

KIC 006114403

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})
006114403-01	OBS	No	2.909427	133.273383	48.5	17.461	7.6	6.4	0.95	5408	0.79	495.03
006114403-02	OBS	No	142.918326	233.798396	1157.2	22.382	18.4	11.2	0.95	5408	5.83	2.75
006114403-03	OBS	No	169.291592	241.390796	179.8	8.134	10.1	2.0	0.95	5408	1.51	2.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006114403-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
006114403-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006114403-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

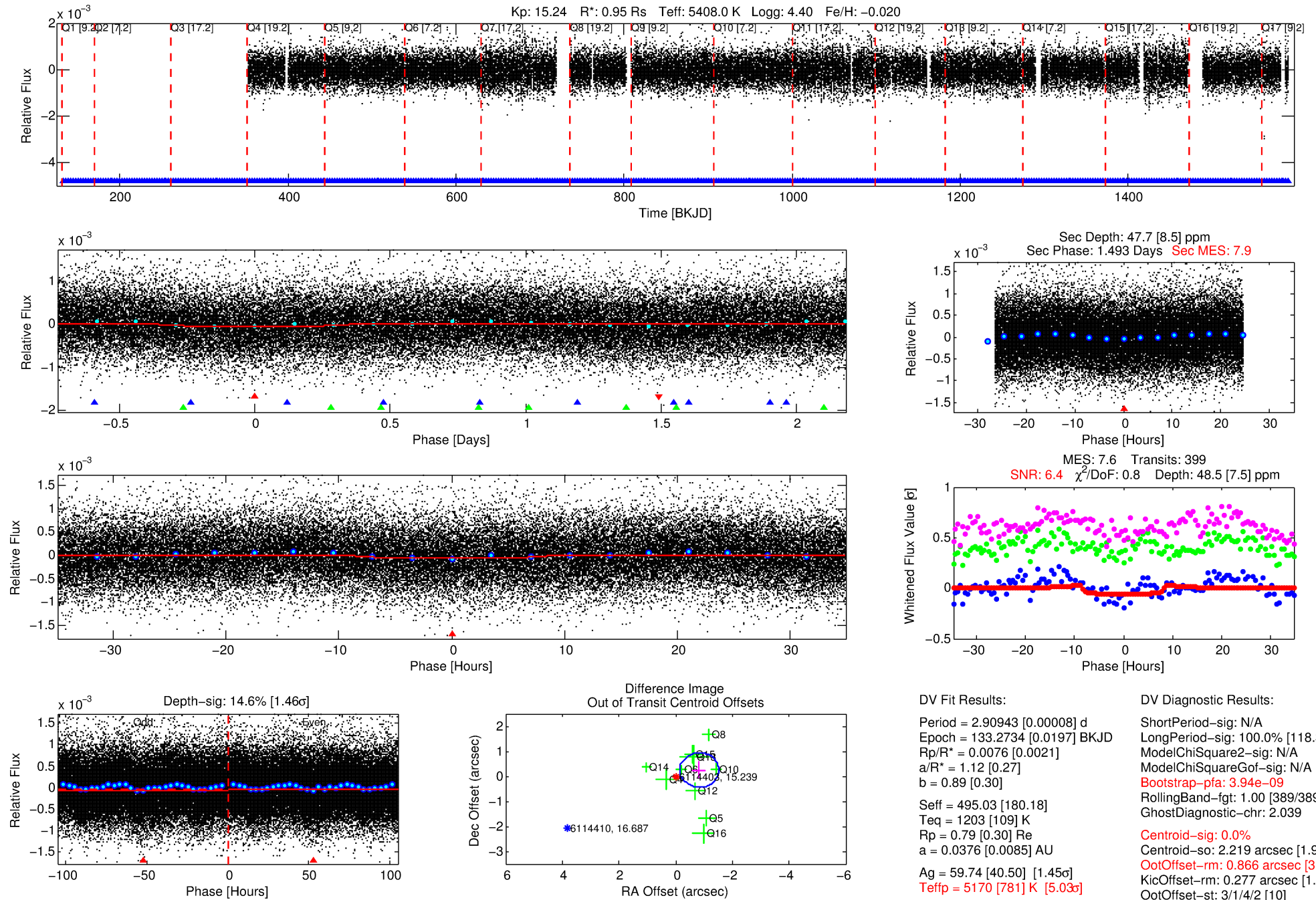
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006114403-01

No Significant Match Found

DV One-Page Summary

KIC: 6114403 Candidate: 1 of 3 Period: 2.909 d



DV Fit Results:

Period = 2.90943 [0.00008] d
Epoch = 133.2734 [0.0197] BKJD
Rp/R* = 0.0076 [0.0021]
a/R* = 1.12 [0.27]
b = 0.89 [0.30]
Seff = 495.03 [180.18]
Teq = 1203 [109] K
Rp = 0.79 [0.30] Re
a = 0.0376 [0.0085] AU
Ag = 59.74 [40.50] [1.45 σ]
Teffp = 5170 [781] K [5.03 σ]

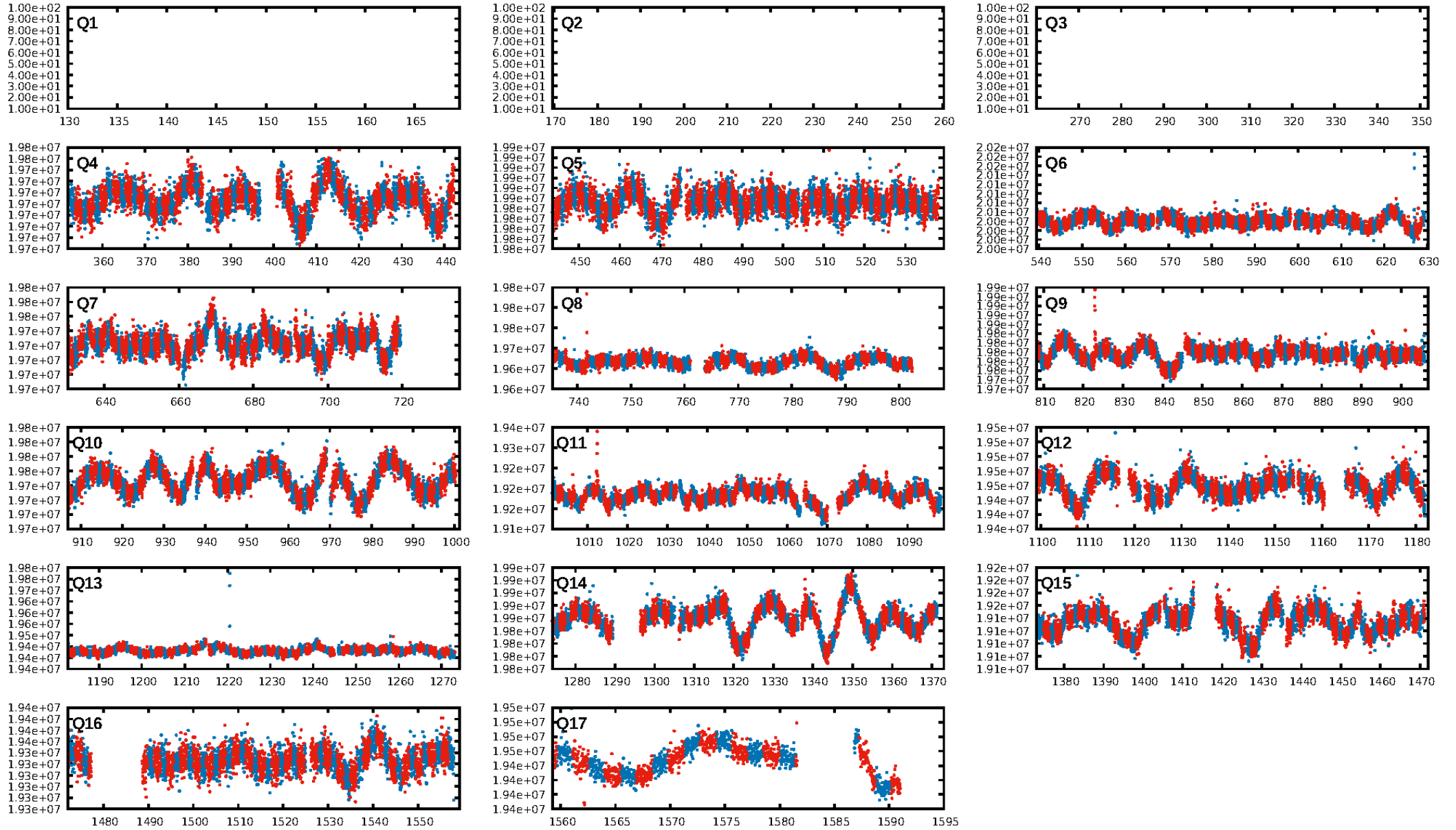
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [118.37 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.94e-09
RollingBand-fgt: 1.00 [389/389]
GhostDiagnostic-chr: 2.039
Centroid-sig: 0.0%
Centroid-so: 2.219 arcsec [1.93 σ]
OotOffset-rm: 0.866 arcsec [3.78 σ]
KicOffset-rm: 0.277 arcsec [1.15 σ]
OotOffset-st: 3/1/4/2 [10]
KicOffset-st: 3/1/4/2 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [14/14]

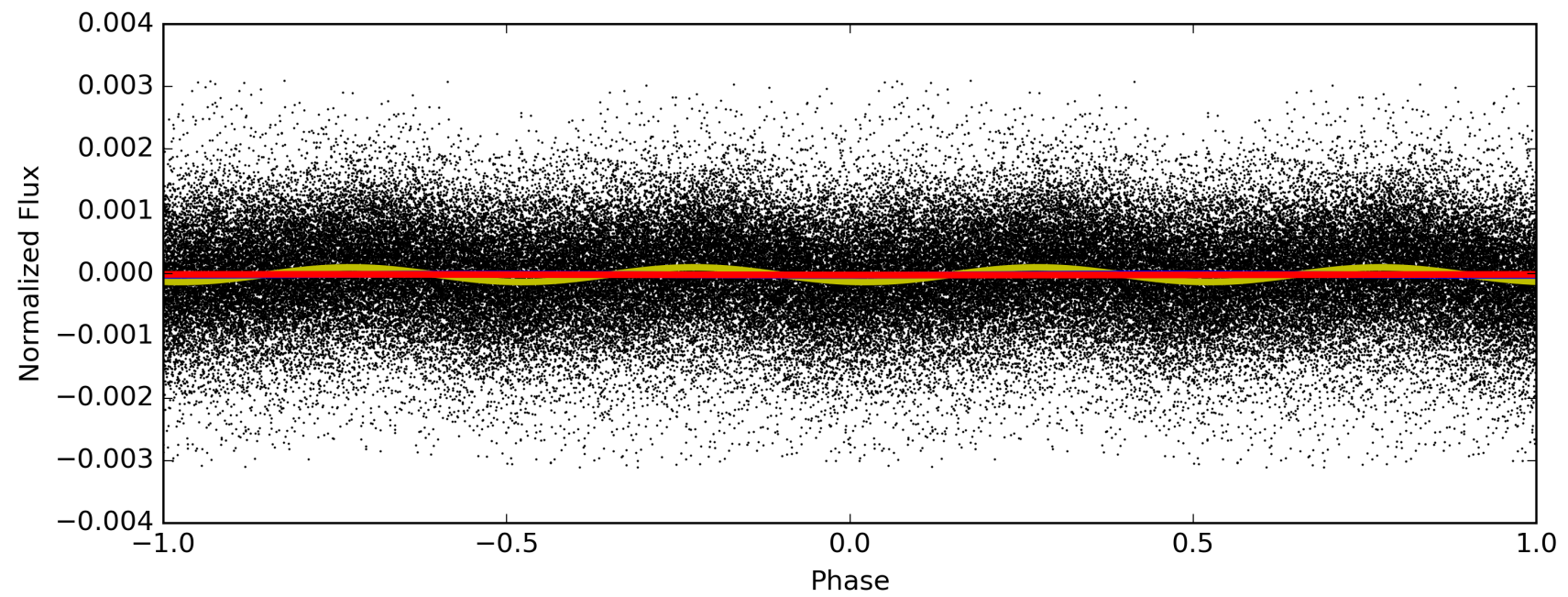
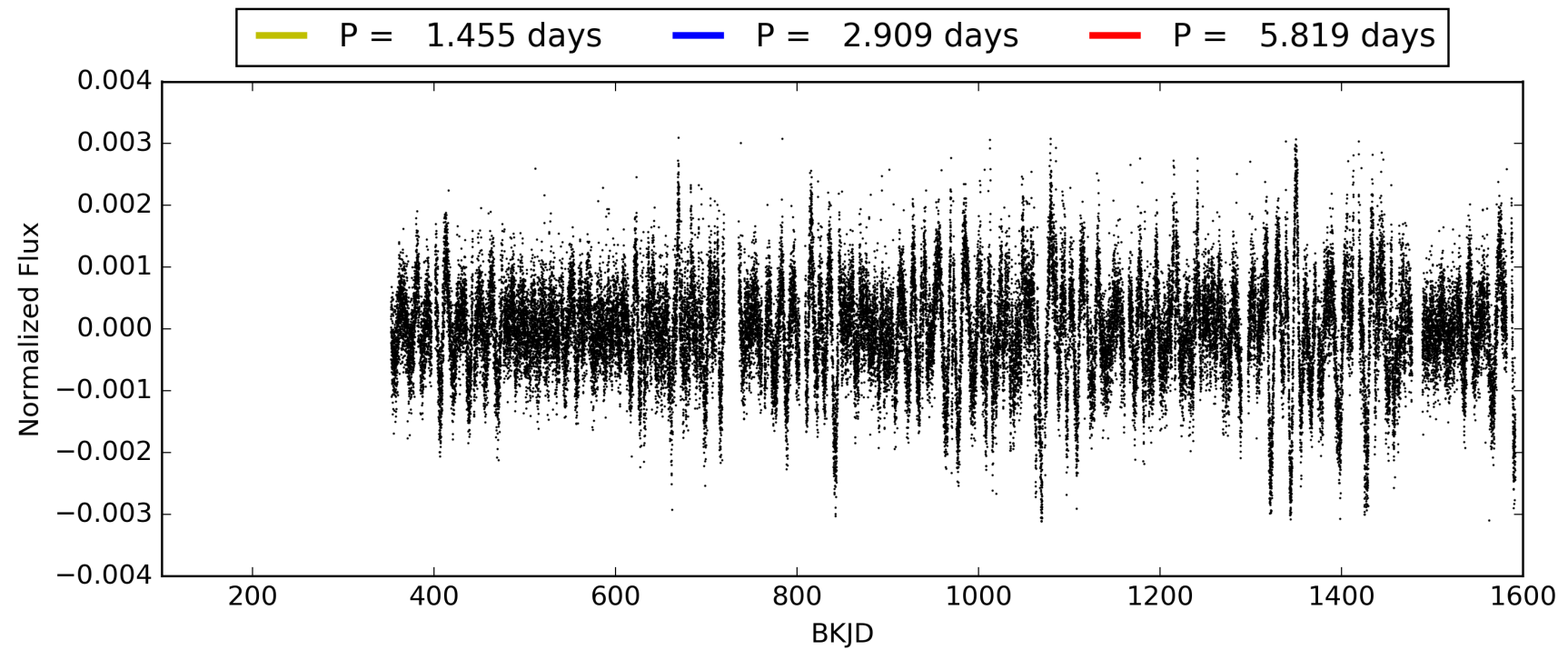
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:11:20 Z

