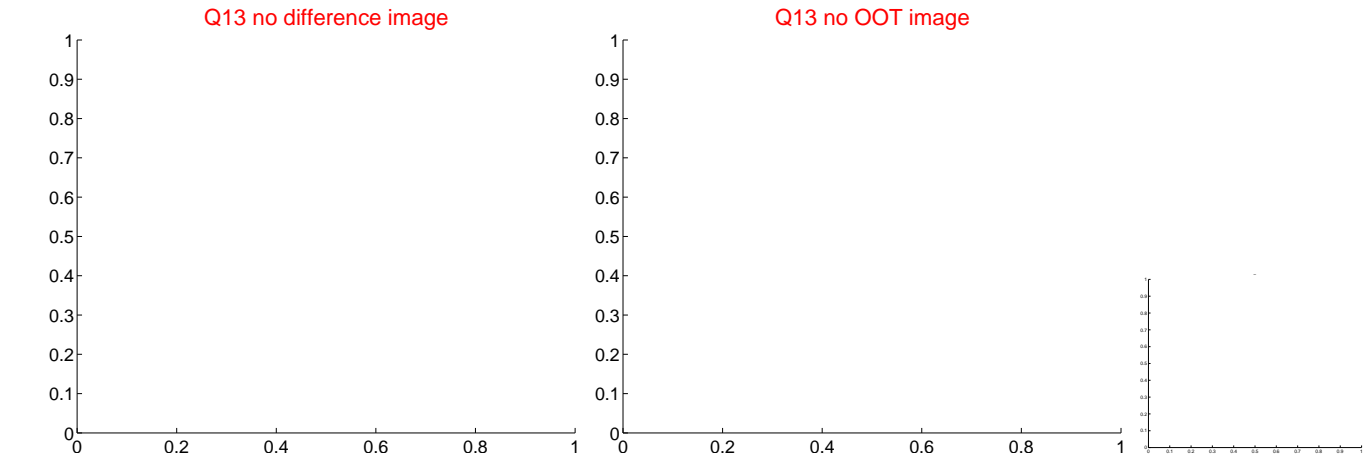
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



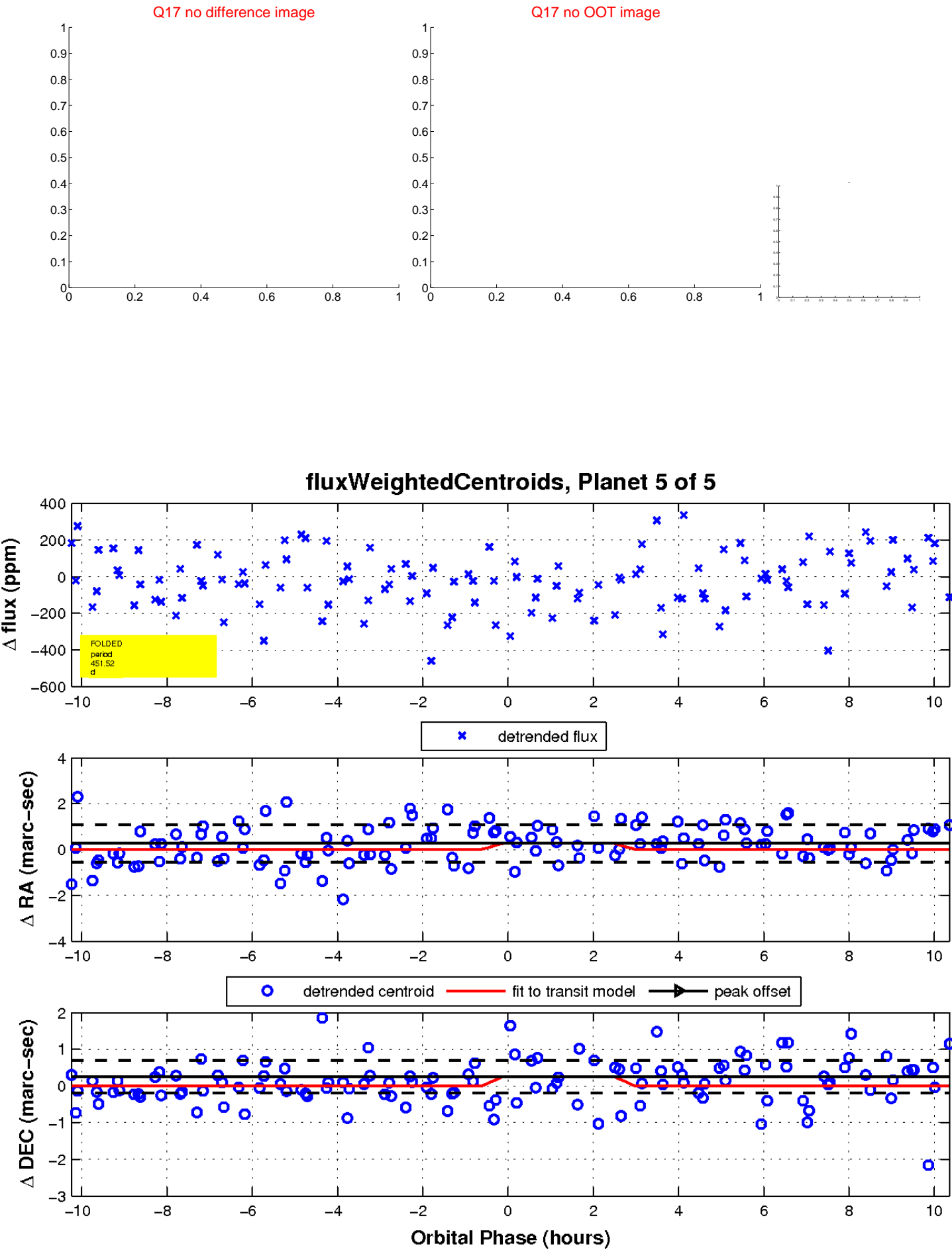
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