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

TCE 006114403-01, PDC Light Curves

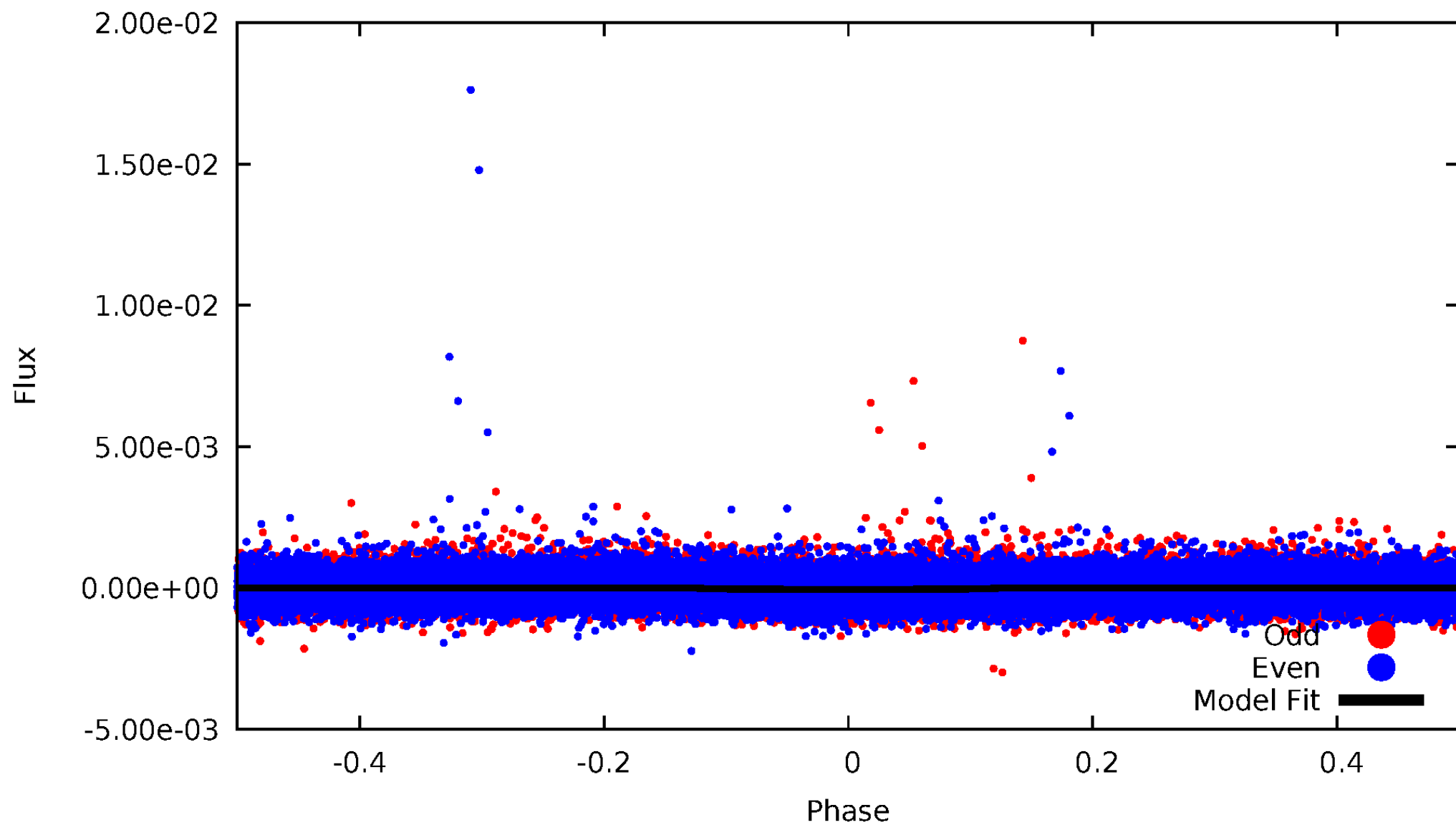


TCE 006114403-01



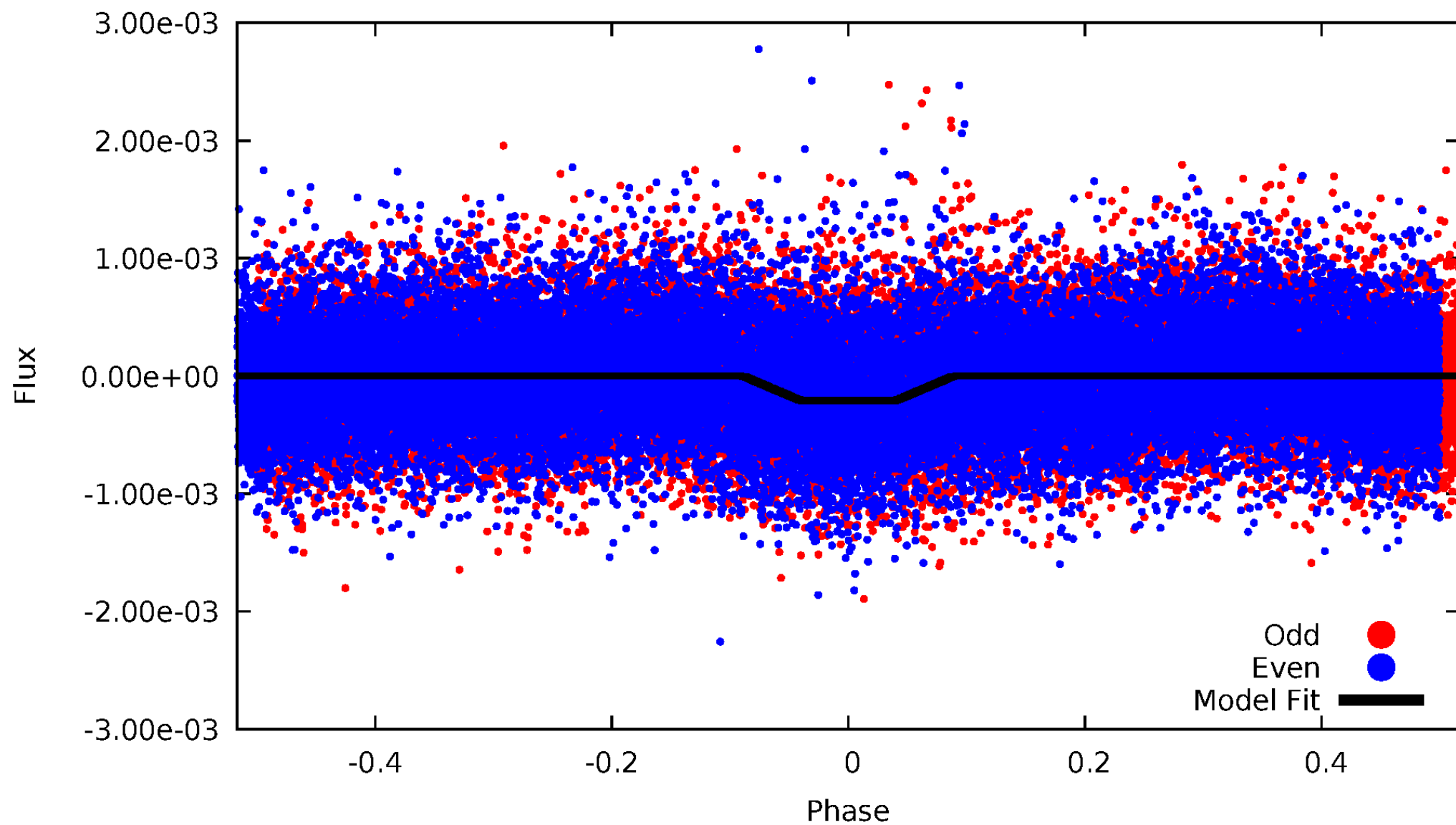
DV Odd/Even

TCE 006114403-01



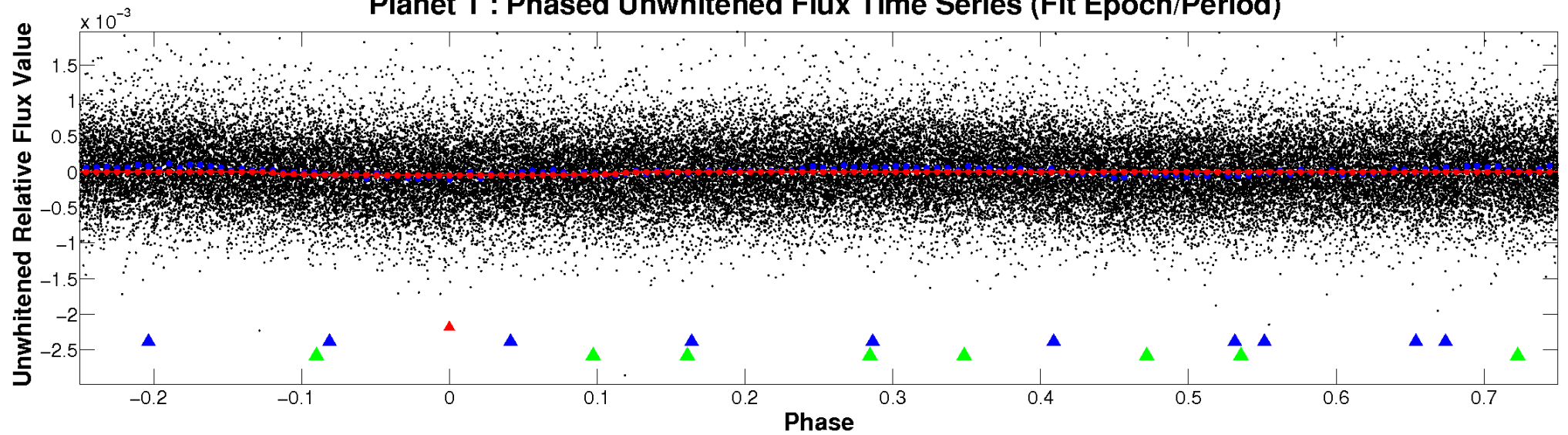
ALT Odd/Even

TCE 006114403-01

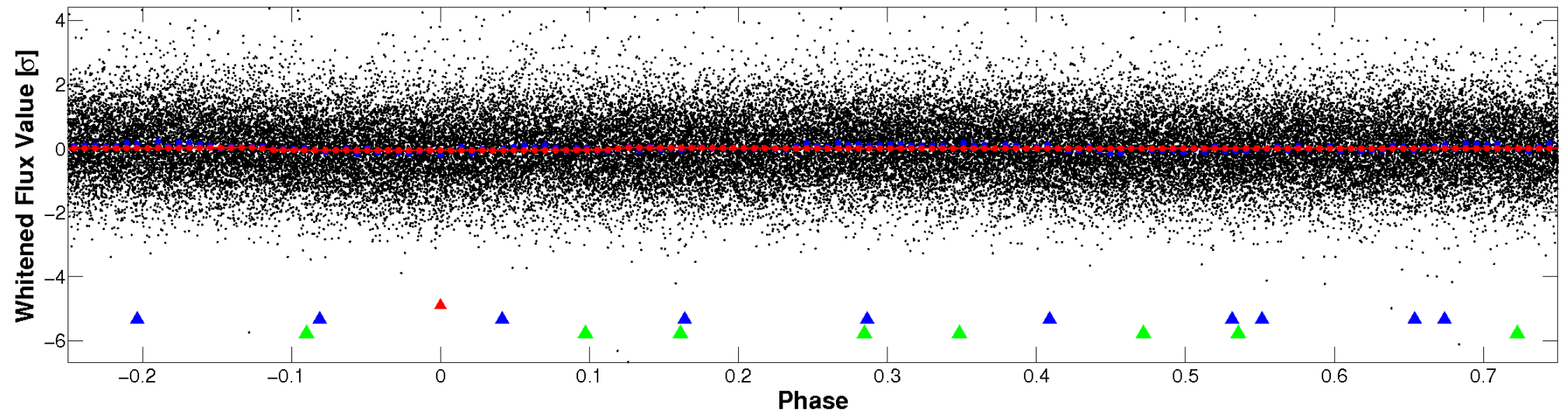


Non-Whitened Vs. Whitened Light Curve

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

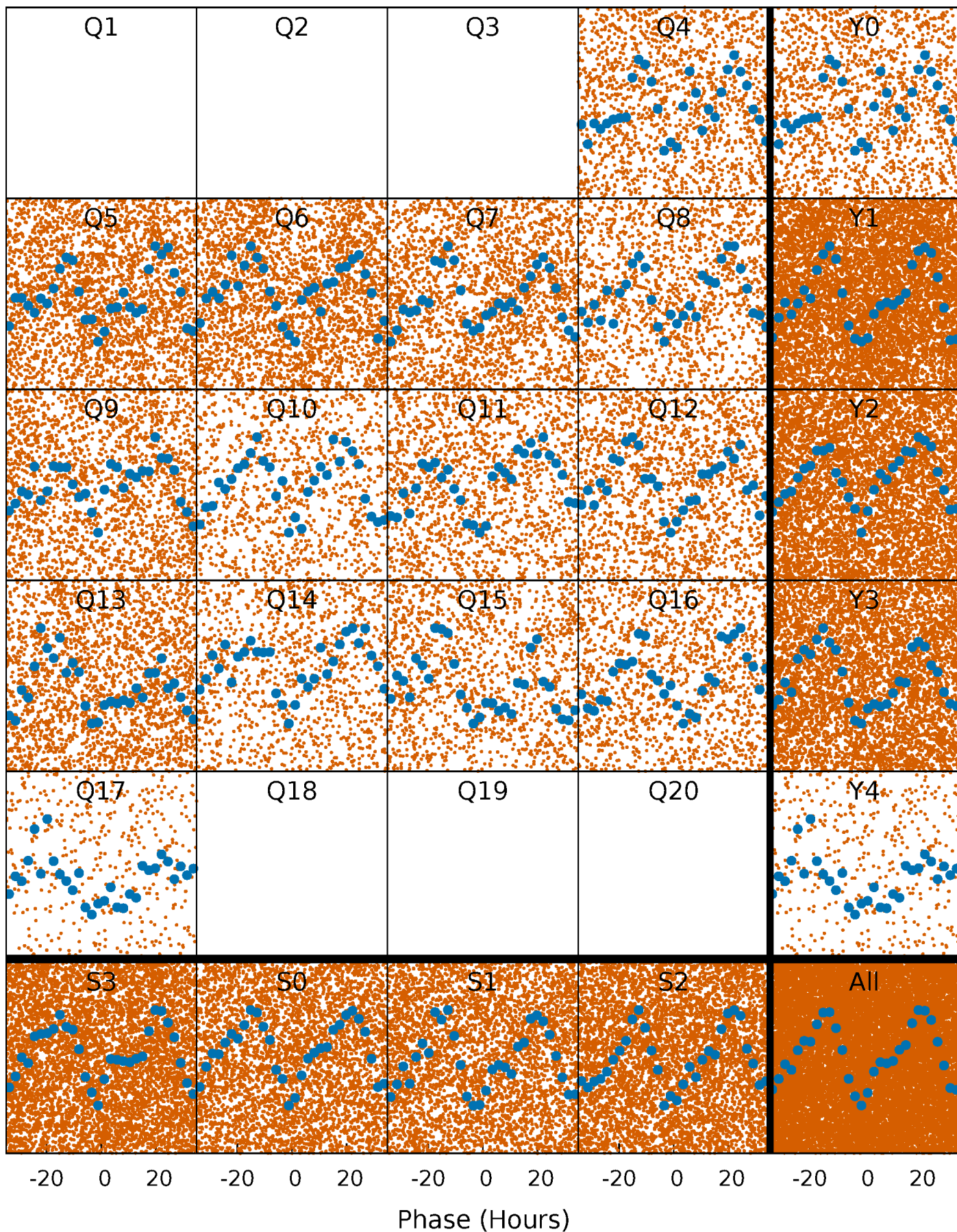


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



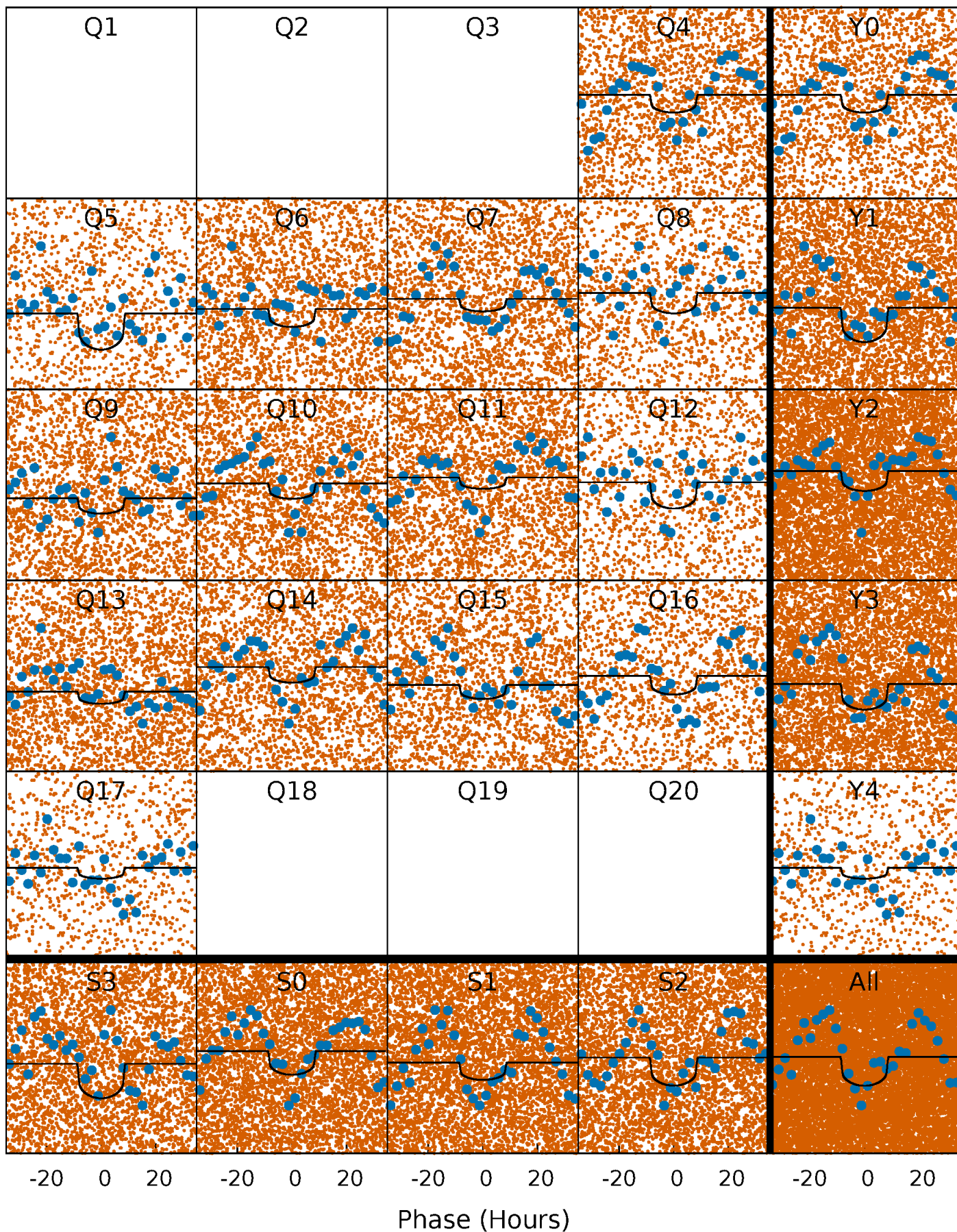
PDC Quarter-Phased Transit Curves

TCE 006114403-01 P= 2.909427 Days $T_0=133.273383$ (BKJD)



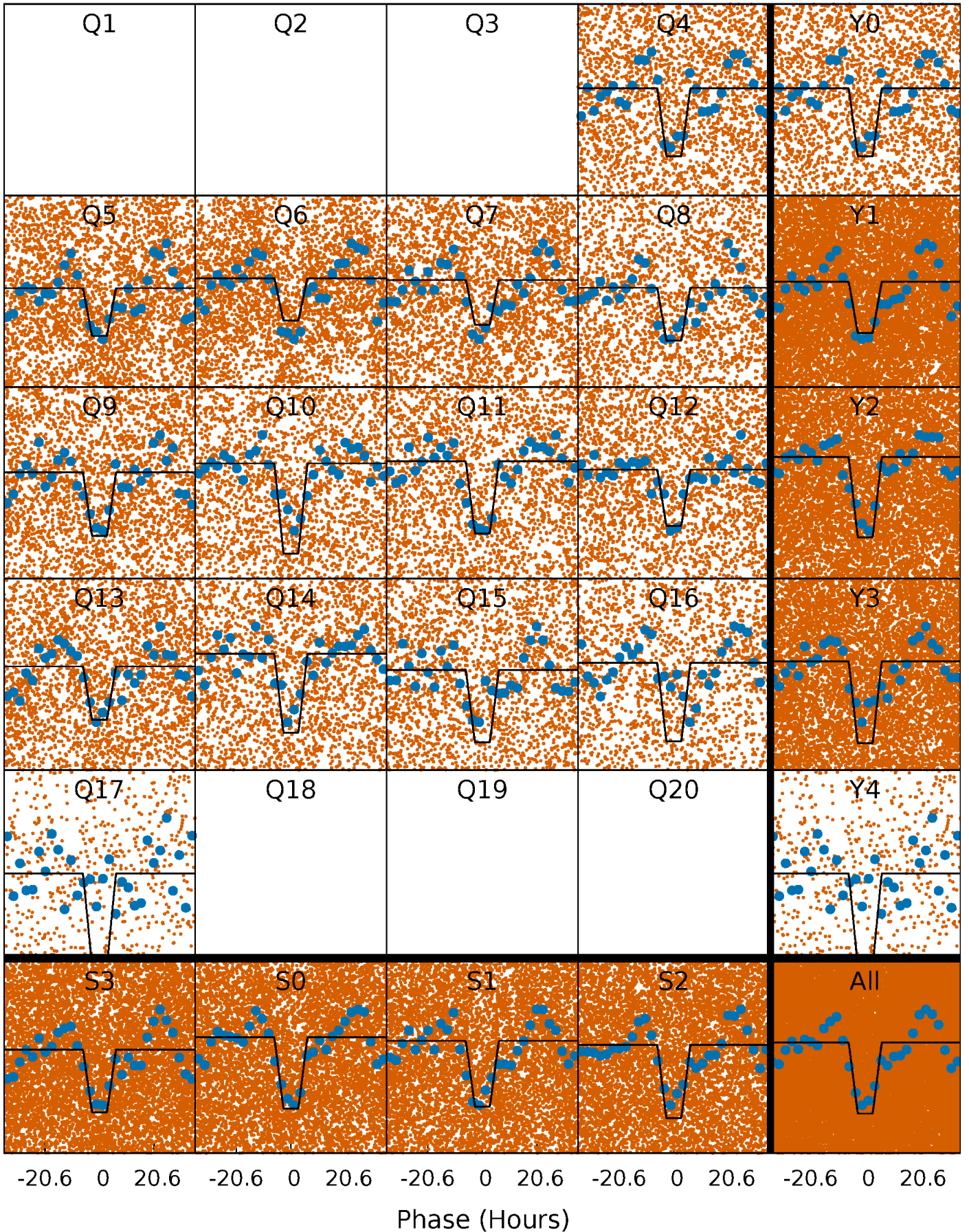
DV Quarter-Phased Transit Curves

TCE 006114403-01 P= 2.909427 Days $T_0=133.273383$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

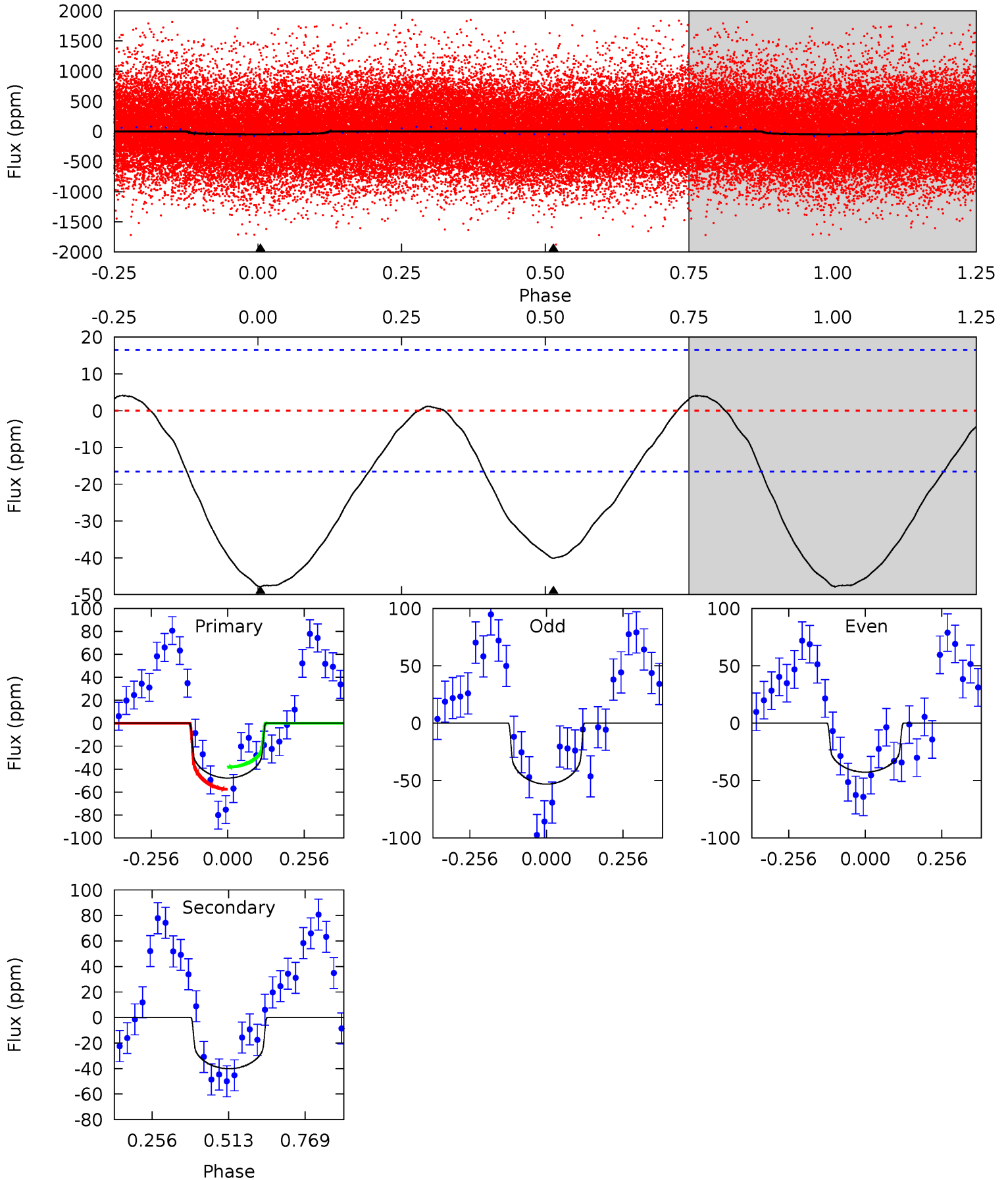
TCE 006114403-01 P= 2.909412 Days $T_0=133.219579$ (BKJD)



DV Model-Shift Uniqueness Test

006114403-01, P = 2.909427 Days, E = 133.273383 Days

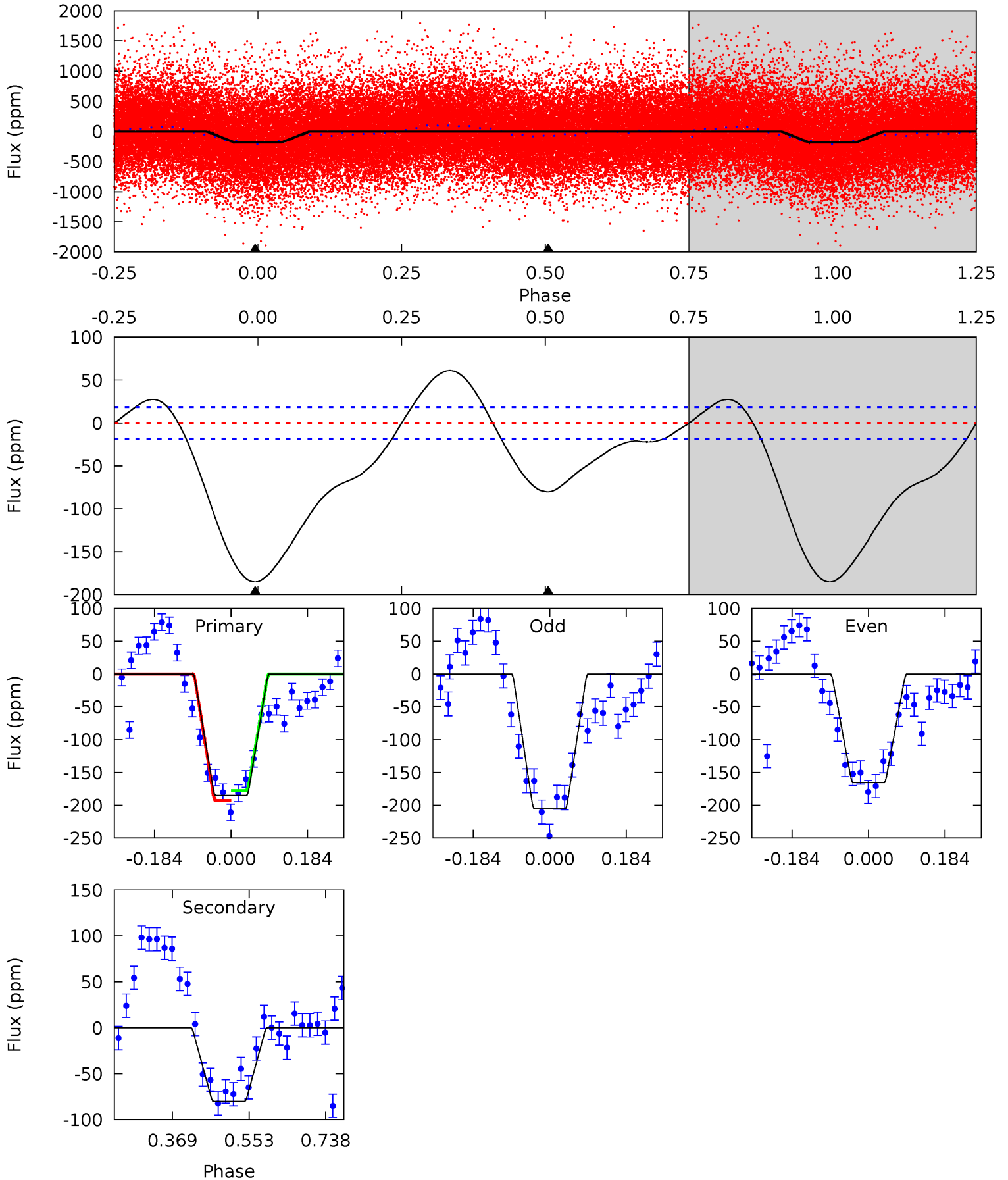
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	10.6	0	0	4.36	1.13	1.02	12.6	12.6	10.6	10.6	1.37	0.78	0.08	2.53



Alt Model-Shift Uniqueness Test

006114403-01, P = 2.909412 Days, E = 133.219579 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.6	19.3	0	0	4.43	1.33	7.19	44.6	44.6	19.3	19.3	4.77	0.99	0.25	1.81



Stellar Parameters For KIC 006114403

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5408^{+187}_{-187}	$4.400^{+0.153}_{-0.187}$	$-0.020^{+0.300}_{-0.250}$	$0.955^{+0.252}_{-0.155}$	$0.835^{+0.117}_{-0.063}$	$1.351^{+0.923}_{-0.670}$
	+3%/-3%	+3%/-4%	+1500%/-1250%	+26%/-16%	+14%/-8%	+68%/-50%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006114403-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 4	$0.79^{+0.26}_{-0.24}$	1685^{+132}_{-109}	5014^{+861}_{-521}	50^{+54}_{-22}
Alt.	-80 ± 4	$1.54^{+0.33}_{-0.27}$	1689^{+133}_{-111}	4414^{+300}_{-255}	26^{+12}_{-9}

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

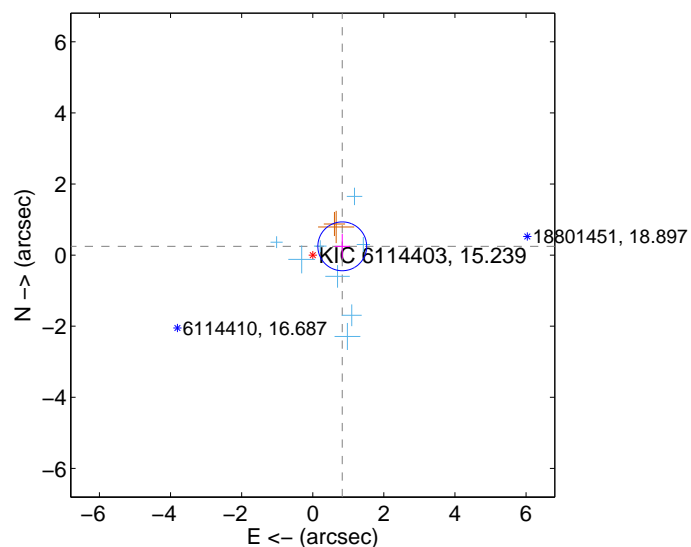
Supplemental centroid analysis for 006114403-01. Kepler magnitude: 15.24. Transit SNR 6.39

There are 8 quarters with good PRF difference image offsets

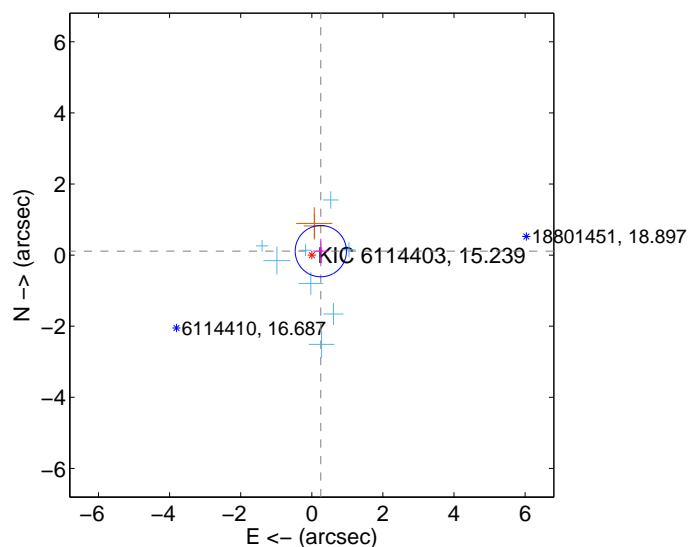
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.866 ± 0.229	3.78	-0.830 ± 0.215	0.247 ± 0.346
PRF-fit source offset from KIC position	0.277 ± 0.240	1.15	-0.254 ± 0.214	0.111 ± 0.347
photometric centroid source offset	2.22 ± 1.15	1.93	-0.02 ± 1.10	2.22 ± 1.15

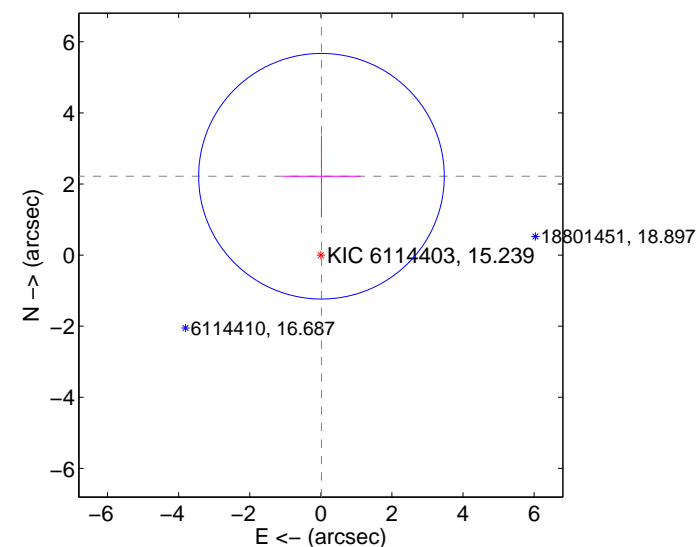
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



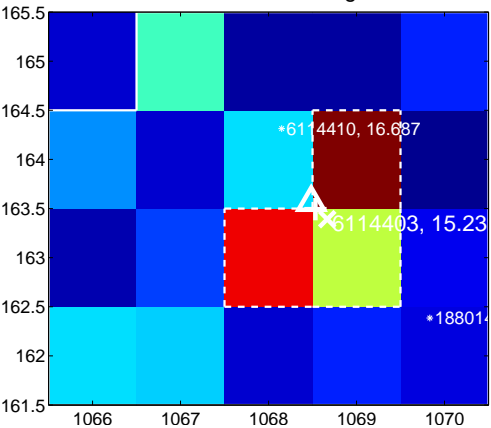
Q3 no difference image



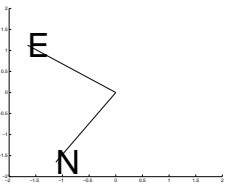
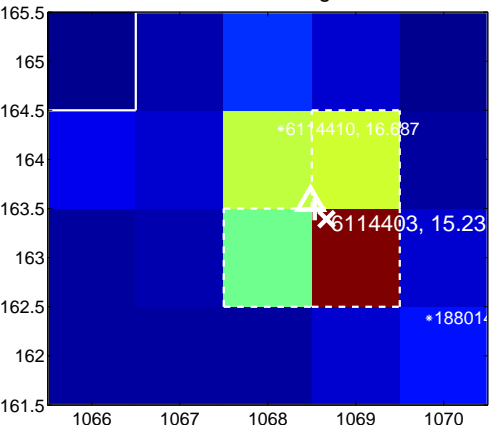
Q3 no OOT image



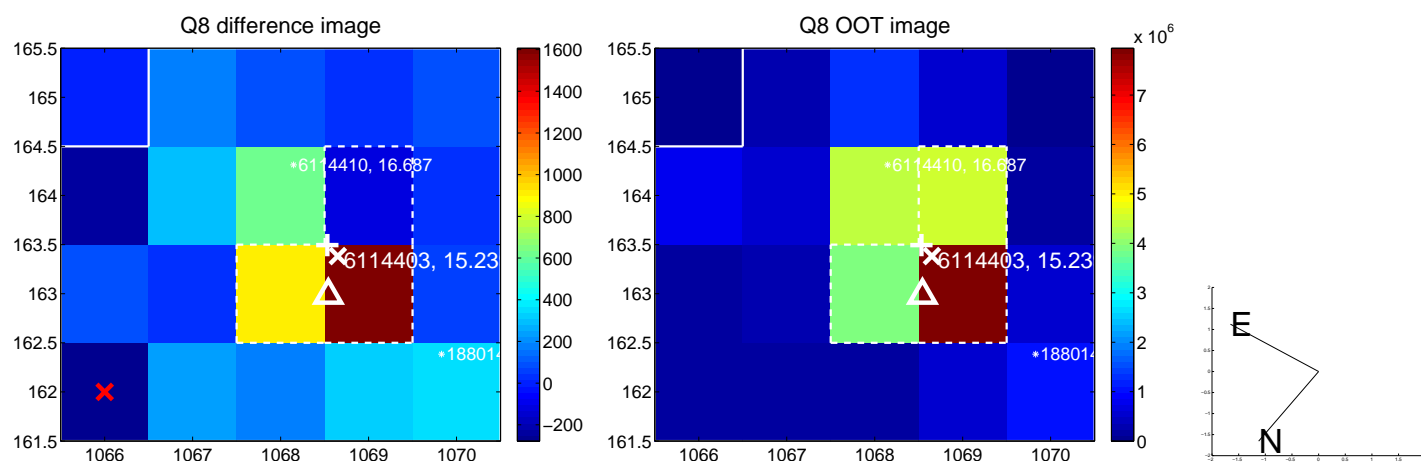
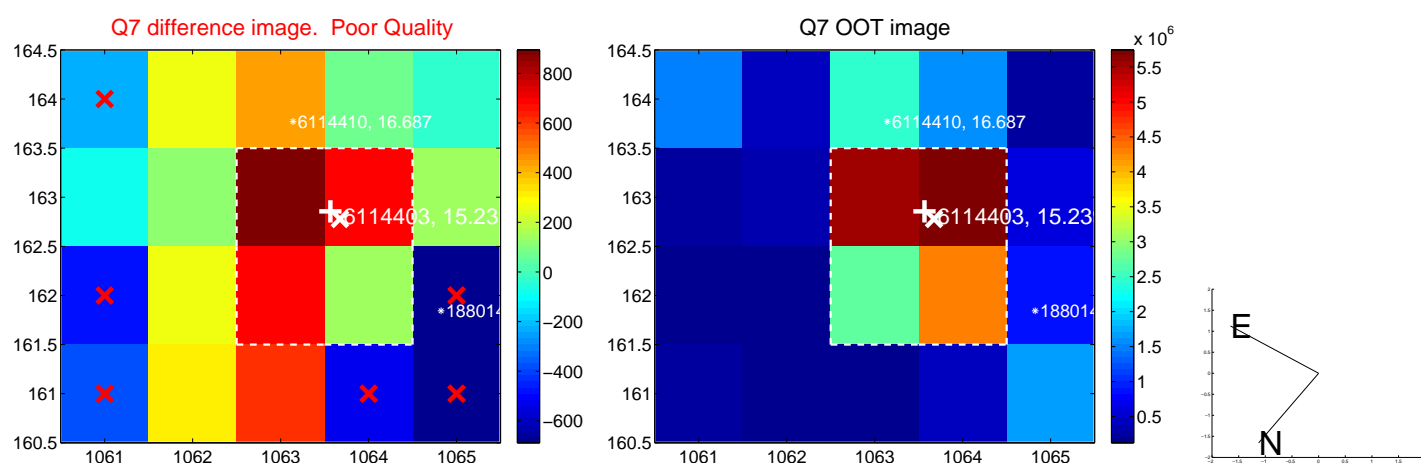
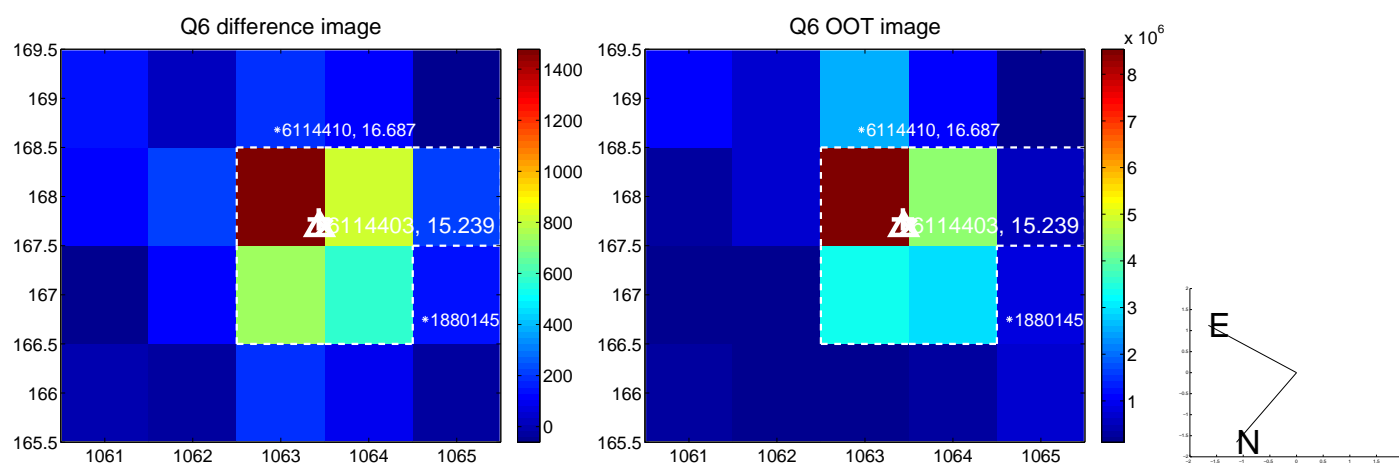
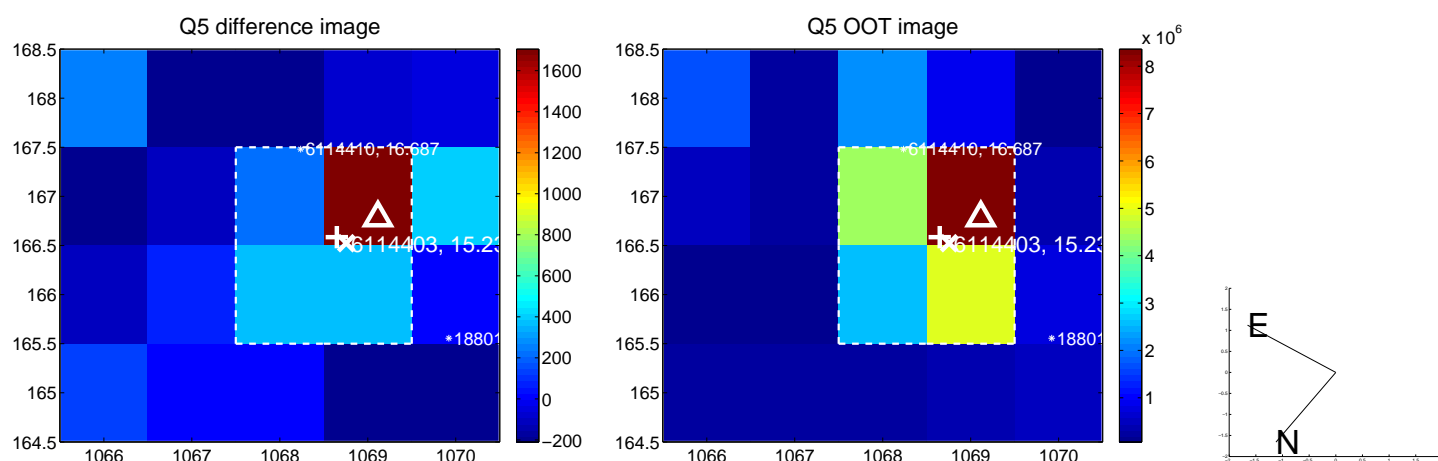
Q4 difference image



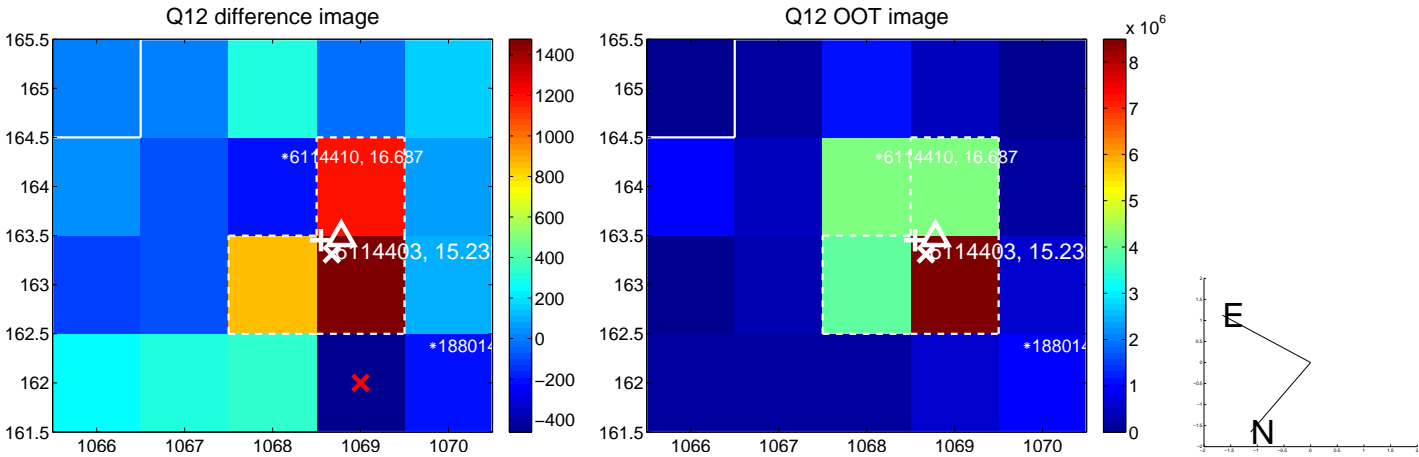
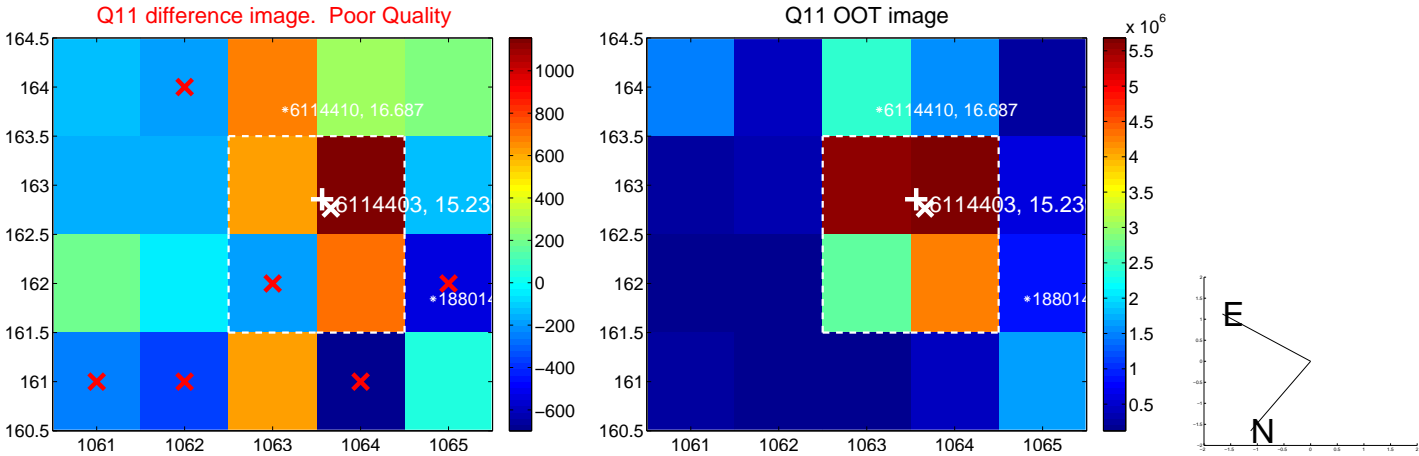
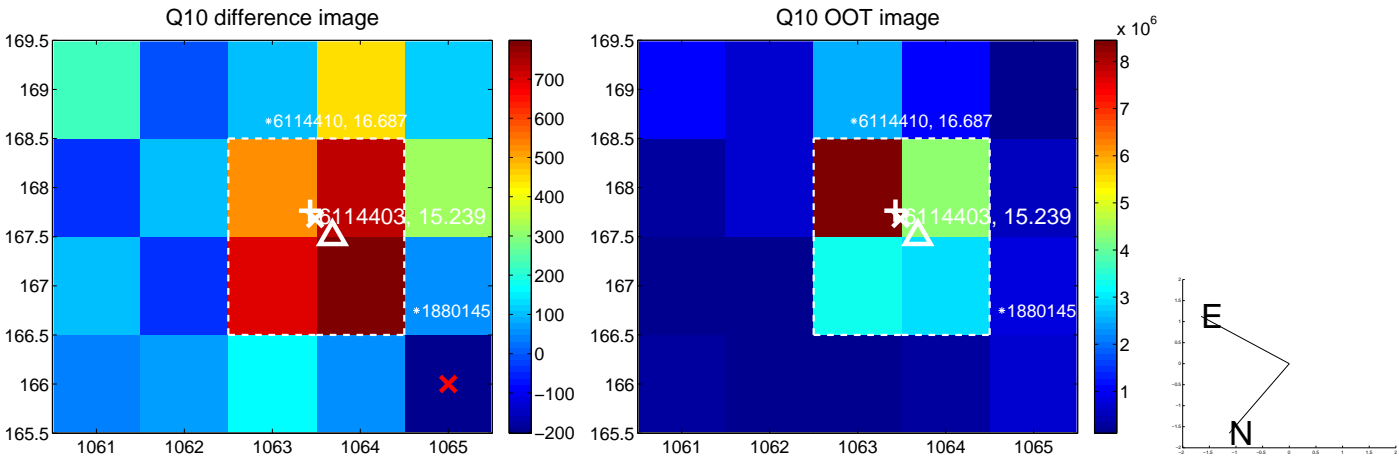
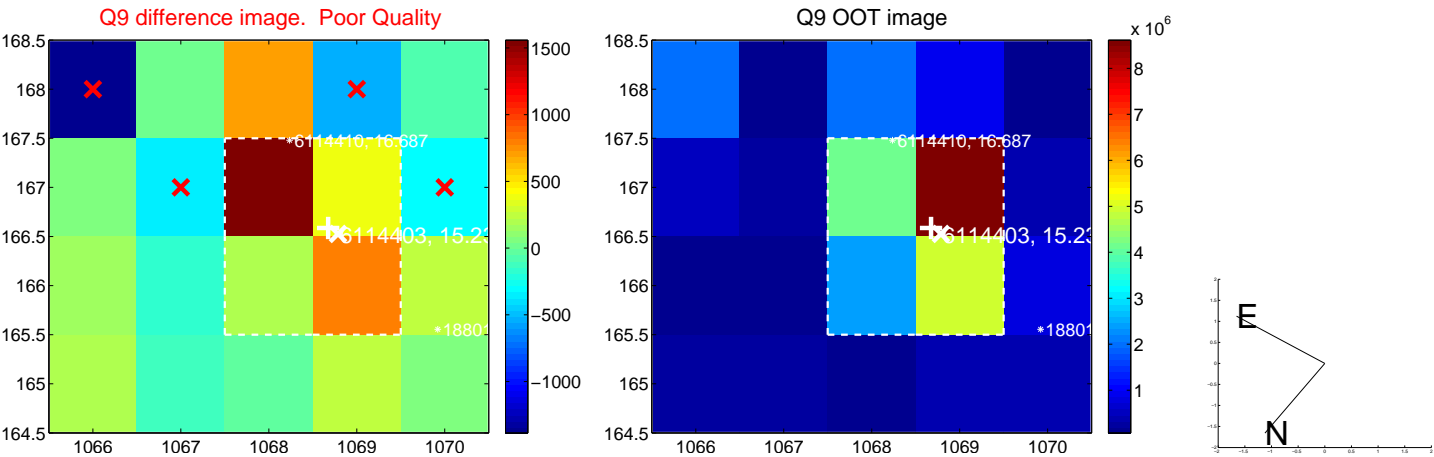
Q4 OOT image



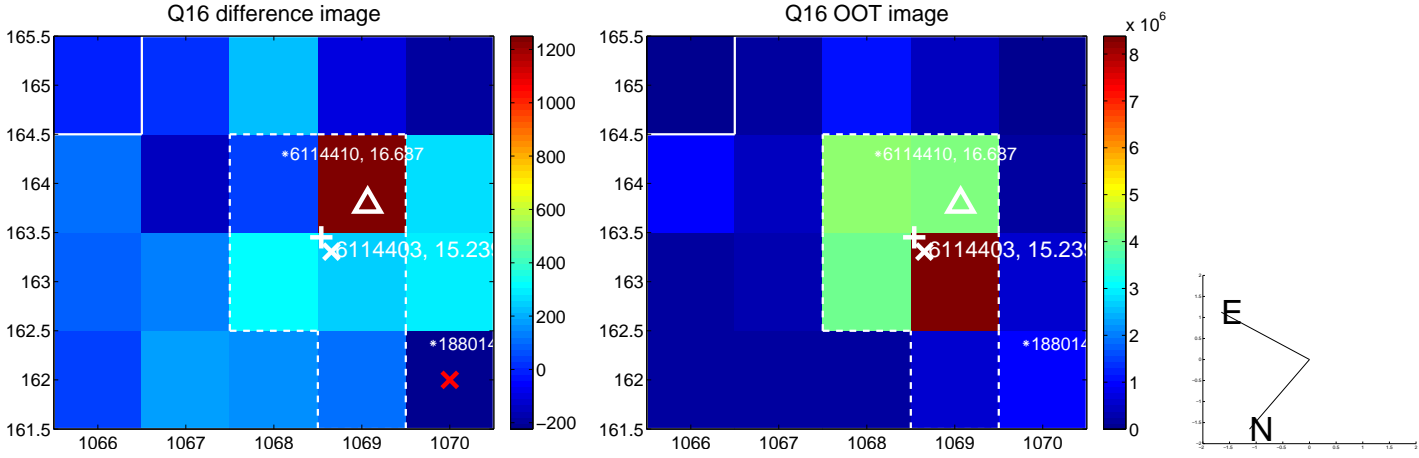
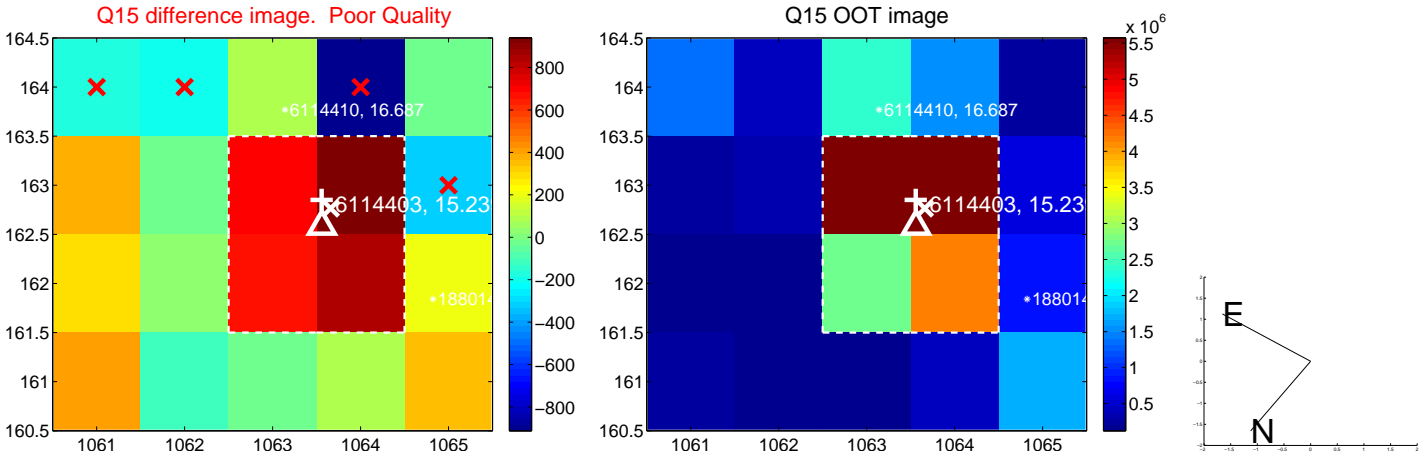
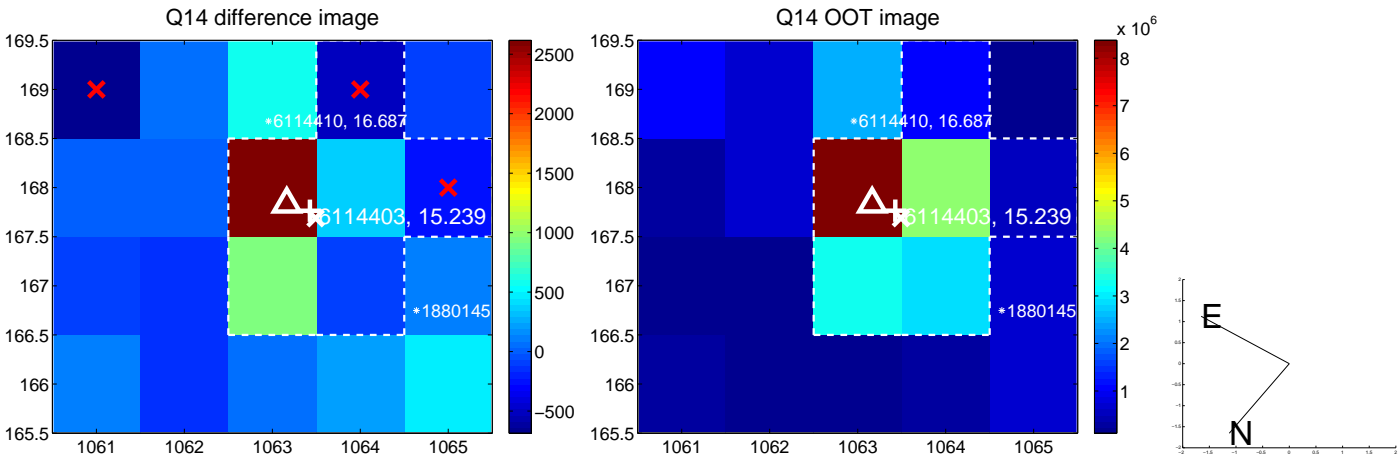
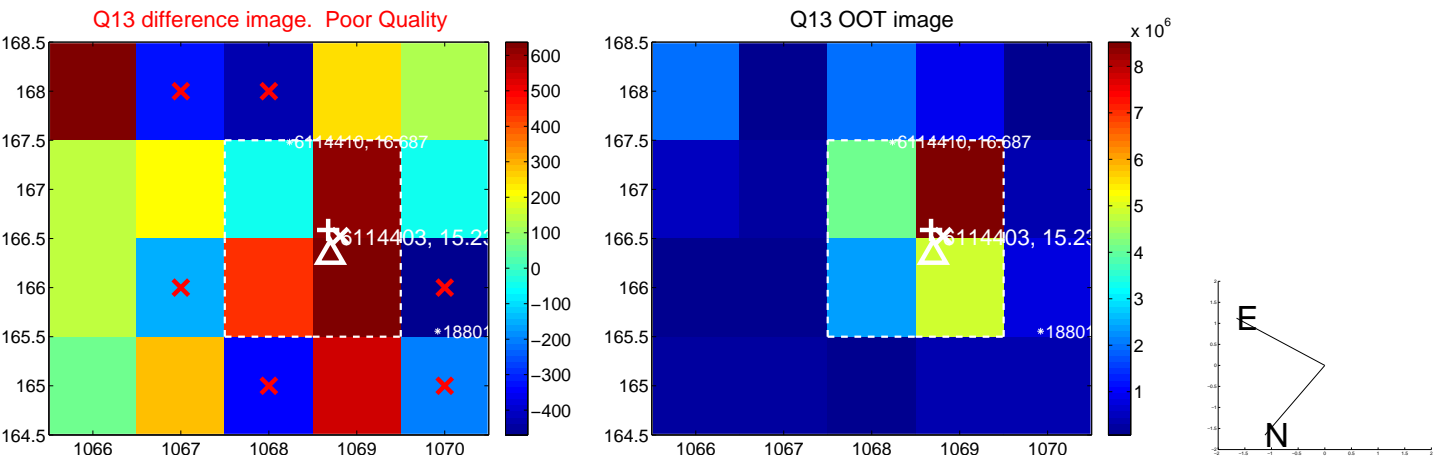
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



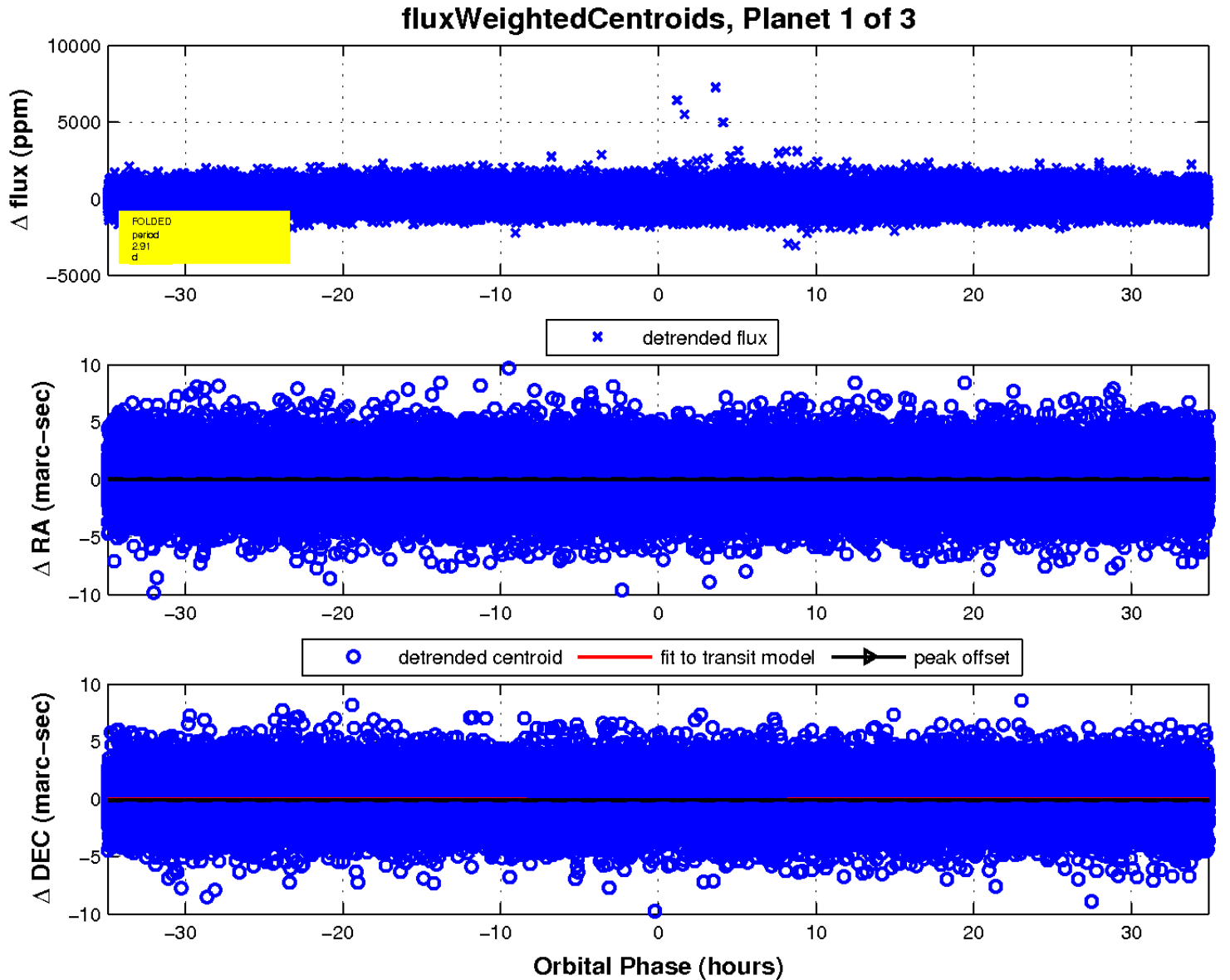
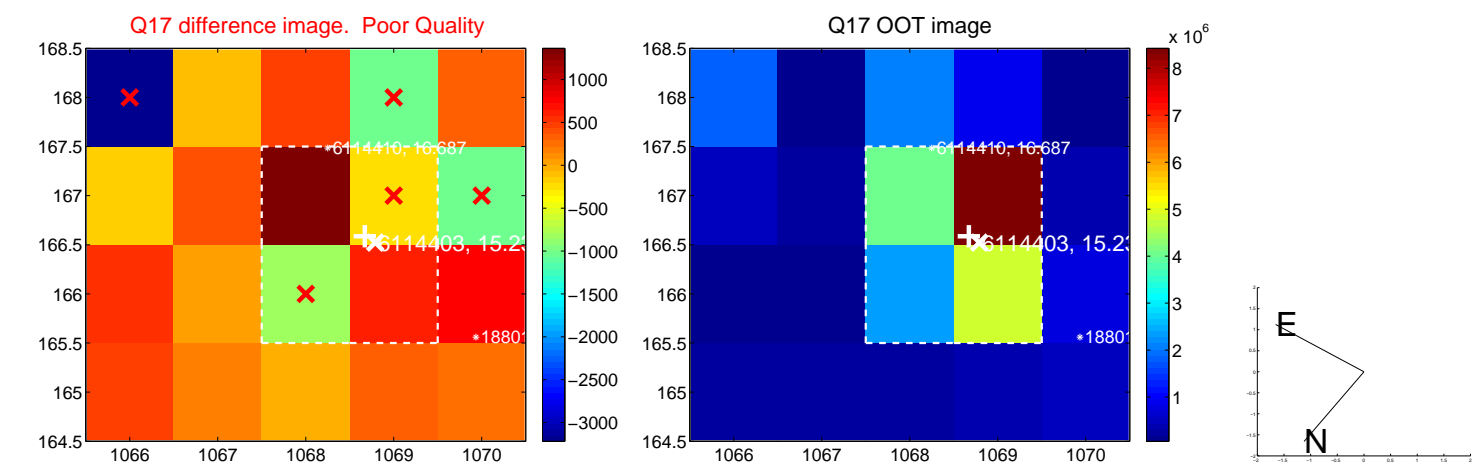
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

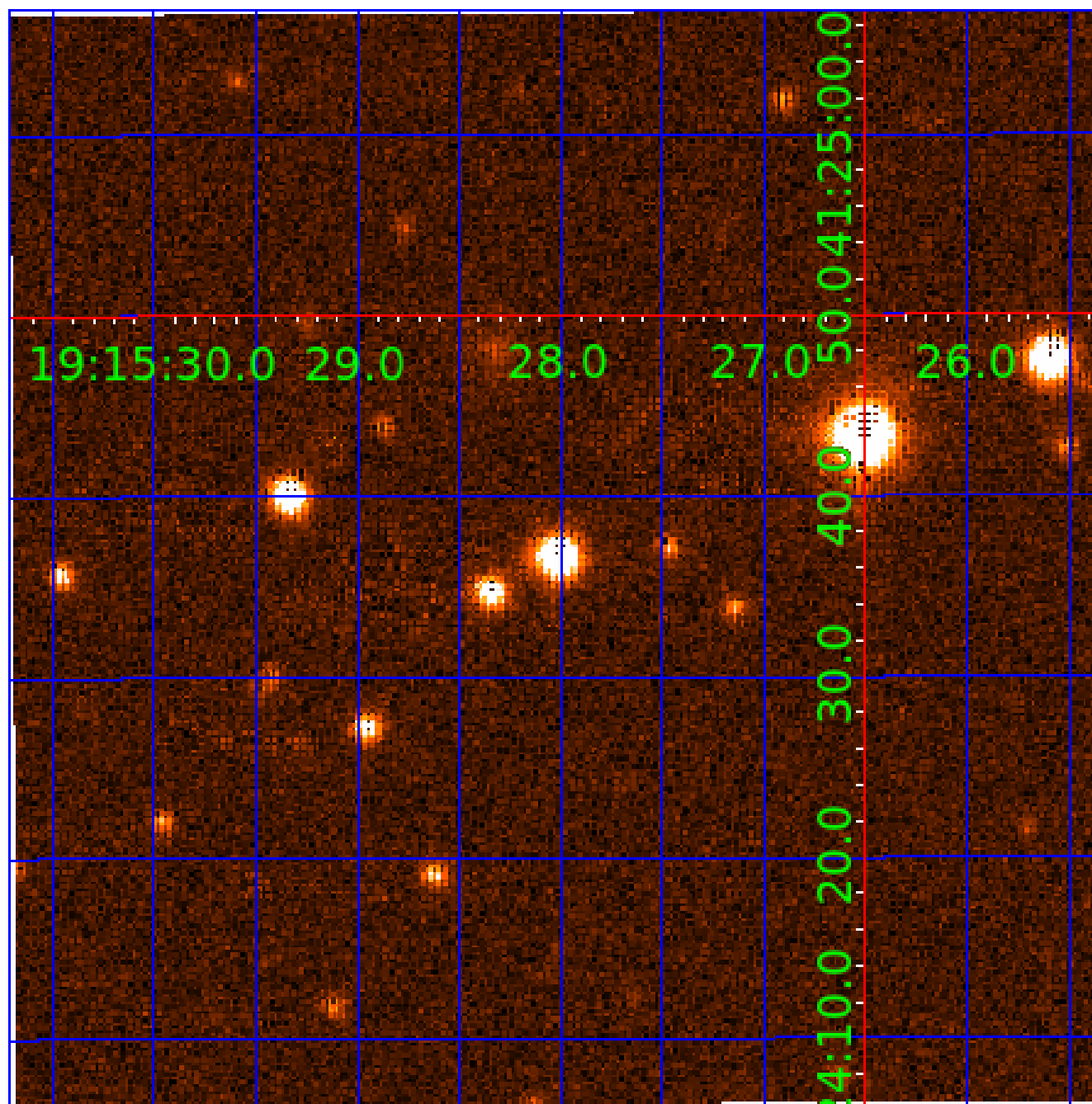


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006114403

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})
006114403-01	OBS	No	2.909427	133.273383	48.5	17.461	7.6	6.4	0.95	5408	0.79	495.03
006114403-02	OBS	No	142.918326	233.798396	1157.2	22.382	18.4	11.2	0.95	5408	5.83	2.75
006114403-03	OBS	No	169.291592	241.390796	179.8	8.134	10.1	2.0	0.95	5408	1.51	2.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006114403-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
006114403-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006114403-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

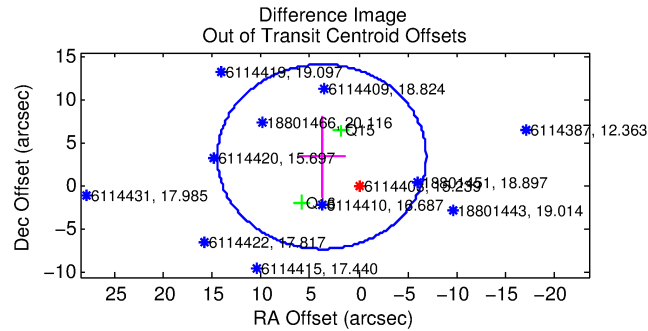
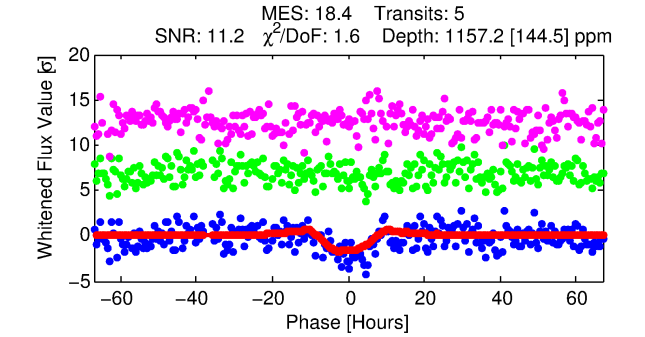
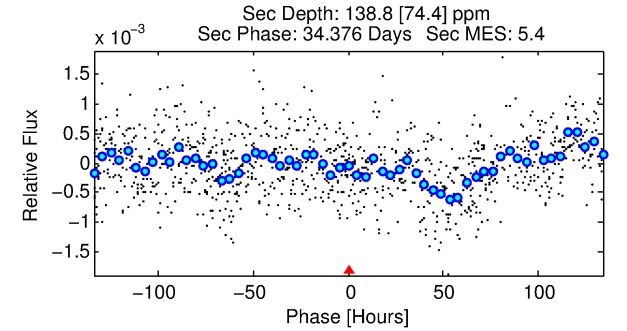
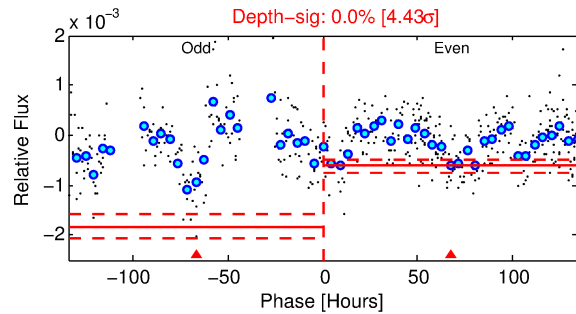
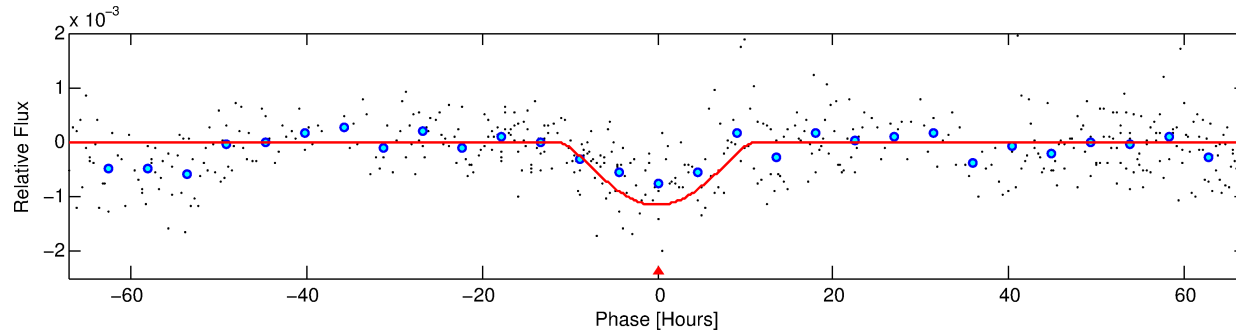
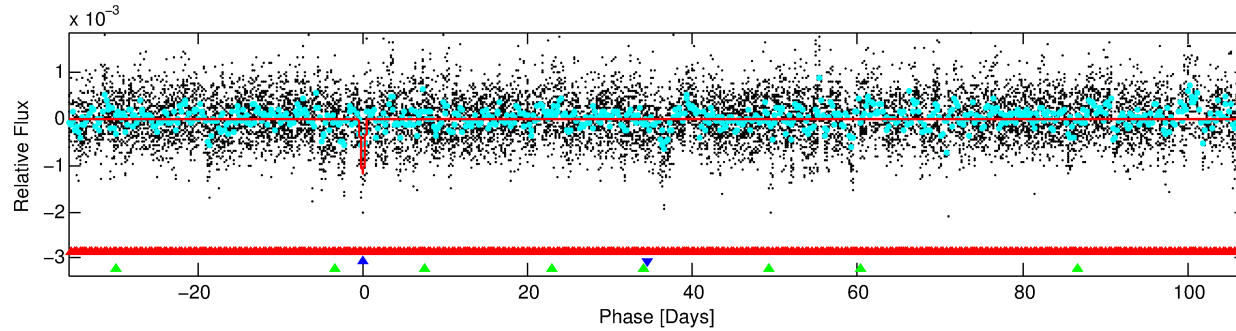
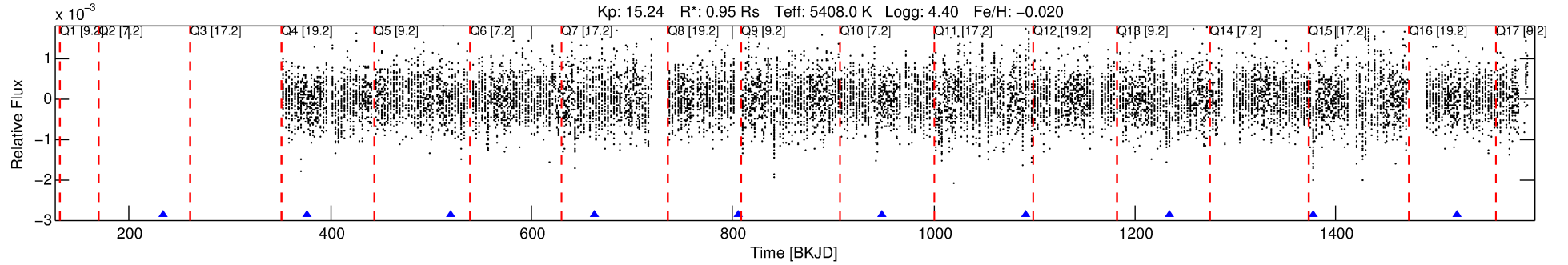
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006114403-02

No Significant Match Found

DV One-Page Summary

KIC: 6114403 Candidate: 2 of 3 Period: 142.918 d



DV Fit Results:

Period = 142.91833 [0.00755] d
Epoch = 233.7984 [0.0557] BKJD
Rp/R* = 0.0560 [0.1086]
a/R* = 17.77 [9.07]
b = 0.99 [0.17]
Seff = 2.75 [1.00]
Teq = 328 [30] K
Rp = 5.83 [11.42] Re
a = 0.5040 [0.1144] AU
Ag = 570.31 [2242.88] [0.25 σ]
Teffp = 2481 [2432] K [0.89 σ]

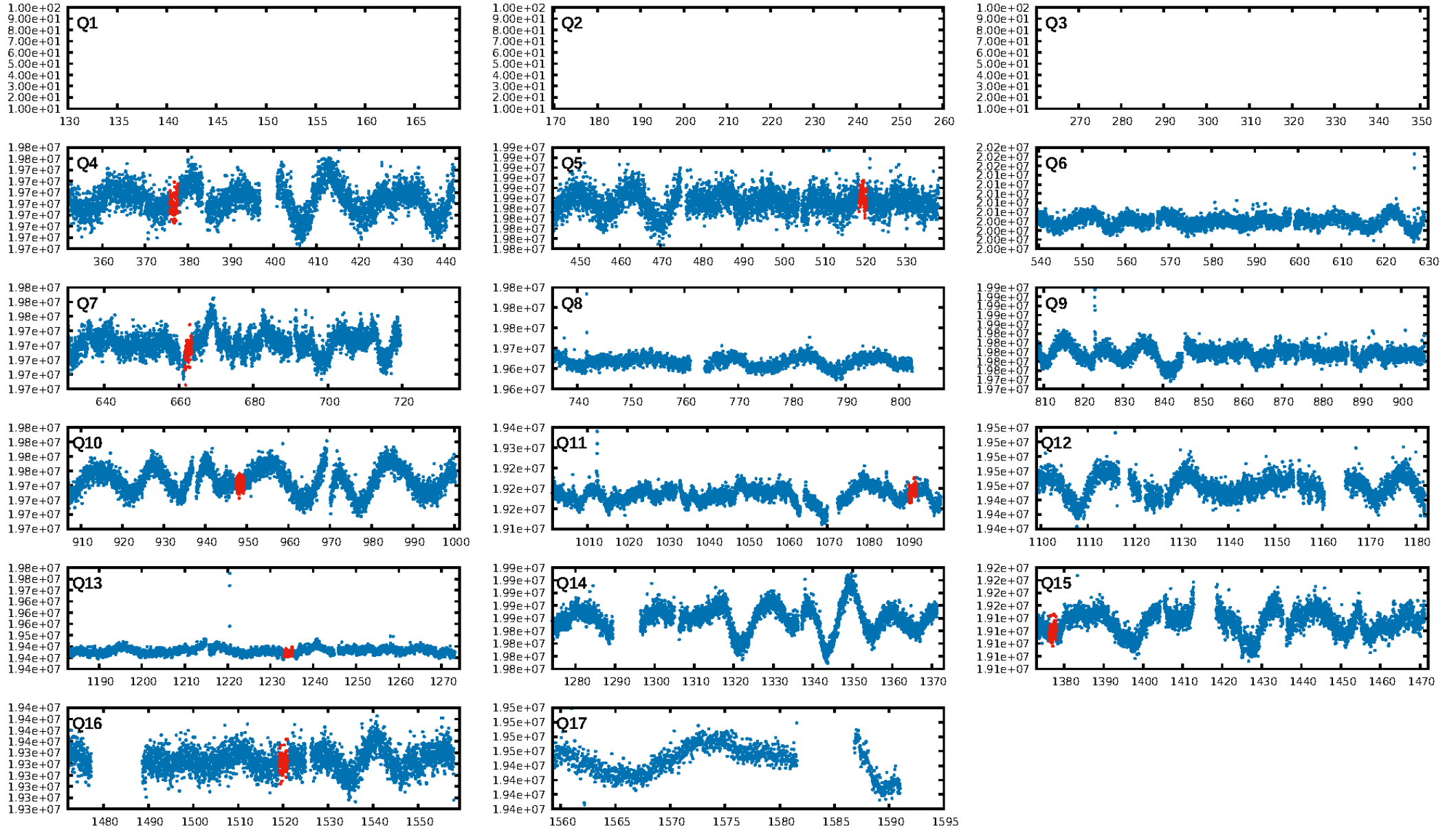
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [118.37 σ]
LongPeriod-sig: 100.0% [26.58 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.21e-28
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.7243
Centroid-sig: 43.9%
Centroid-so: 0.696 arcsec [1.69 σ]
OotOffset-rm: 5.101 arcsec [1.43 σ]
KicOffset-rm: 5.526 arcsec [1.59 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/7]

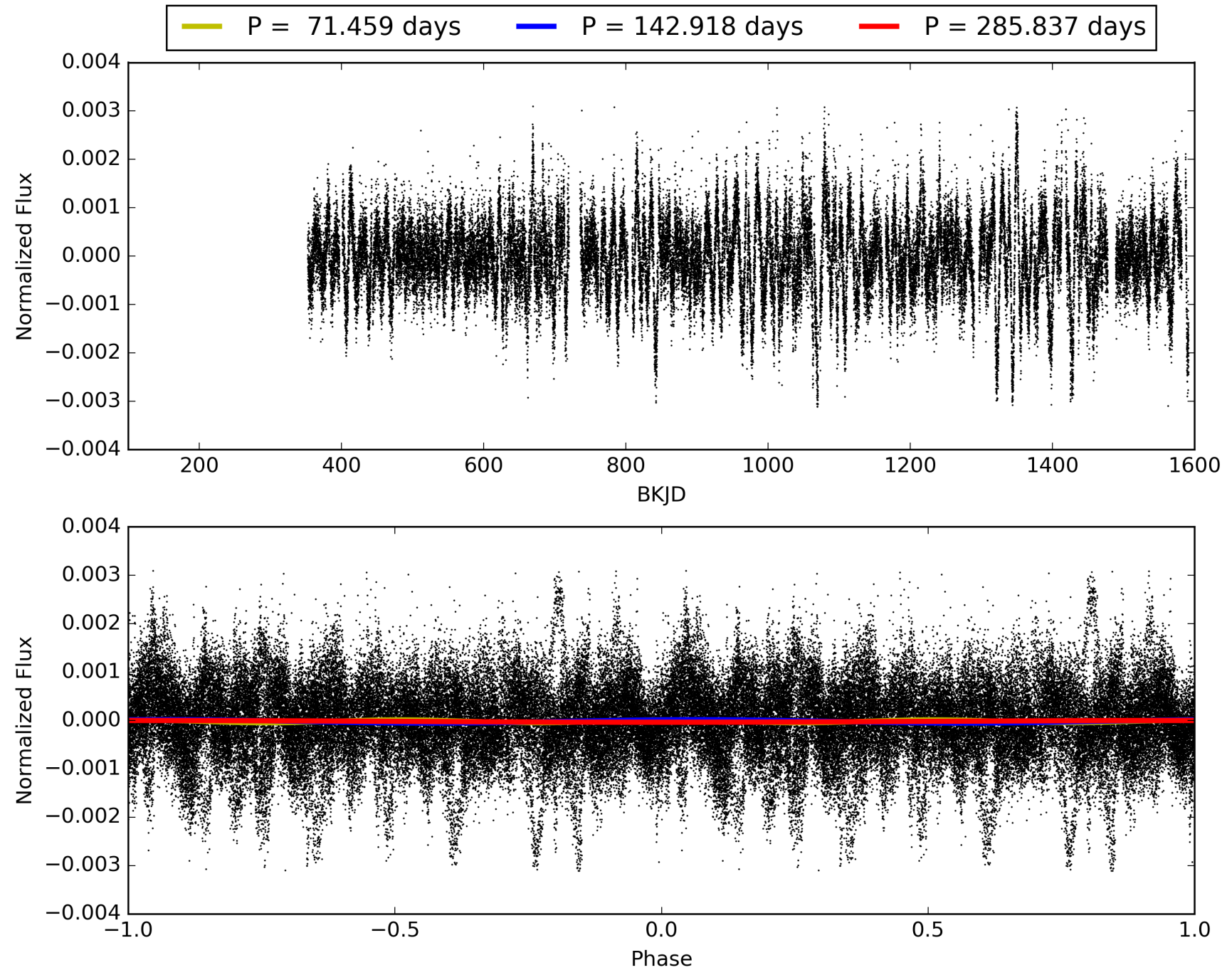
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:11:30 Z

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

TCE 006114403-02, PDC Light Curves

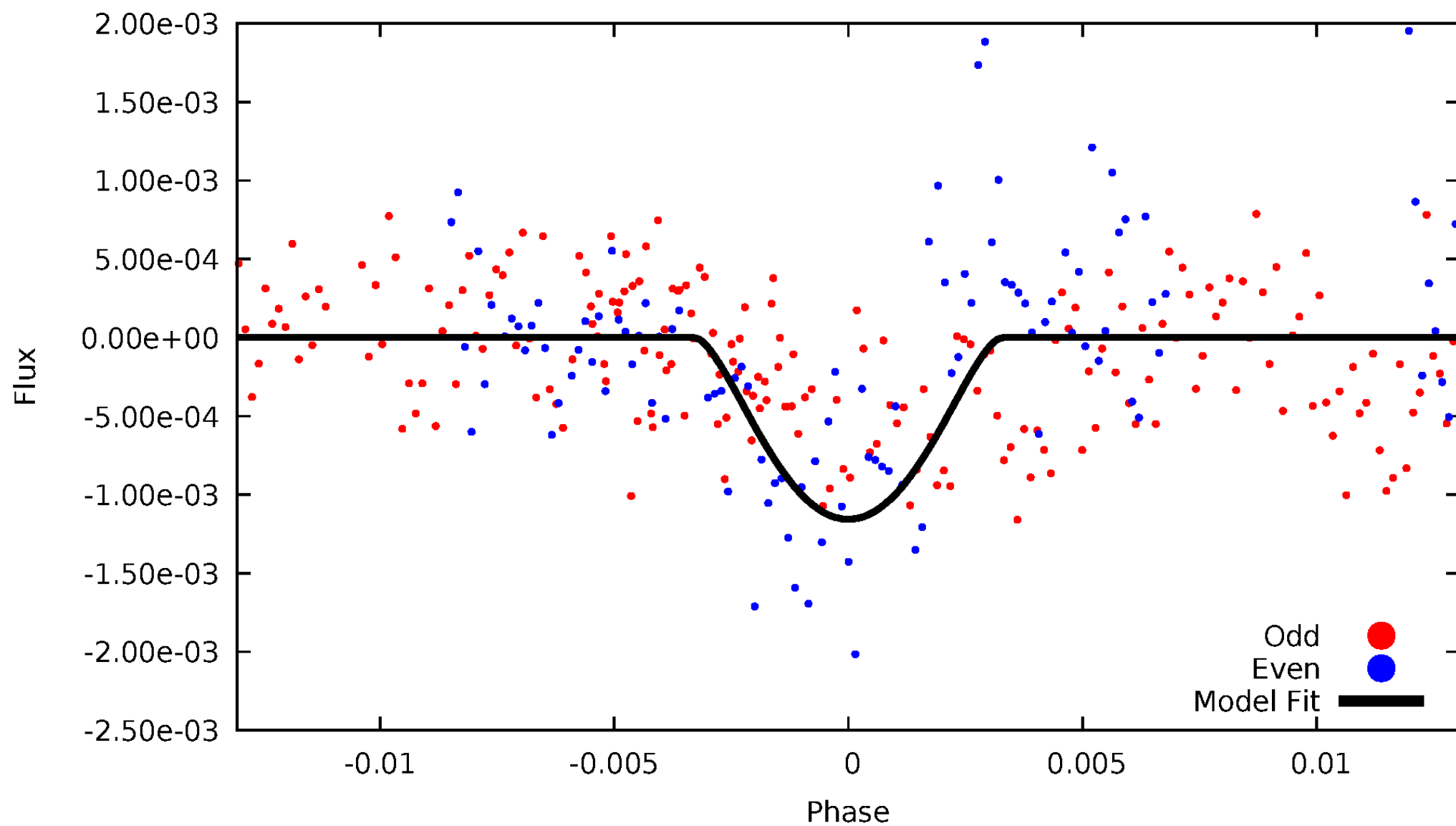


TCE 006114403-02



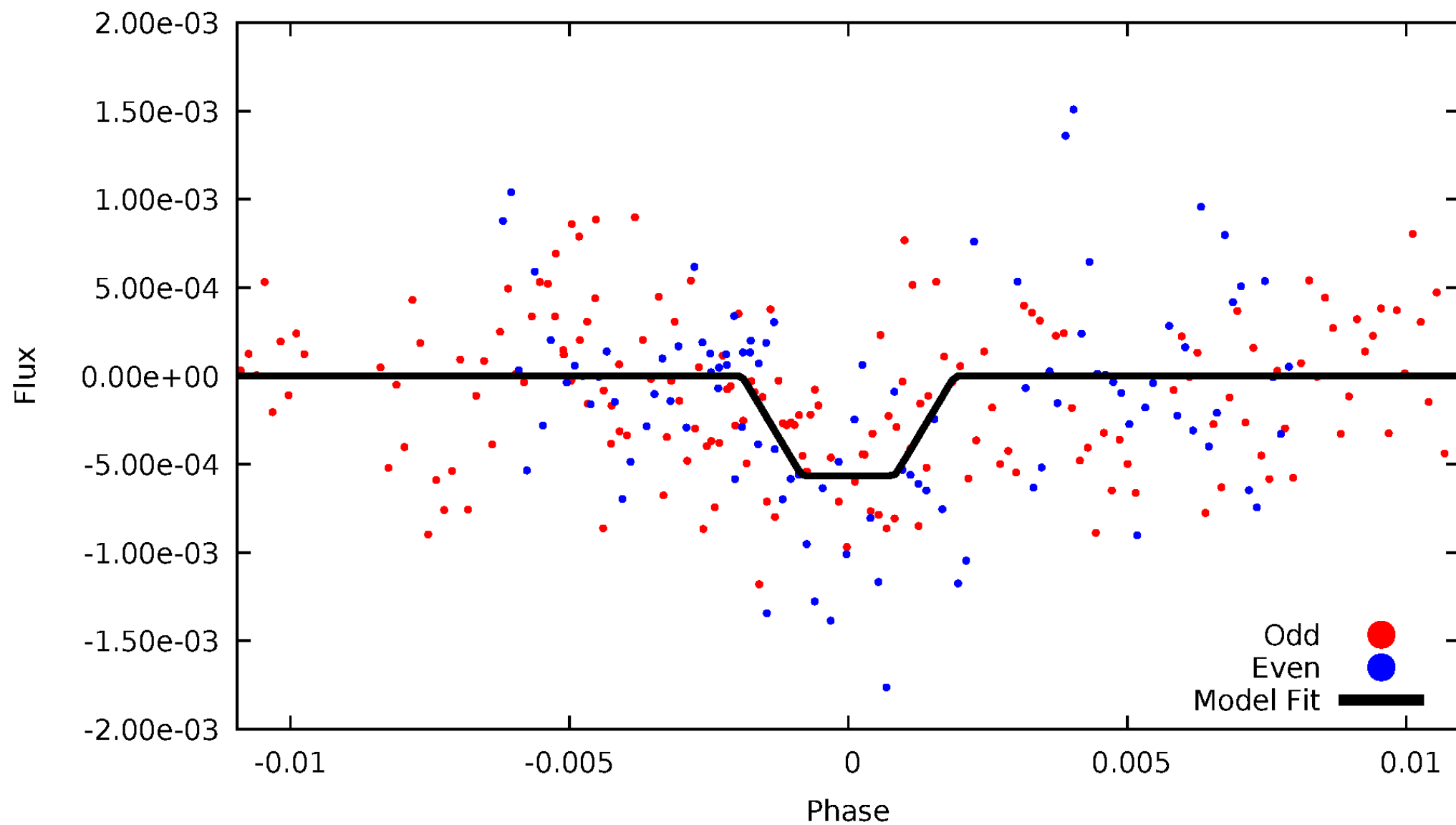
DV Odd/Even

TCE 006114403-02



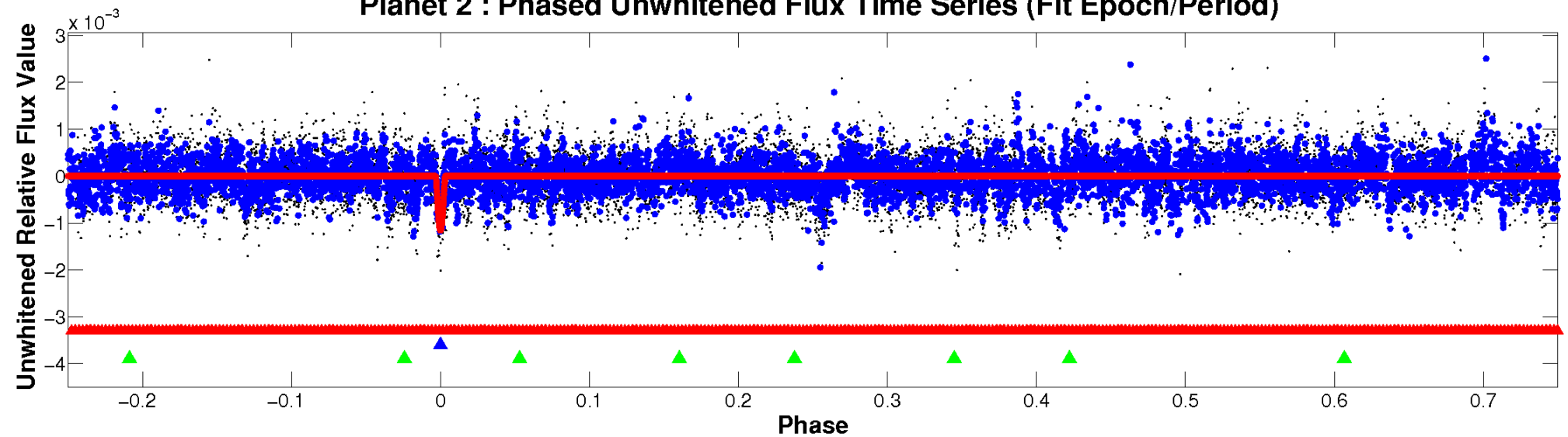
ALT Odd/Even

TCE 006114403-02

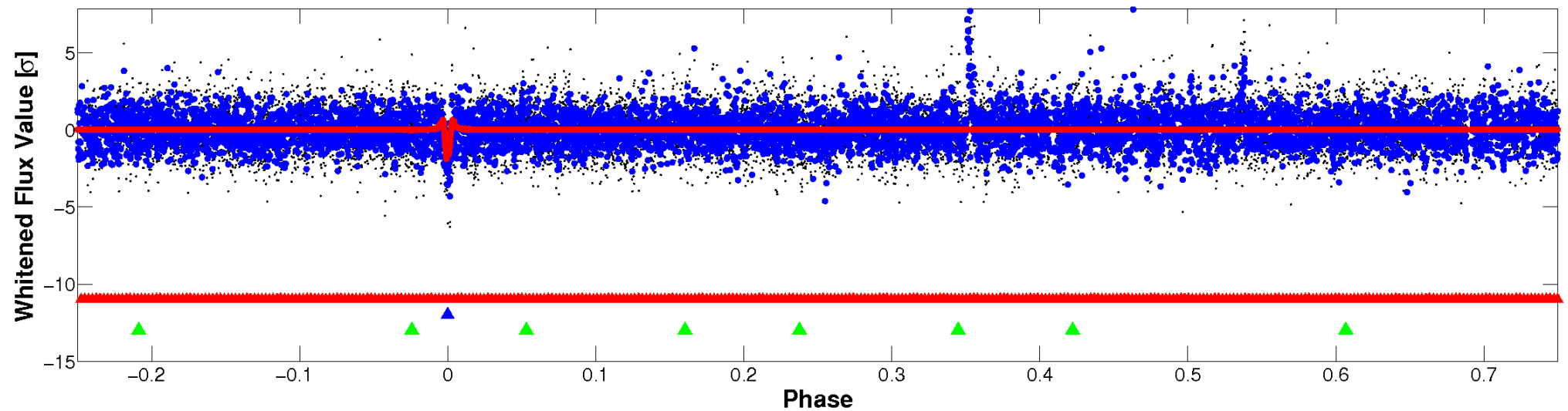


Non-Whitened Vs. Whitened Light Curve

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

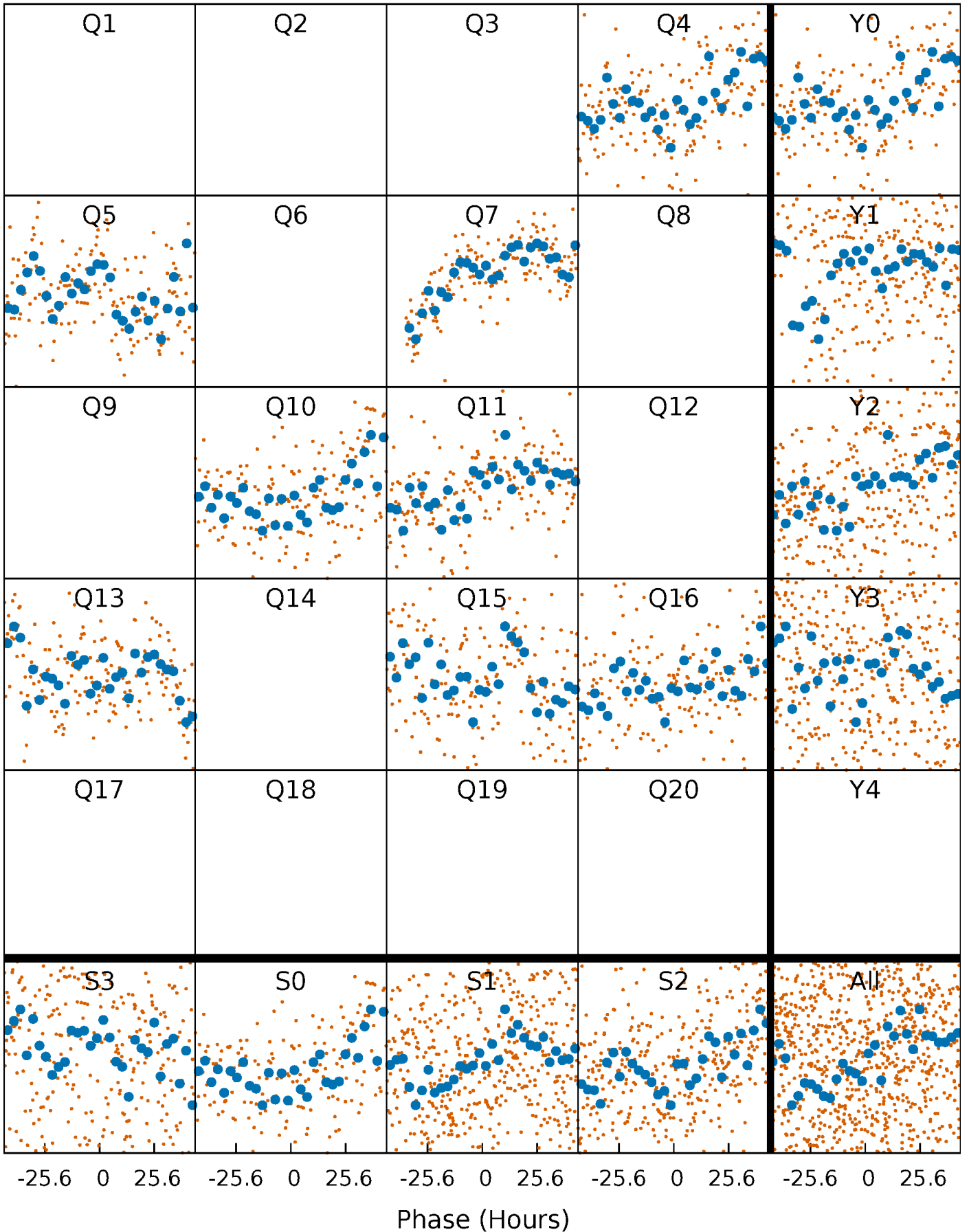


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



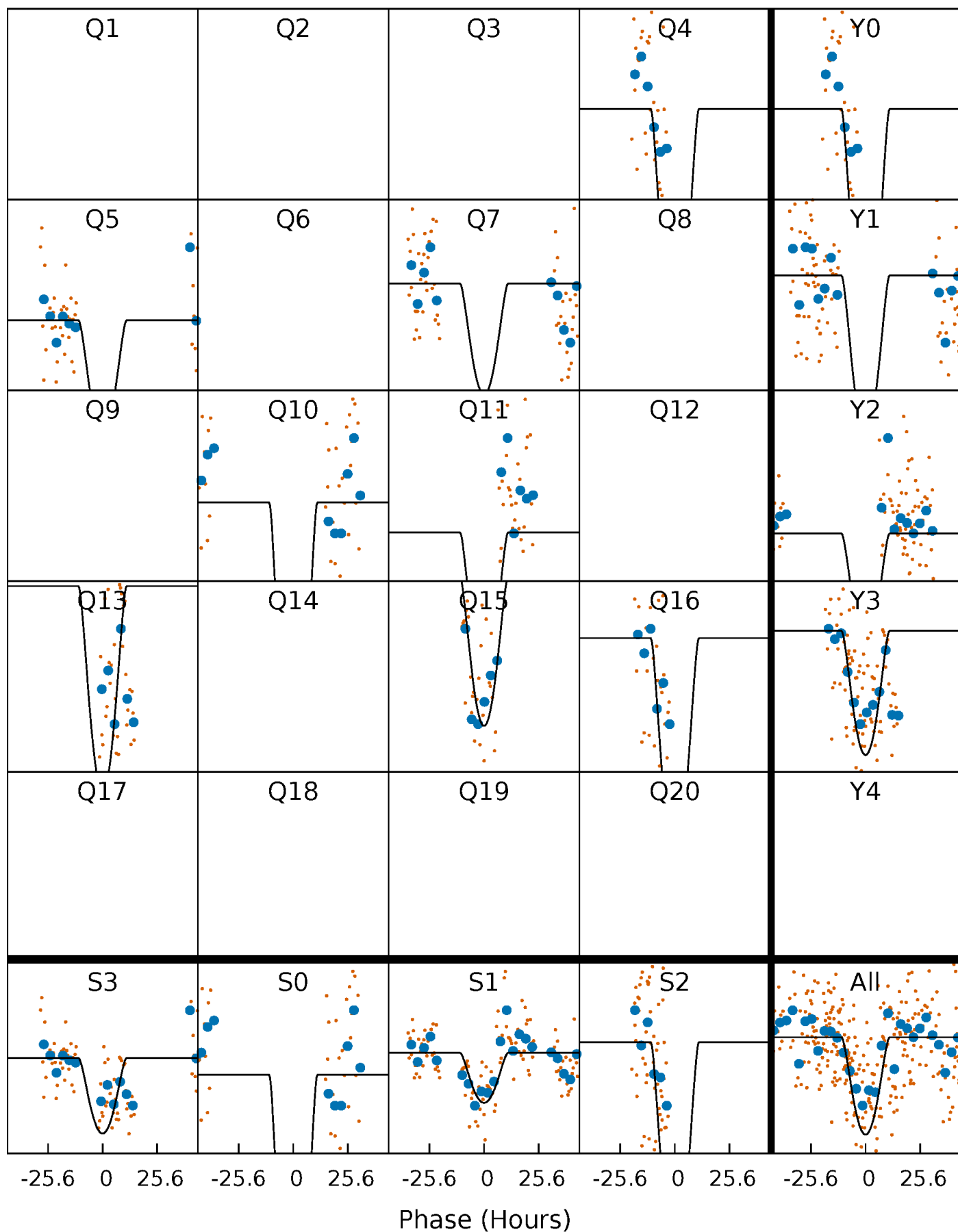
PDC Quarter-Phased Transit Curves

TCE 006114403-02 P=142.918326 Days $T_0=233.798396$ (BKJD)



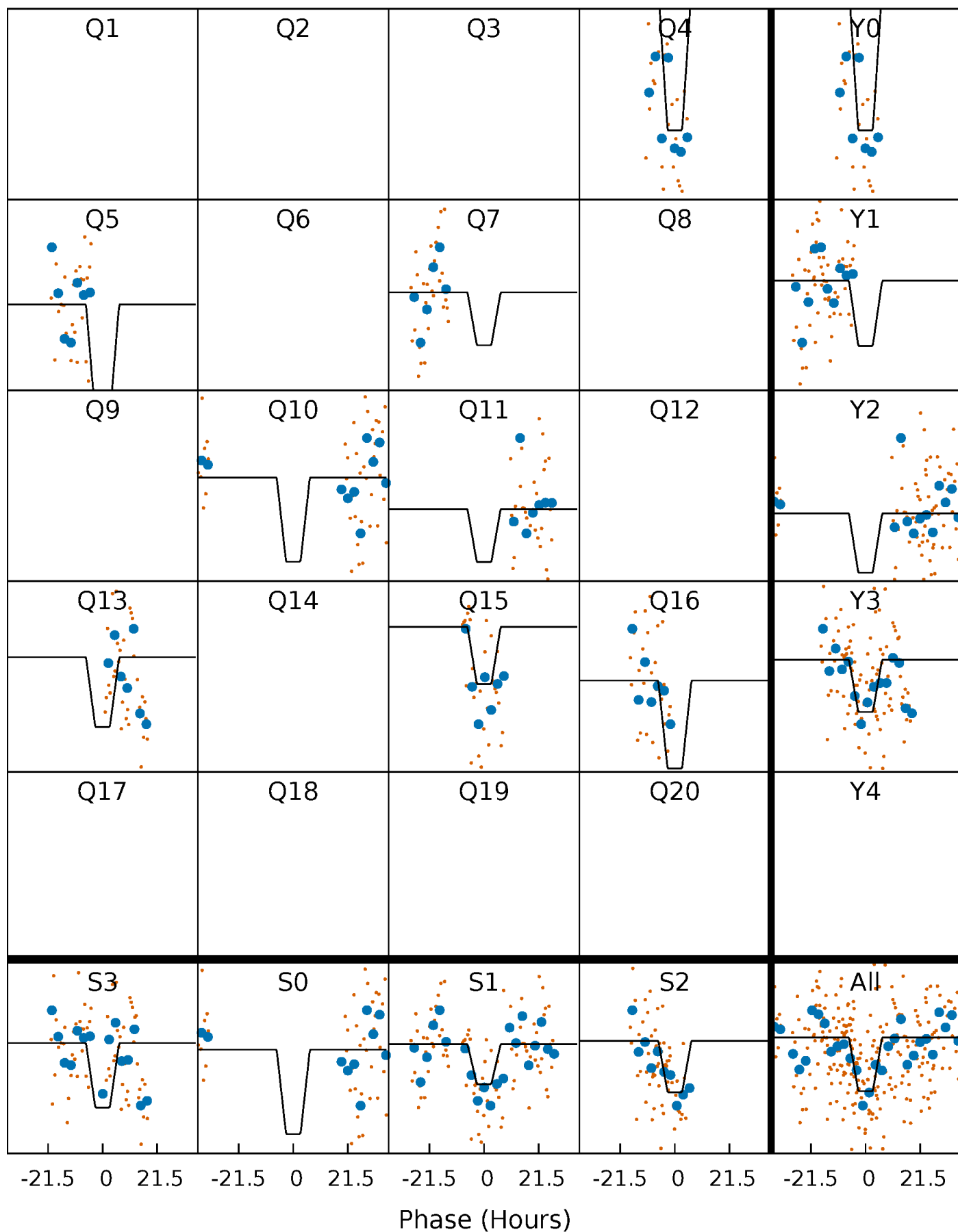
DV Quarter-Phased Transit Curves

TCE 006114403-02 P=142.918326 Days $T_0=233.798396$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

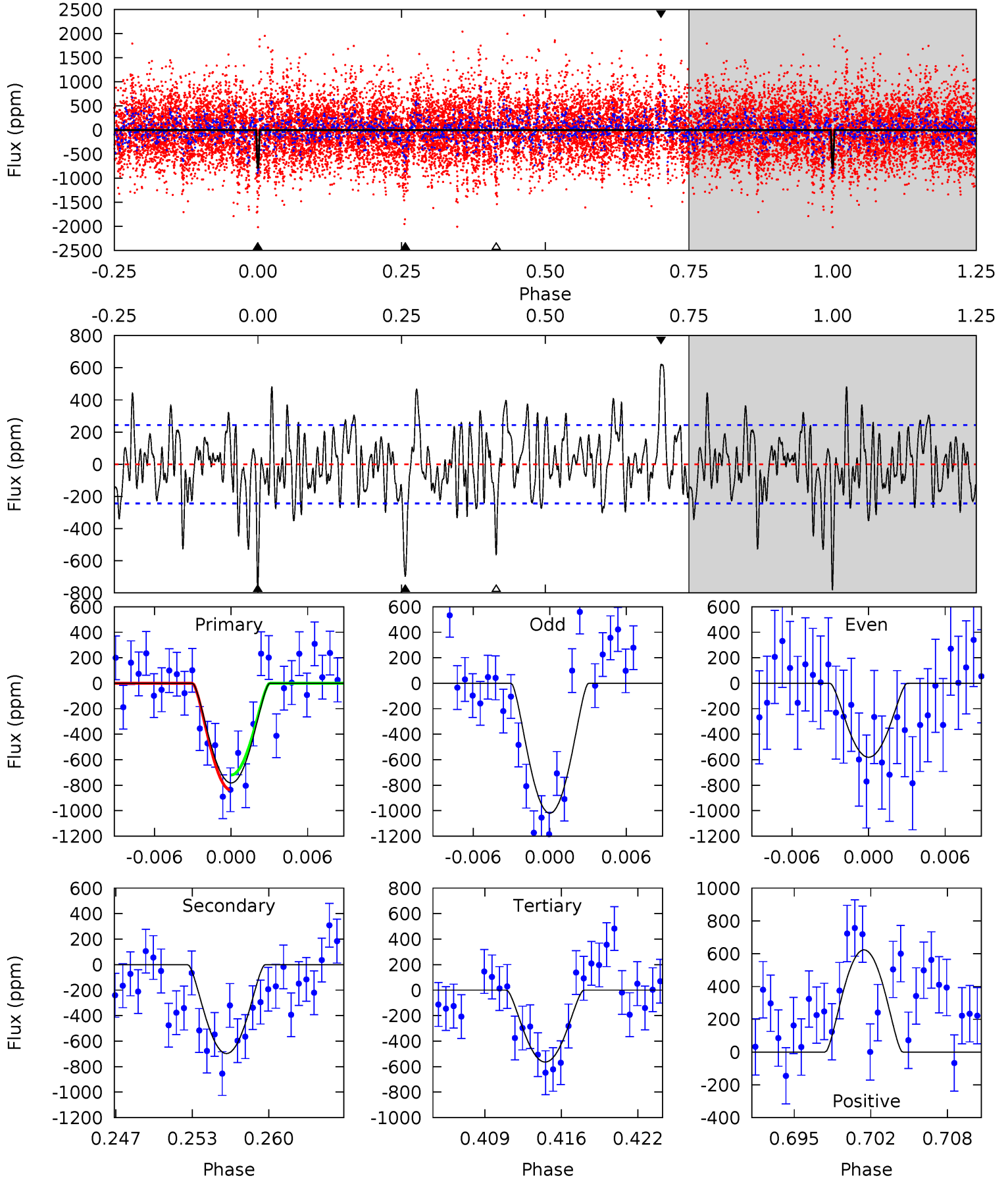
TCE 006114403-02 P=142.959997 Days $T_0=233.388515$ (BKJD)



DV Model-Shift Uniqueness Test

006114403-02, P = 142.918326 Days, E = 233.798396 Days

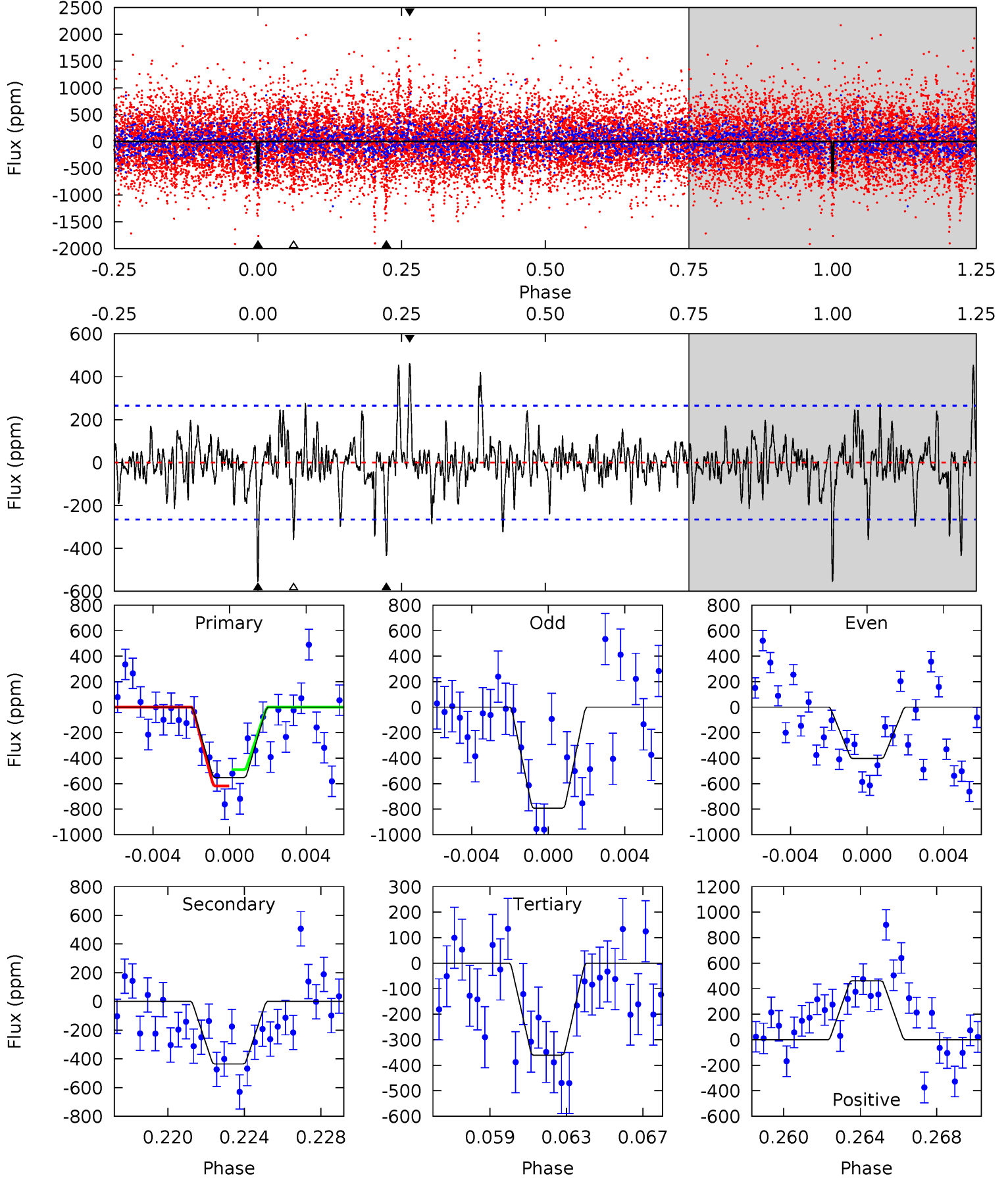
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	14.6	11.8	13.1	5.11	2.72	3.60	4.57	3.33	2.79	1.55	4.54	0.58	0.44	1.23



Alt Model-Shift Uniqueness Test

006114403-02, P = 142.959997 Days, E = 233.388515 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	8.53	7.06	9.06	5.20	2.88	1.96	3.77	1.78	1.47	-0.53	3.79	1.19	0.46	1.23



Stellar Parameters For KIC 006114403

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5408^{+187}_{-187}	$4.400^{+0.153}_{-0.187}$	$-0.020^{+0.300}_{-0.250}$	$0.955^{+0.252}_{-0.155}$	$0.835^{+0.117}_{-0.063}$	$1.351^{+0.923}_{-0.670}$
	+3%/-3%	+3%/-4%	+1500%/-1250%	+26%/-16%	+14%/-8%	+68%/-50%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006114403-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-697 ± 48	$10.79^{+9.53}_{-6.86}$	461^{+36}_{-32}	3291^{+1389}_{-511}	852^{+5580}_{-614}
Alt.	-435 ± 51	$8.92^{+8.99}_{-6.02}$	460^{+34}_{-29}	3254^{+1596}_{-561}	790^{+7153}_{-599}

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 $A_{obs} \gg 1.0$

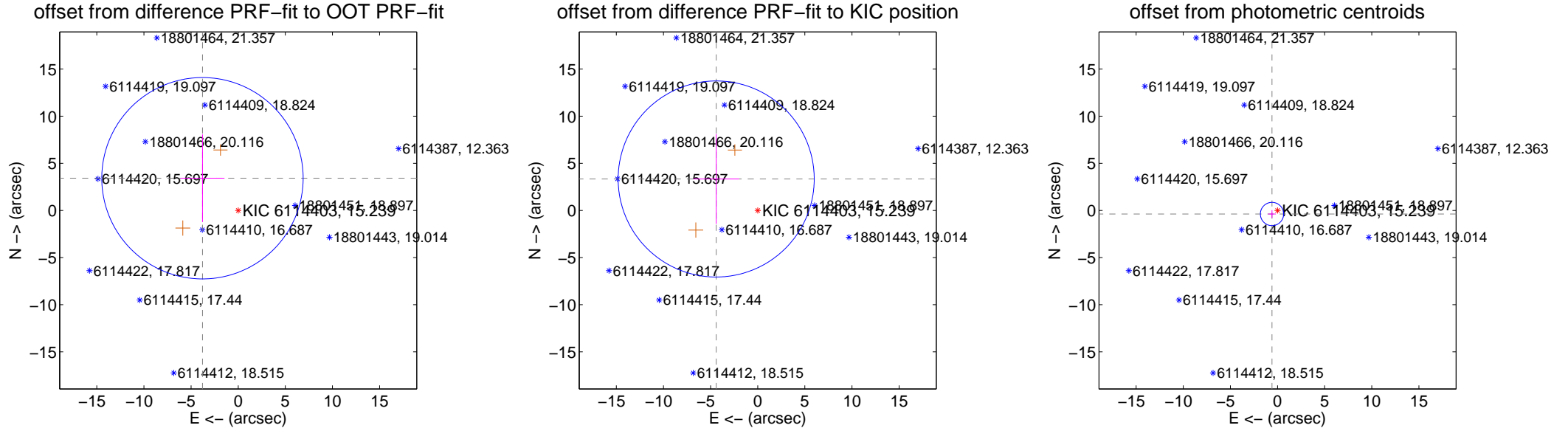
DV Centroid Data

Supplemental centroid analysis for 006114403-02. Kepler magnitude: 15.24. Transit SNR 11.22

There are 0 quarters with good PRF difference image offsets

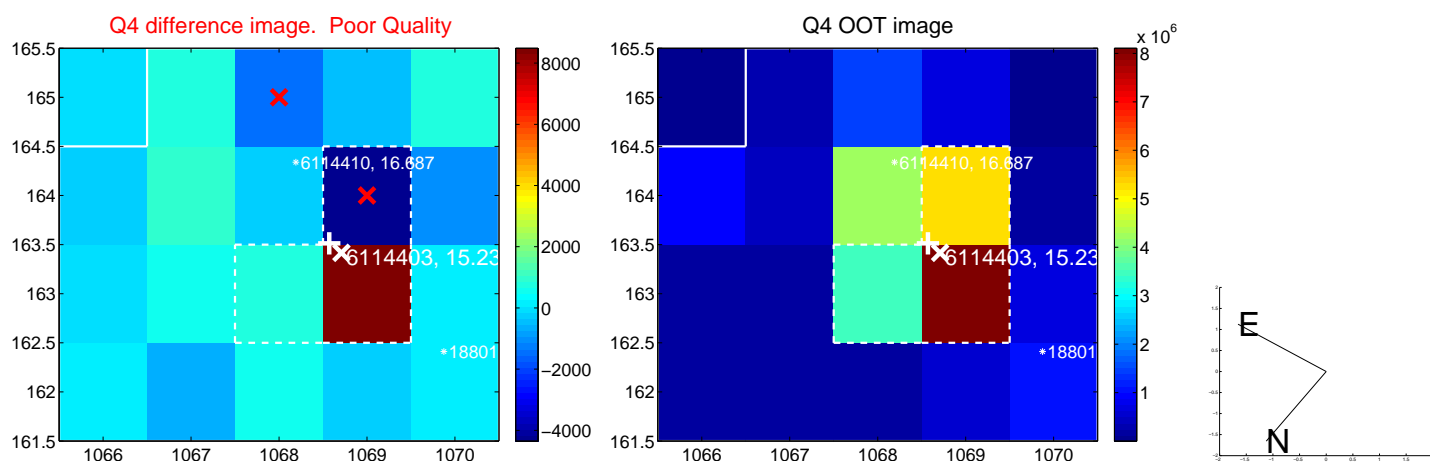
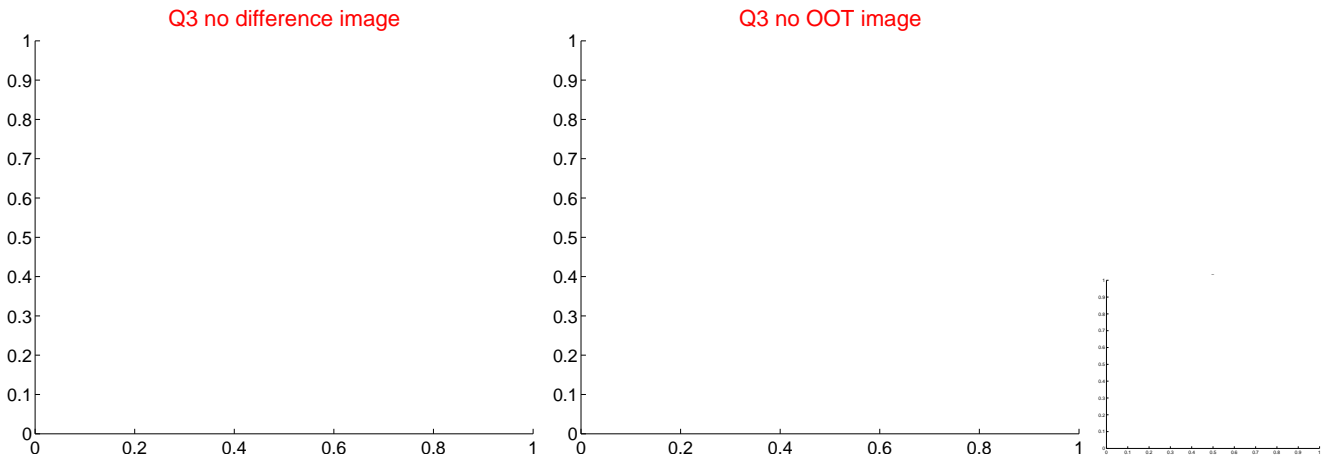
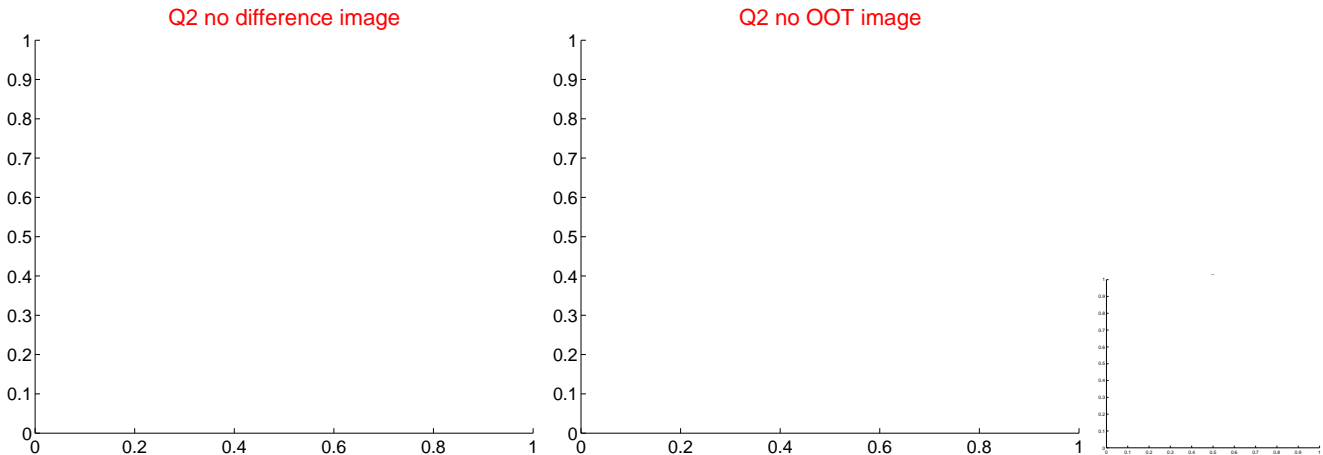
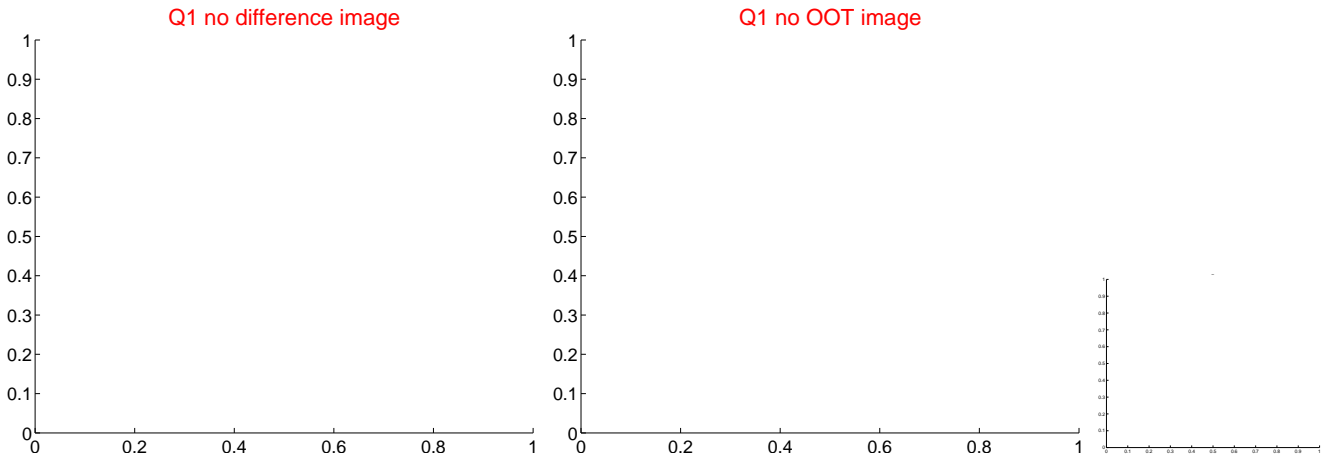
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.101 ± 3.559	1.43	3.790 ± 2.330	3.415 ± 4.646
PRF-fit source offset from KIC position	5.526 ± 3.466	1.59	4.406 ± 2.422	3.335 ± 4.768
photometric centroid source offset	0.70 ± 0.41	1.69	0.58 ± 0.41	-0.38 ± 0.41

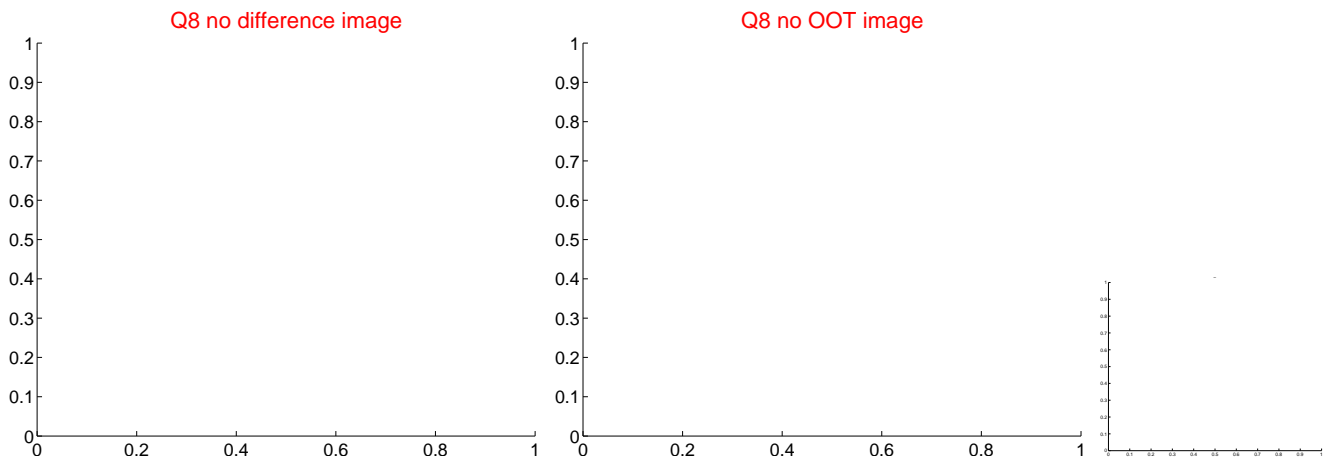
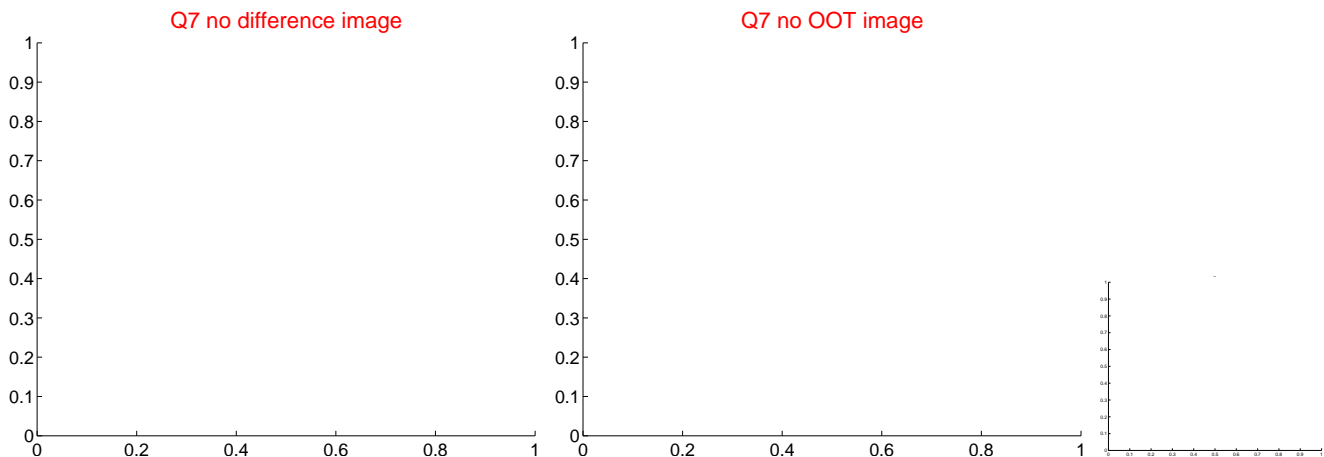
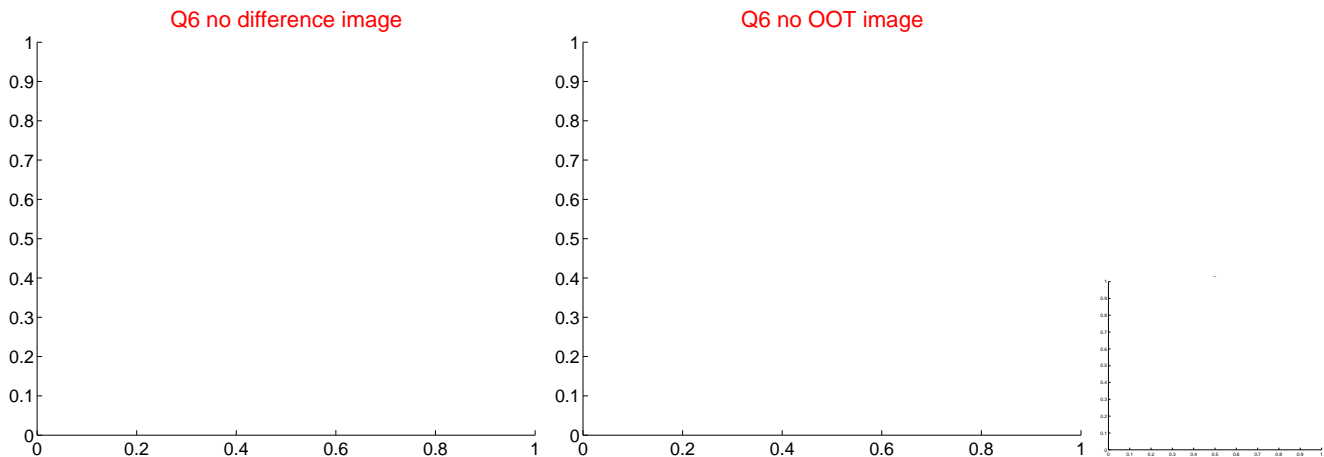
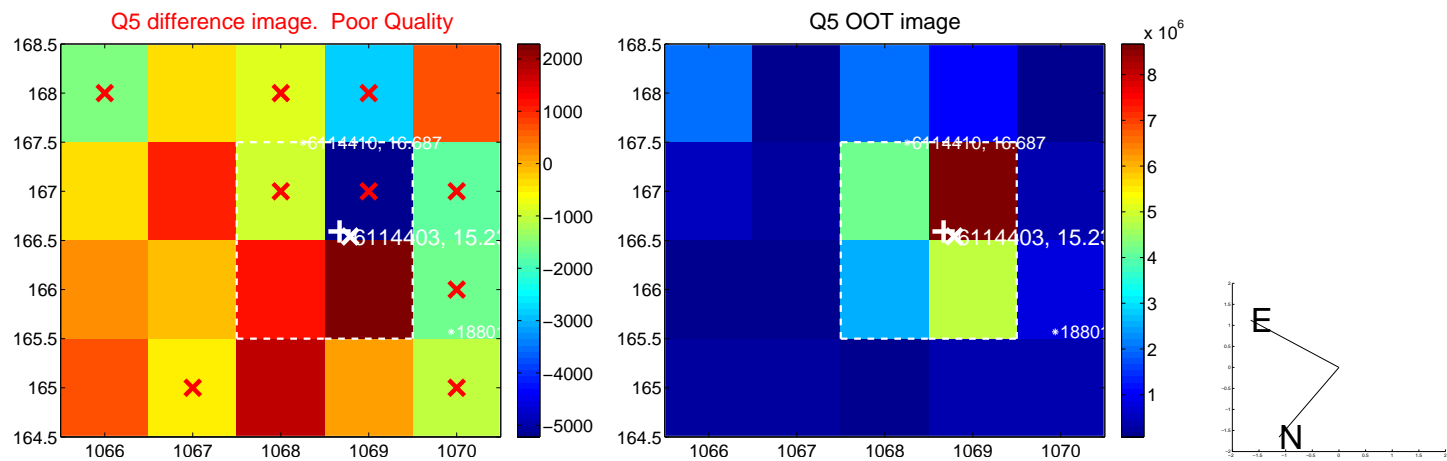


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

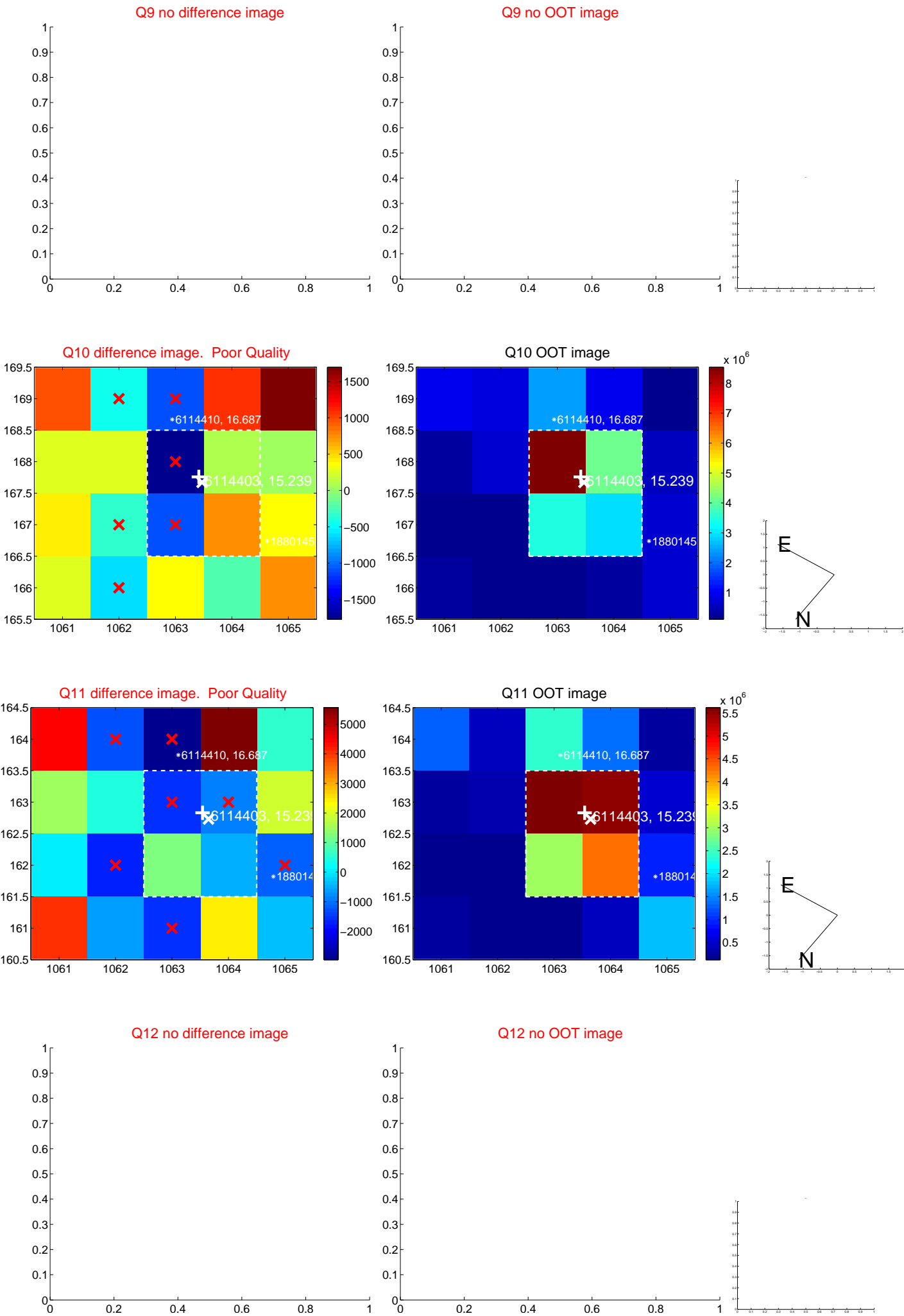
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



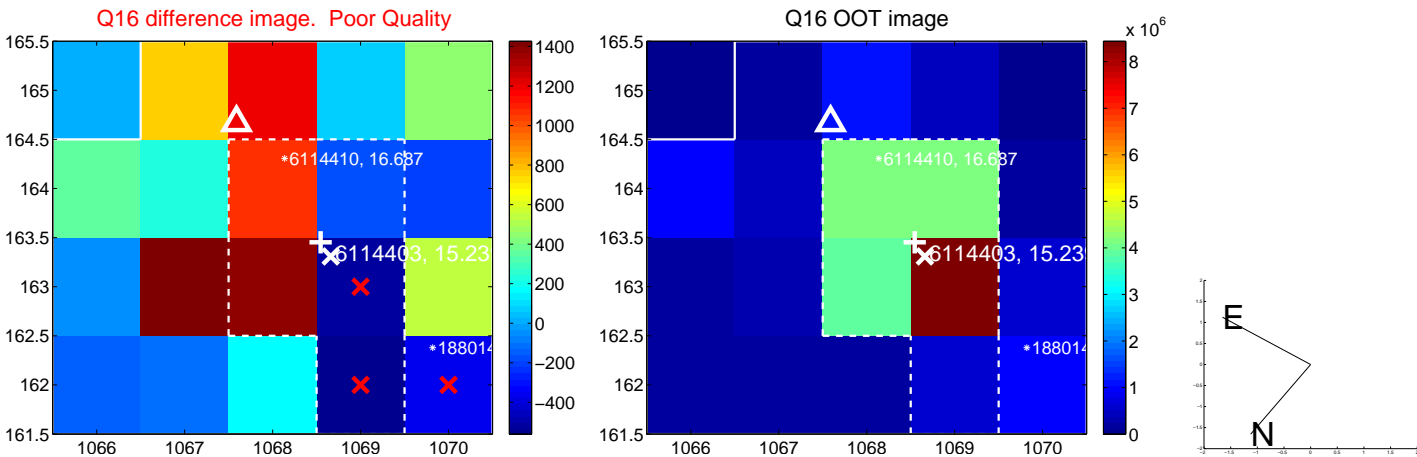
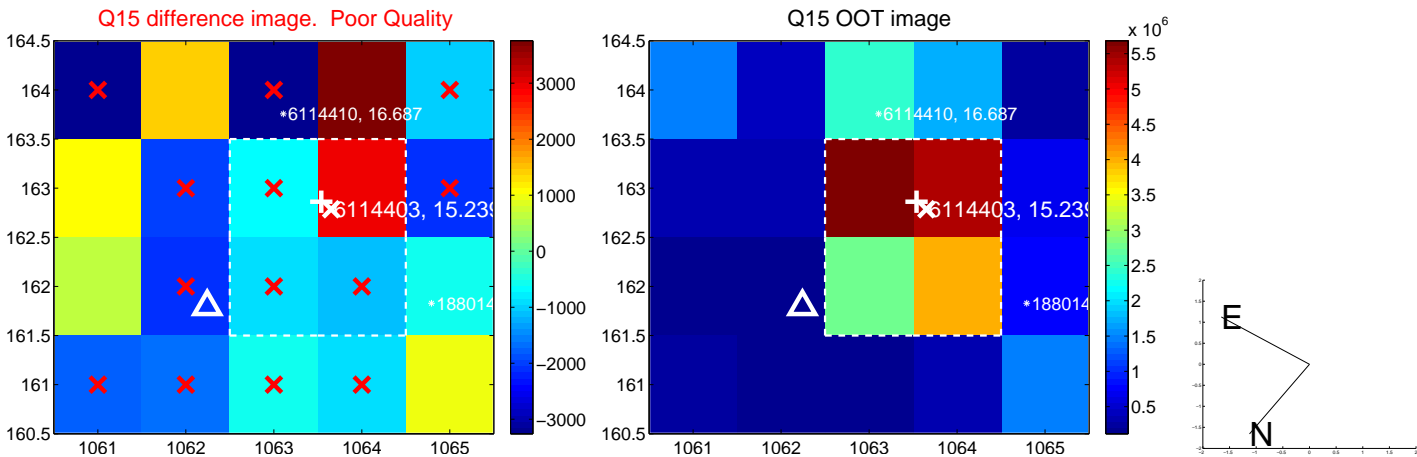
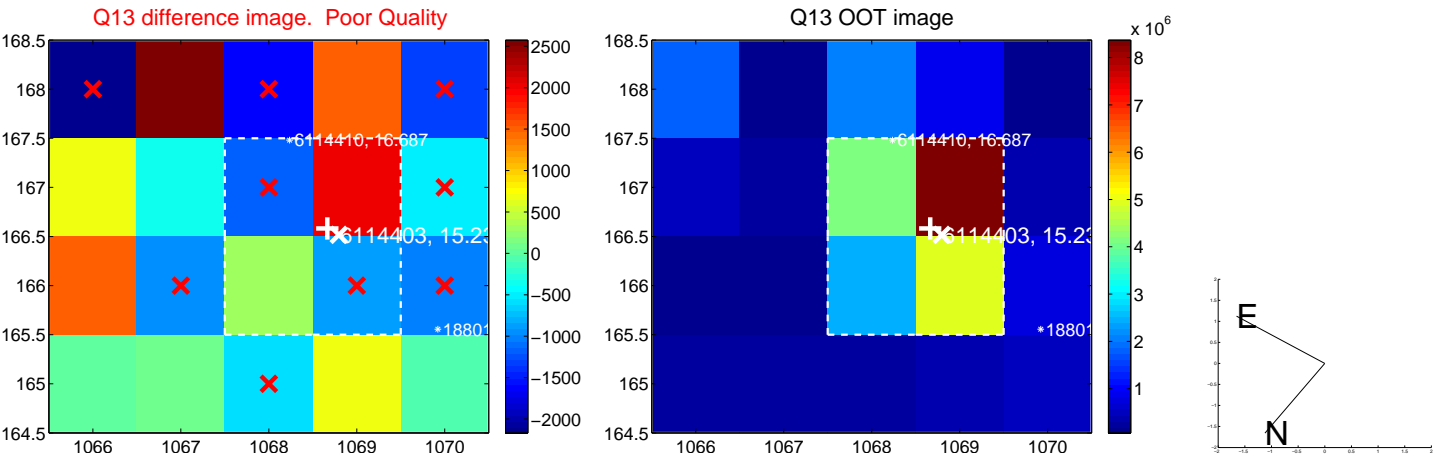
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



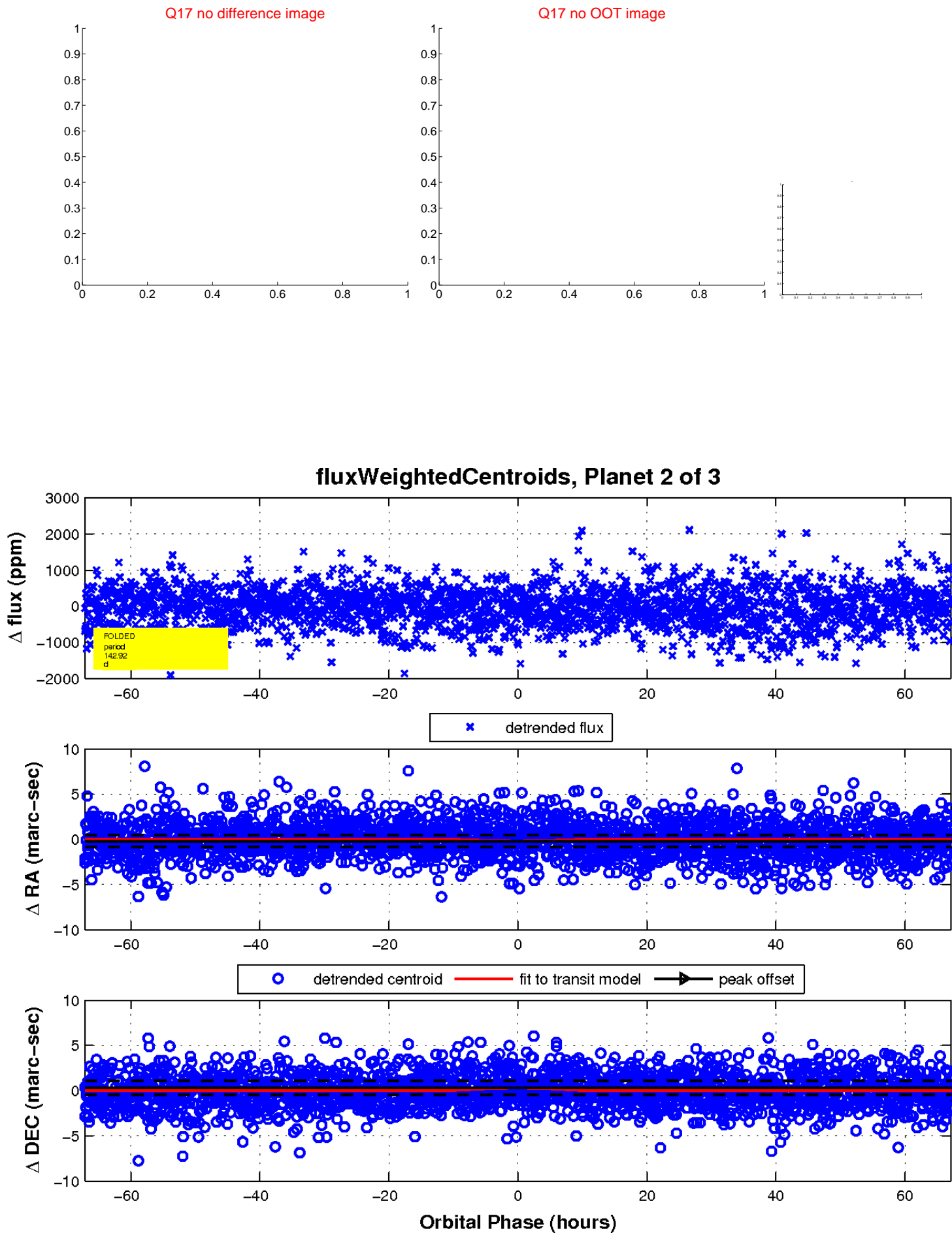
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

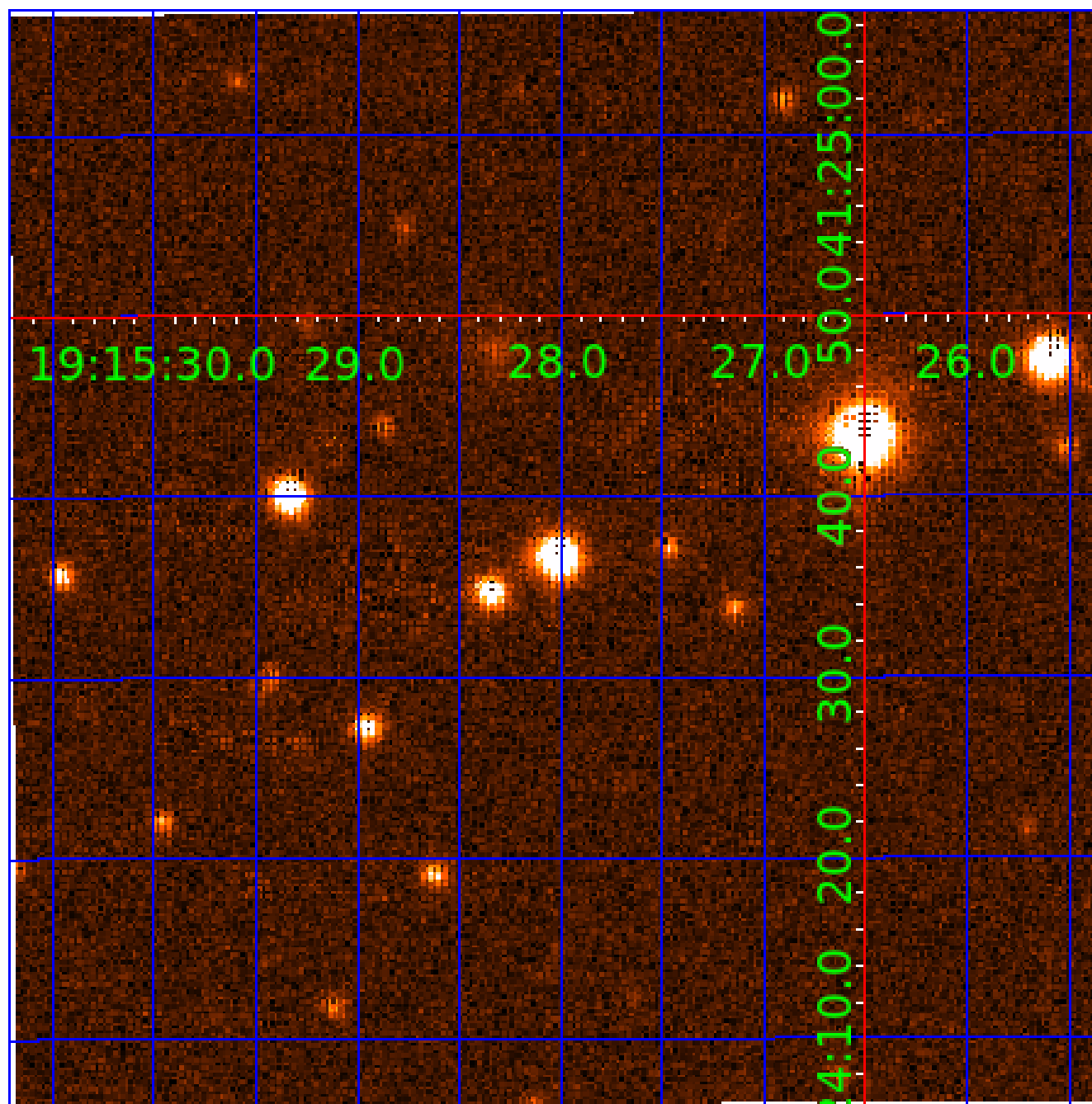


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006114403

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})
006114403-01	OBS	No	2.909427	133.273383	48.5	17.461	7.6	6.4	0.95	5408	0.79	495.03
006114403-02	OBS	No	142.918326	233.798396	1157.2	22.382	18.4	11.2	0.95	5408	5.83	2.75
006114403-03	OBS	No	169.291592	241.390796	179.8	8.134	10.1	2.0	0.95	5408	1.51	2.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006114403-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
006114403-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006114403-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

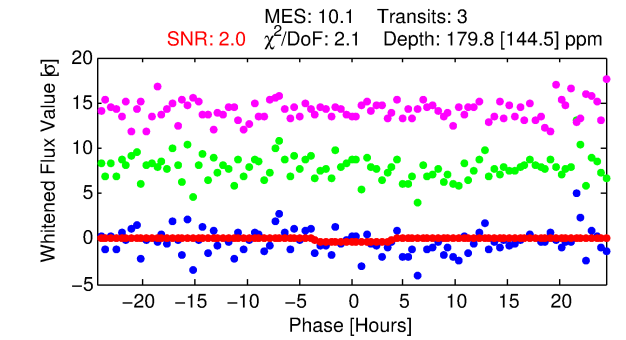
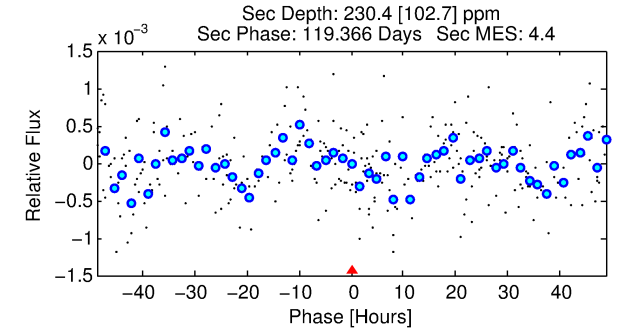
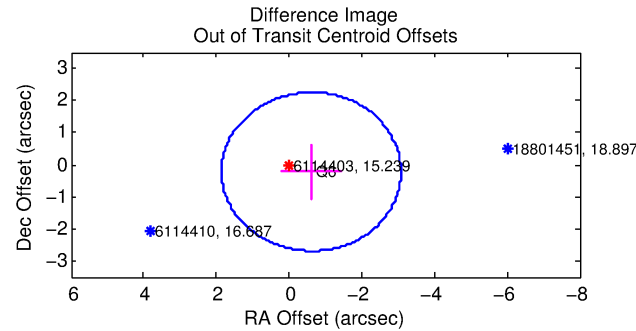
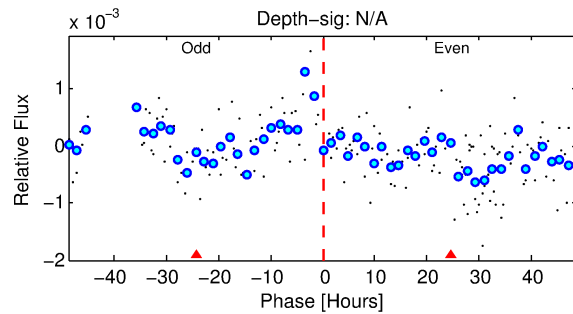
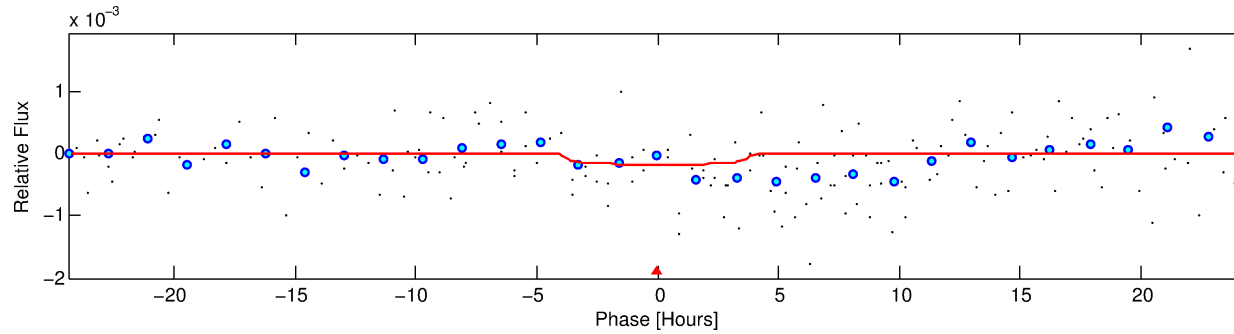
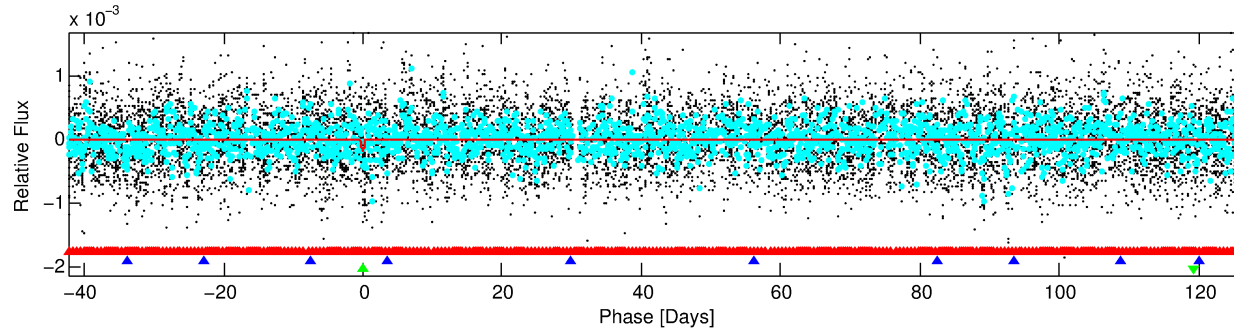
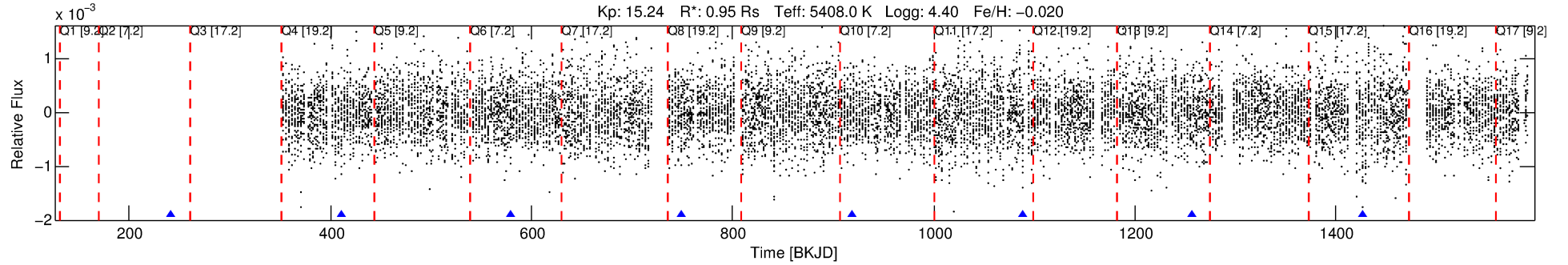
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006114403-03

No Significant Match Found

DV One-Page Summary

KIC: 6114403 Candidate: 3 of 3 Period: 169.292 d



DV Fit Results:

Period = 169.29159 [0.01835] d
Epoch = 241.3908 [0.0824] BKJD
Rp/R* = 0.0145 [0.0293]
a/R* = 79.66 [675.25]
b = 0.88 [2.17]
Seff = 2.20 [0.80]
Teq = 310 [28] K
Rp = 1.51 [3.08] Re
a = 0.5642 [0.1281] AU
Ag = 17673.56 [72029.00] [0.25σ]
Teffp = 5533 [5622] K [0.93σ]

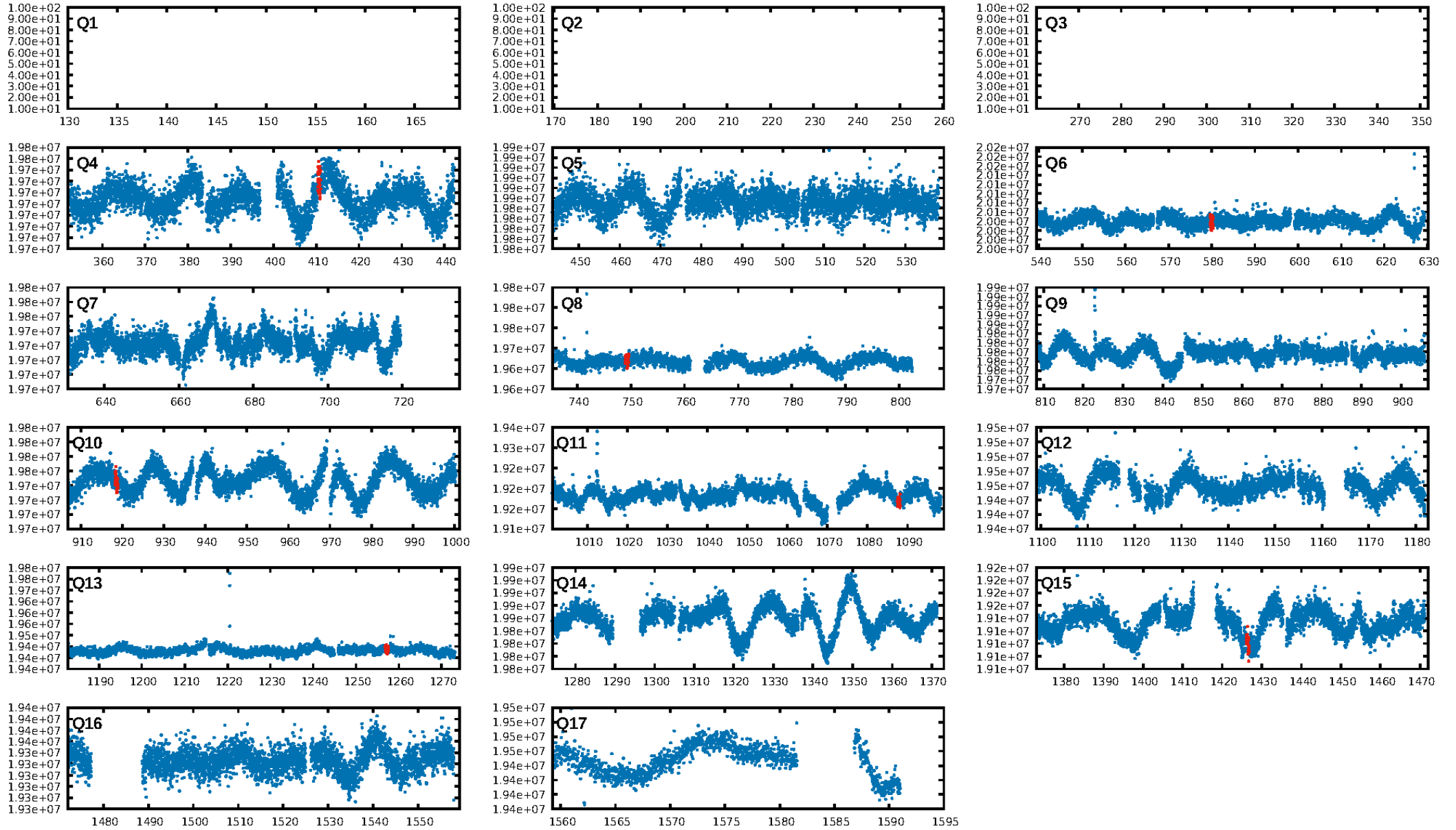
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.58σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.3%
ModelChiSquareGof-sig: 94.7%
Bootstrap-pfa: 1.67e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8908
Centroid-sig: 17.8%
Centroid-so: 4.106 arcsec [1.36σ]
OotOffset-rm: 0.646 arcsec [0.78σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-rm: 0.396 arcsec [0.47σ]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.43 [3/7]

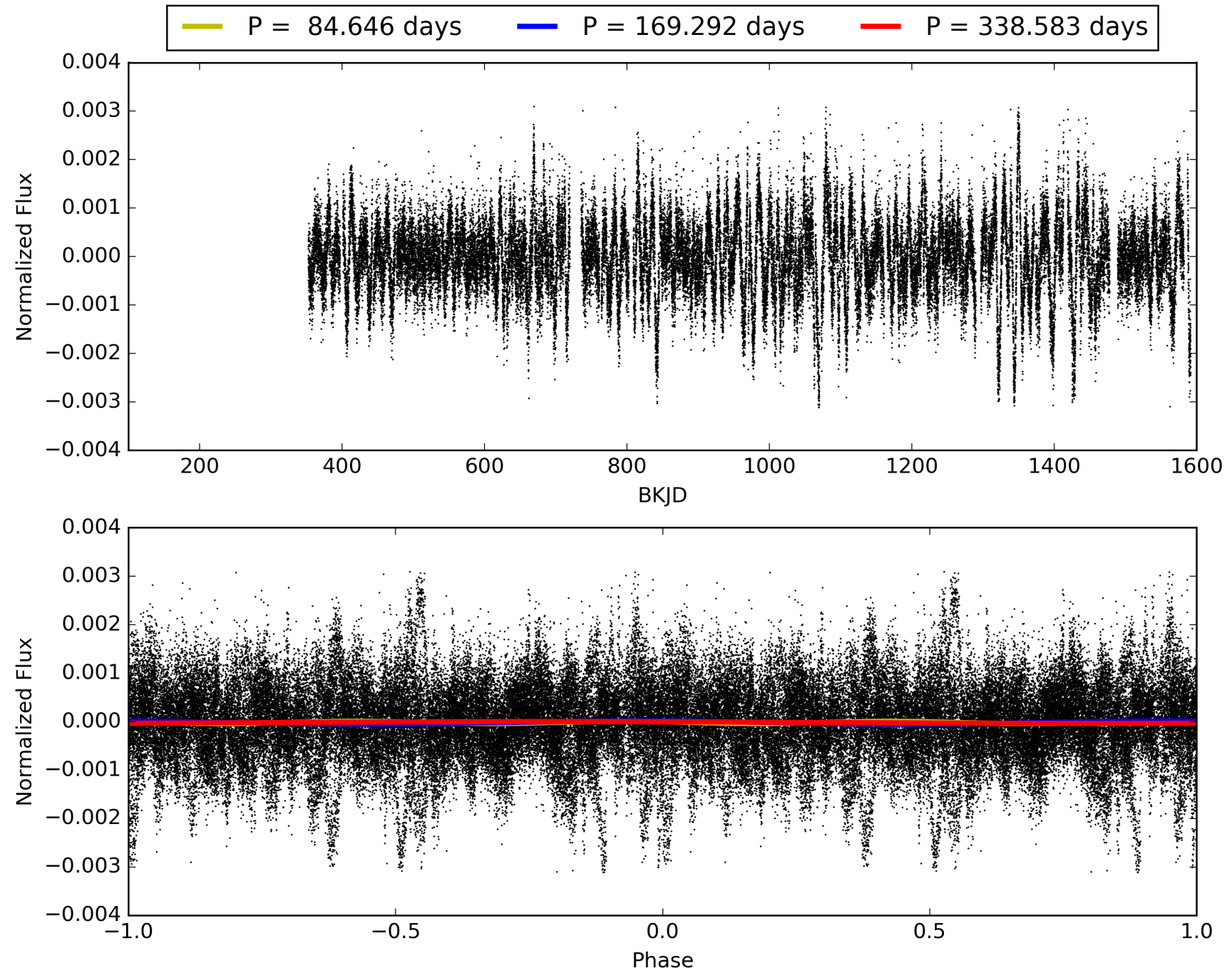
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:11:34 Z

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

TCE 006114403-03, PDC Light Curves

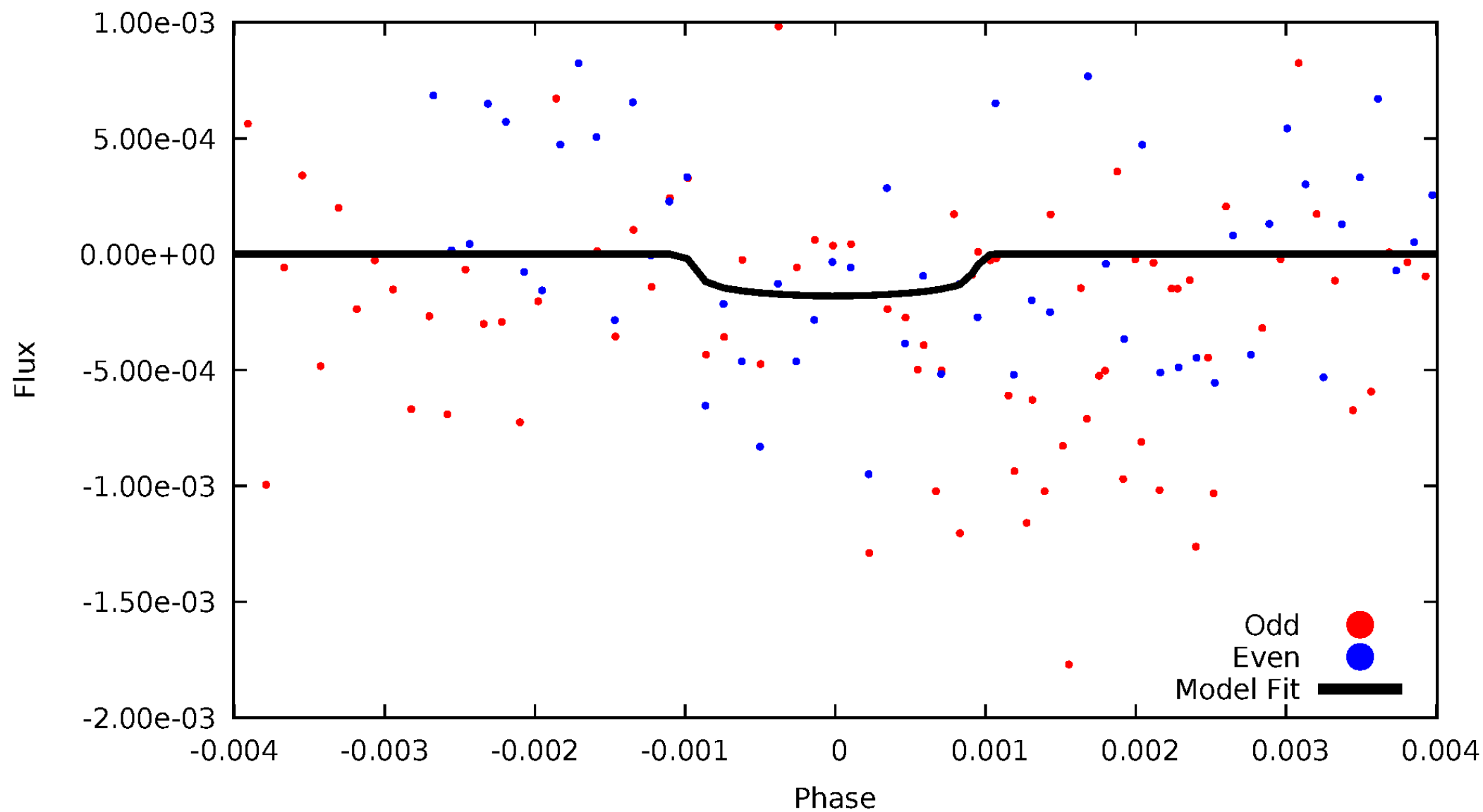


TCE 006114403-03



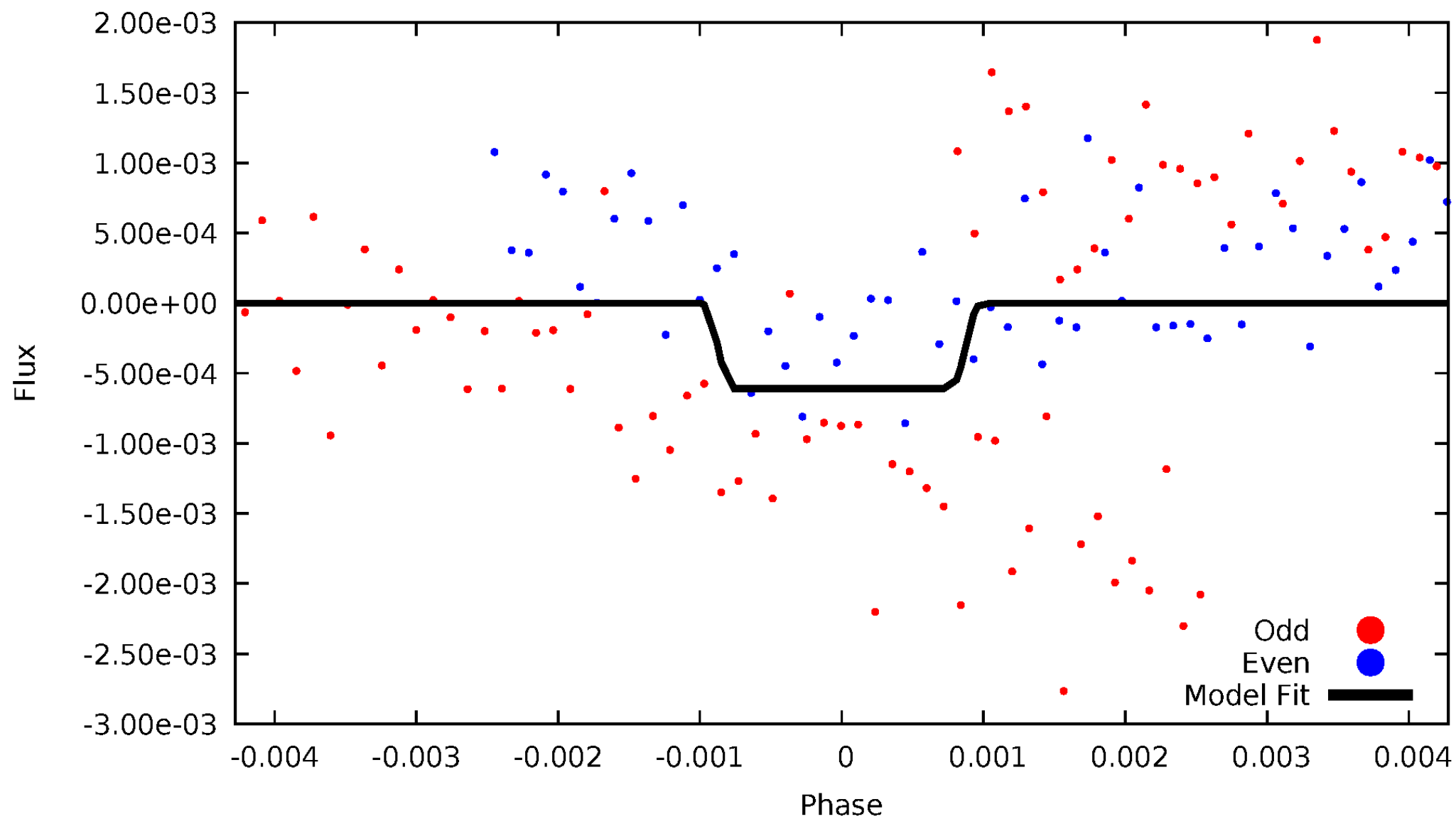
DV Odd/Even

TCE 006114403-03



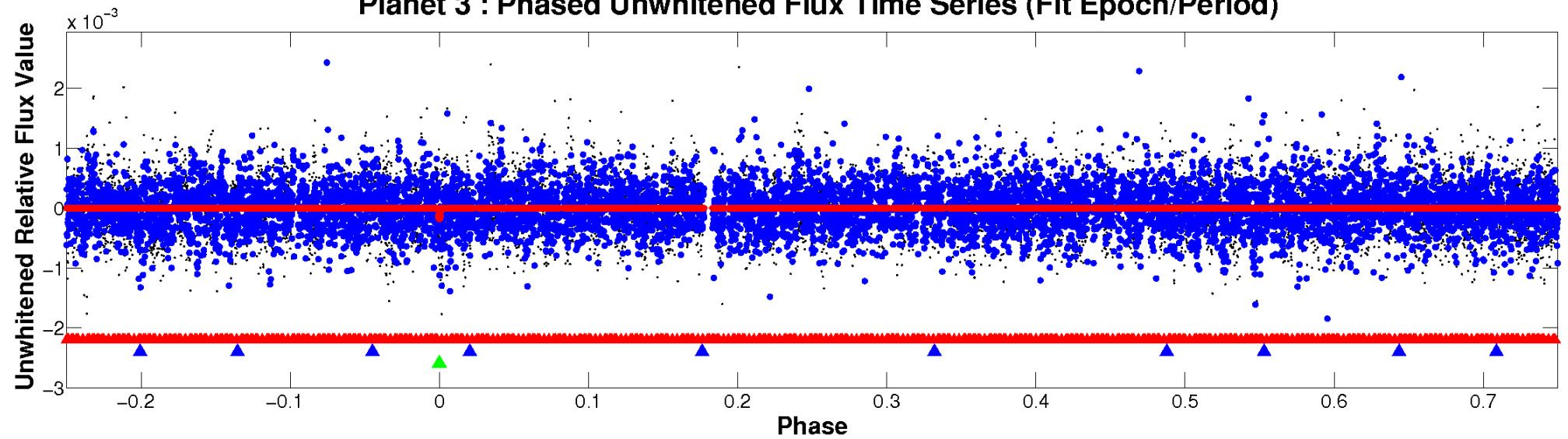
ALT Odd/Even

TCE 006114403-03

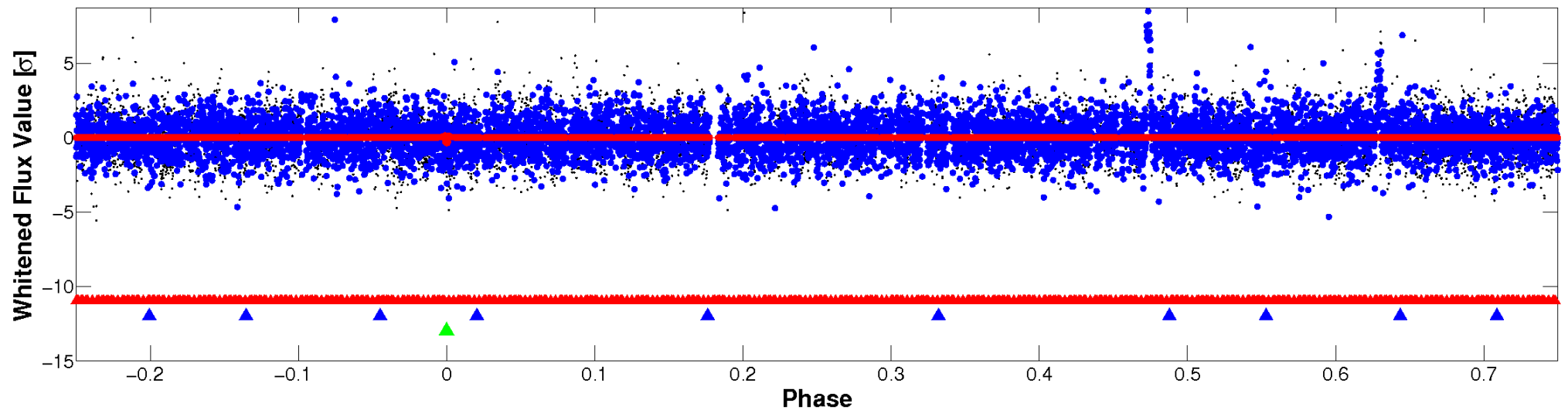


Non-Whitened Vs. Whitened Light Curve

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

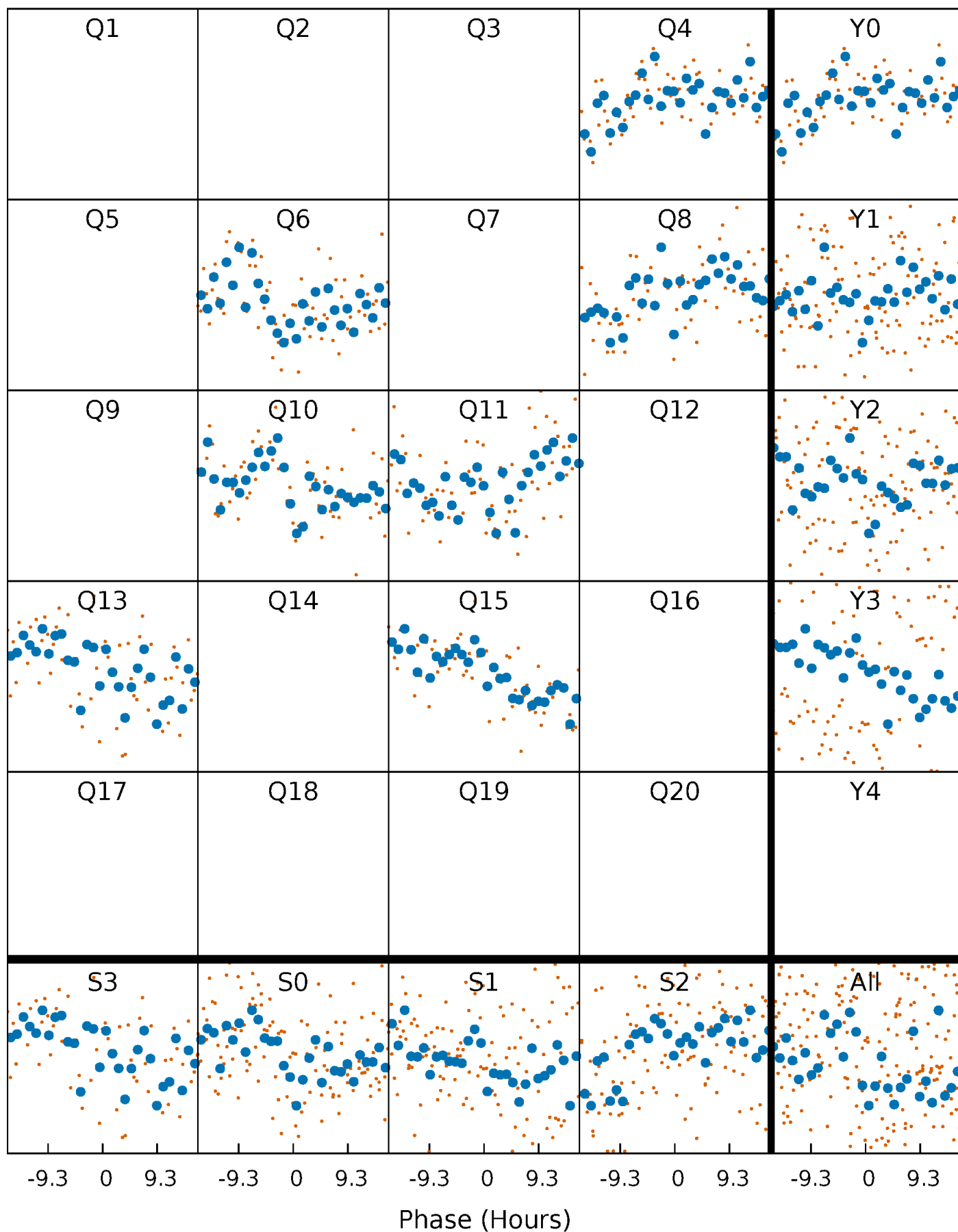


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



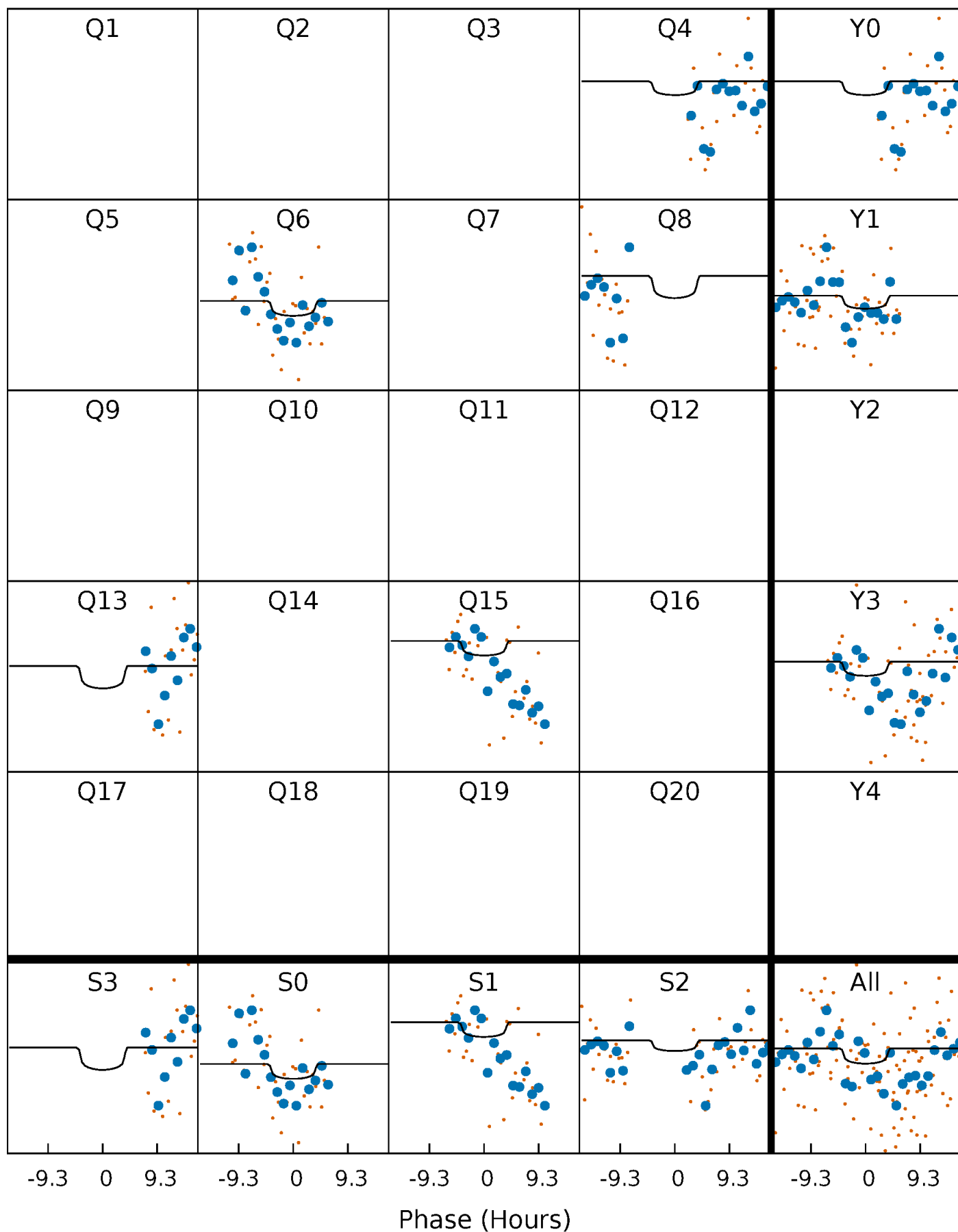
PDC Quarter-Phased Transit Curves

TCE 006114403-03 P=169.291592 Days $T_0=241.390796$ (BKJD)



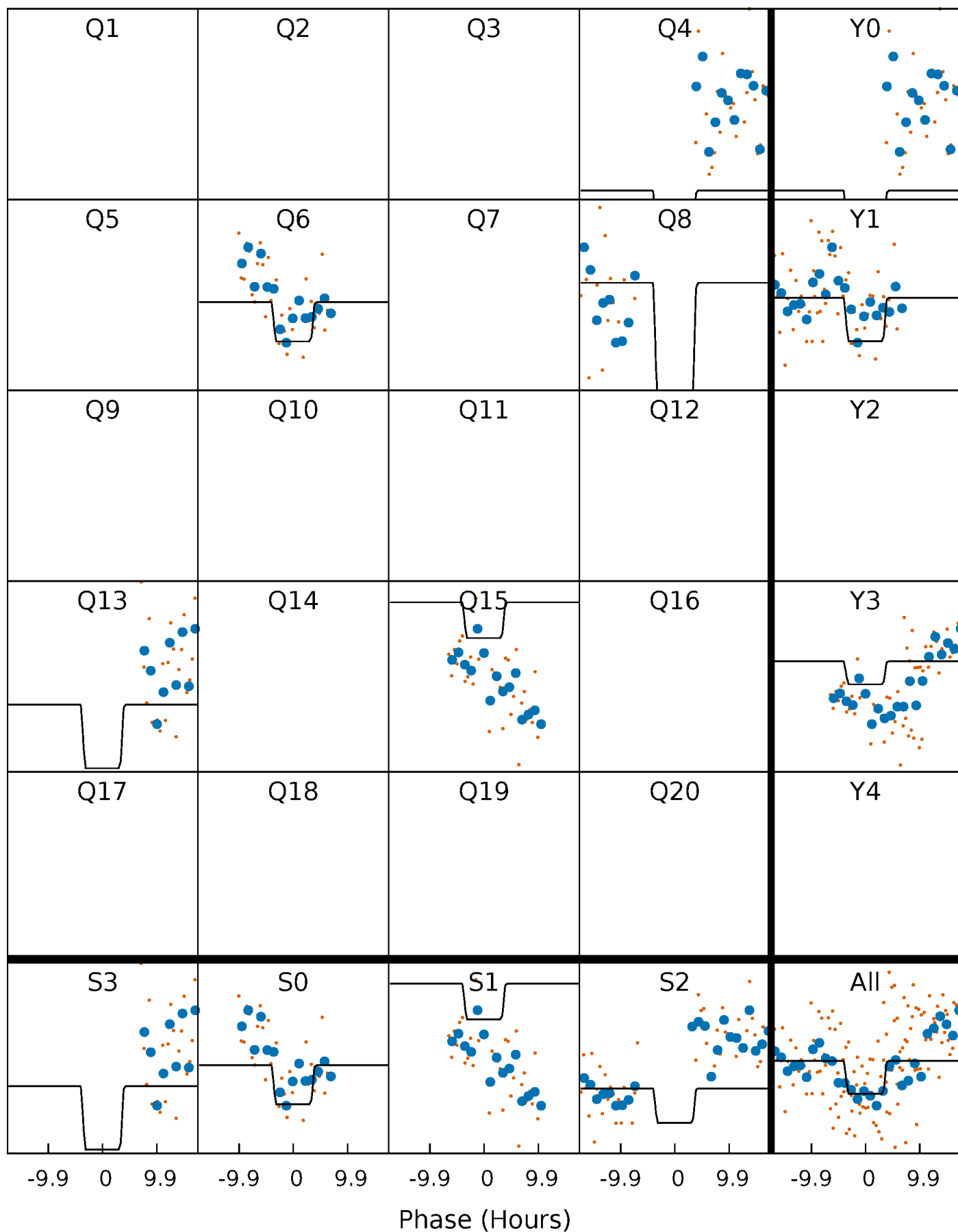
DV Quarter-Phased Transit Curves

TCE 006114403-03 P=169.291592 Days $T_0=241.390796$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

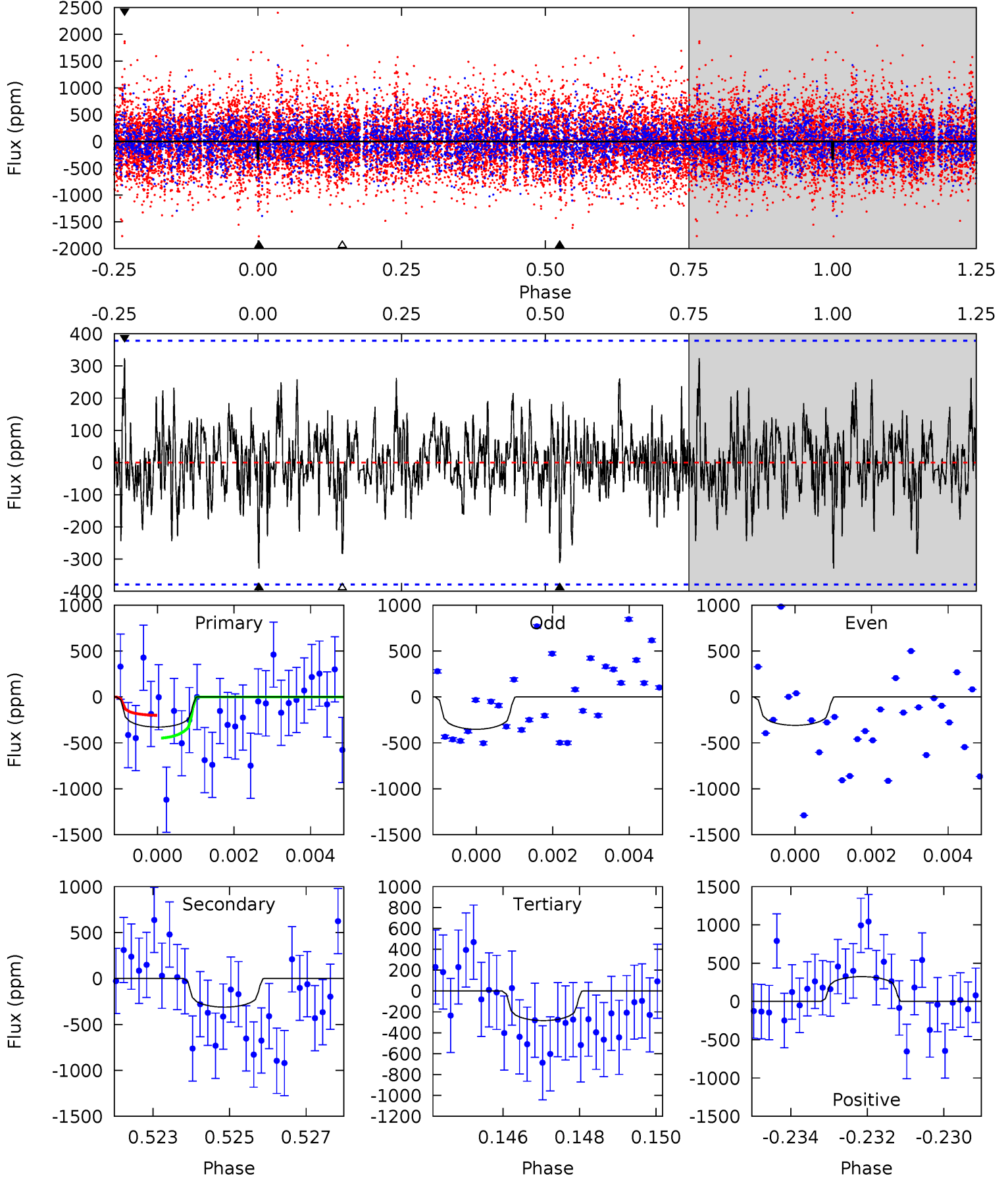
TCE 006114403-03 P=169.298856 Days $T_0=241.338015$ (BKJD)



DV Model-Shift Uniqueness Test

006114403-03, P = 169.291592 Days, E = 241.390796 Days

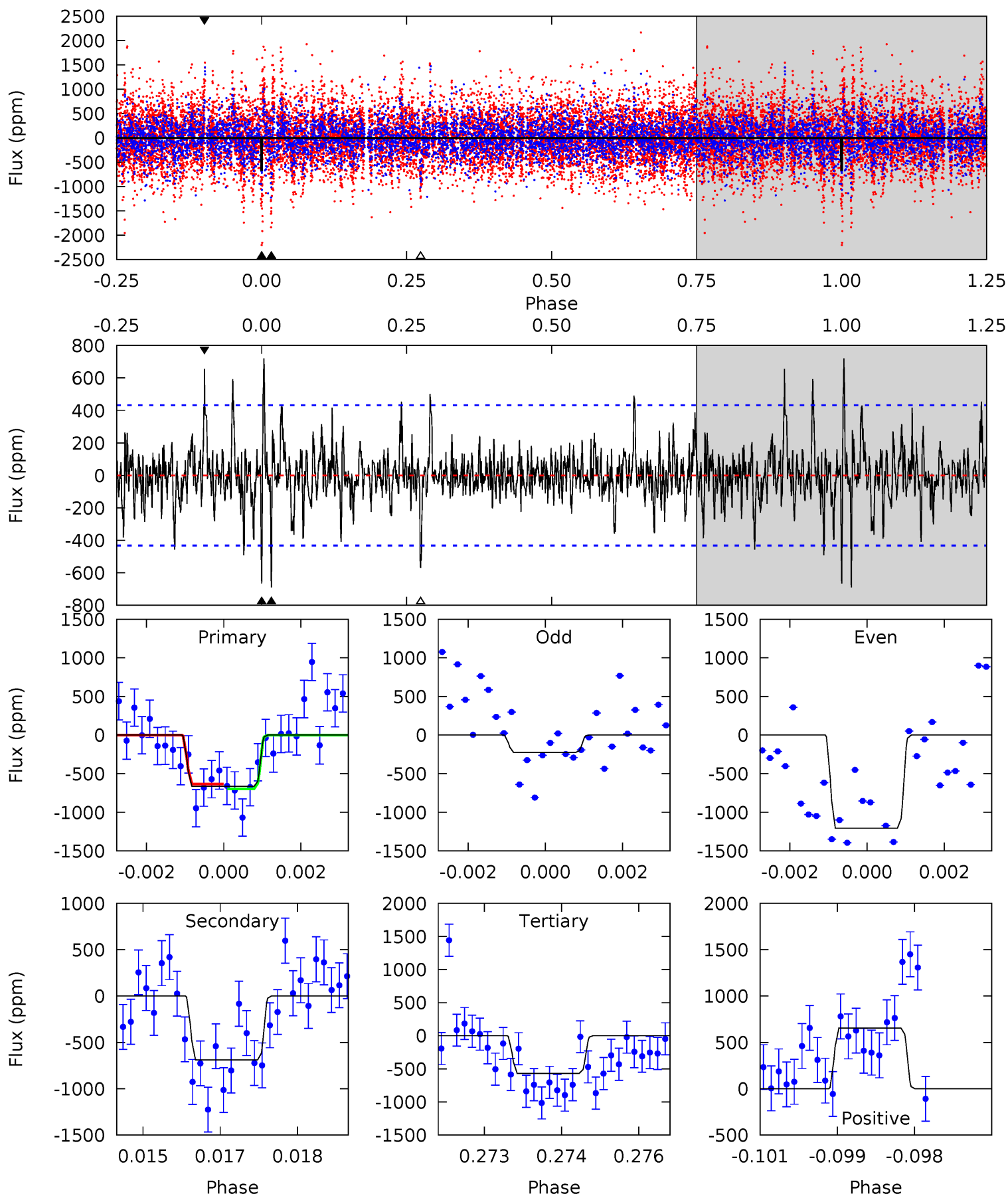
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.62	4.38	3.99	4.55	5.32	3.08	1.16	0.64	0.07	0.40	-0.17	0.29	1.08	0.50	1.73



Alt Model-Shift Uniqueness Test

006114403-03, P = 169.298856 Days, E = 241.338015 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.21	8.51	7.02	8.09	5.34	3.11	1.72	1.19	0.12	1.49	0.42	5.95	0.20	0.51	0.37



Stellar Parameters For KIC 006114403

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5408^{+187}_{-187}	$4.400^{+0.153}_{-0.187}$	$-0.020^{+0.300}_{-0.250}$	$0.955^{+0.252}_{-0.155}$	$0.835^{+0.117}_{-0.063}$	$1.351^{+0.923}_{-0.670}$
	+3%/-3%	+3%/-4%	+1500%/-1250%	+26%/-16%	+14%/-8%	+68%/-50%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006114403-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-312 ± 71	$2.79^{+2.50}_{-1.84}$	436^{+33}_{-28}	4535^{+3352}_{-928}	6757^{+52811}_{-4866}
Alt.	-689 ± 81	$3.60^{+2.84}_{-2.48}$	437^{+35}_{-27}	4850^{+4036}_{-967}	9603^{+86432}_{-6697}

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

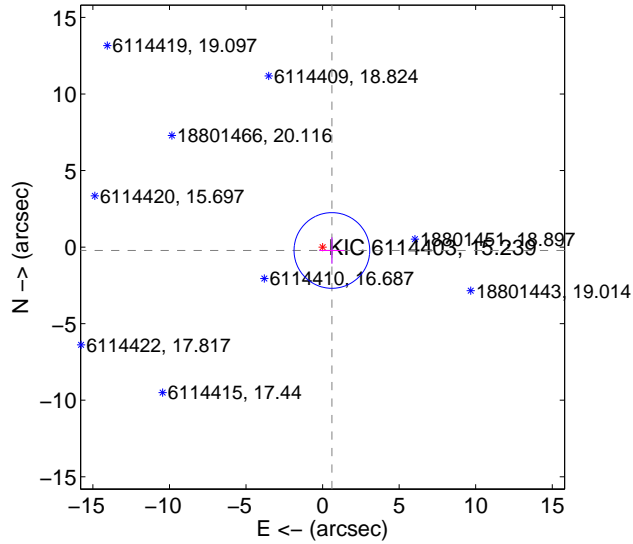
Supplemental centroid analysis for 006114403-03. Kepler magnitude: 15.24. Transit SNR 2.01

There are 1 quarters with good PRF difference image offsets

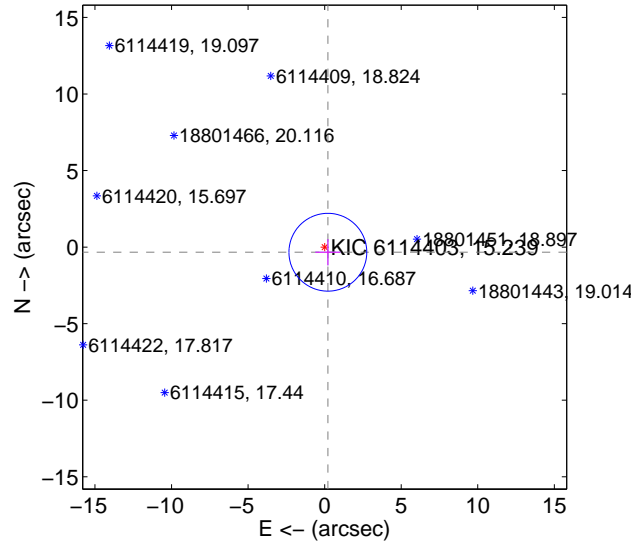
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.646 ± 0.824	0.78	-0.608 ± 0.819	-0.220 ± 0.858
PRF-fit source offset from KIC position	0.396 ± 0.847	0.47	-0.210 ± 0.819	-0.335 ± 0.858
photometric centroid source offset	4.11 ± 3.02	1.36	3.71 ± 3.00	1.75 ± 3.14

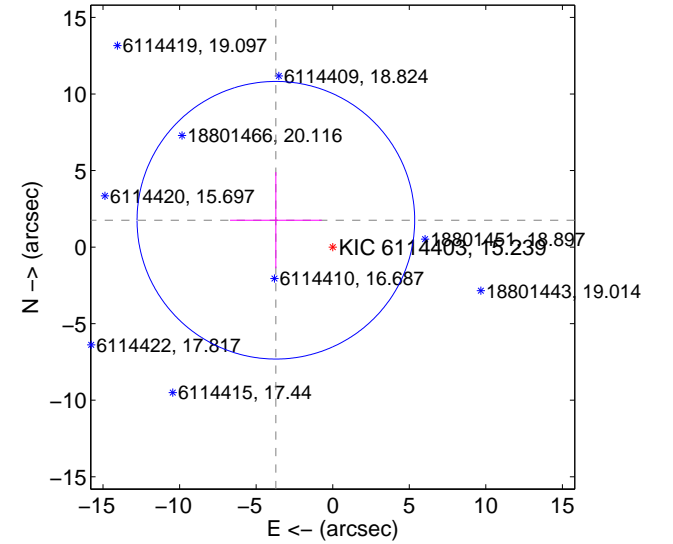
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



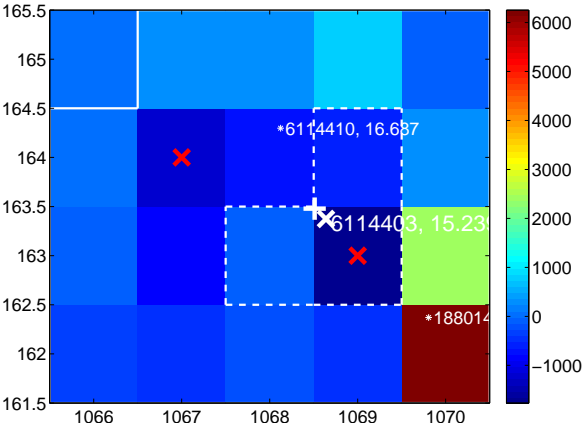
Q3 no difference image



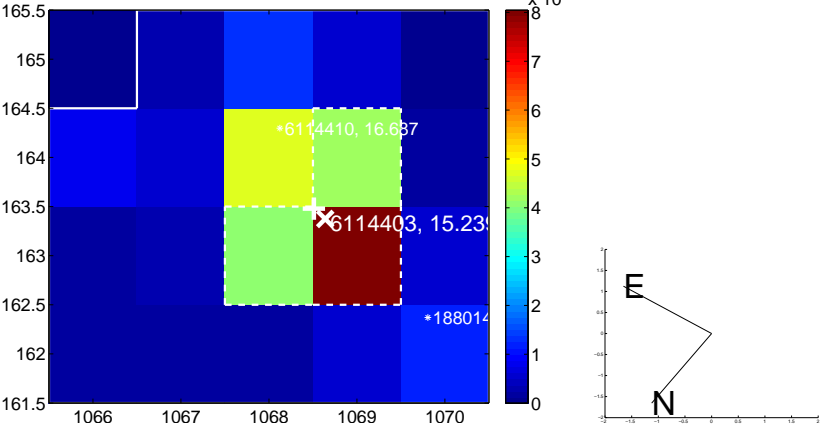
Q3 no OOT image



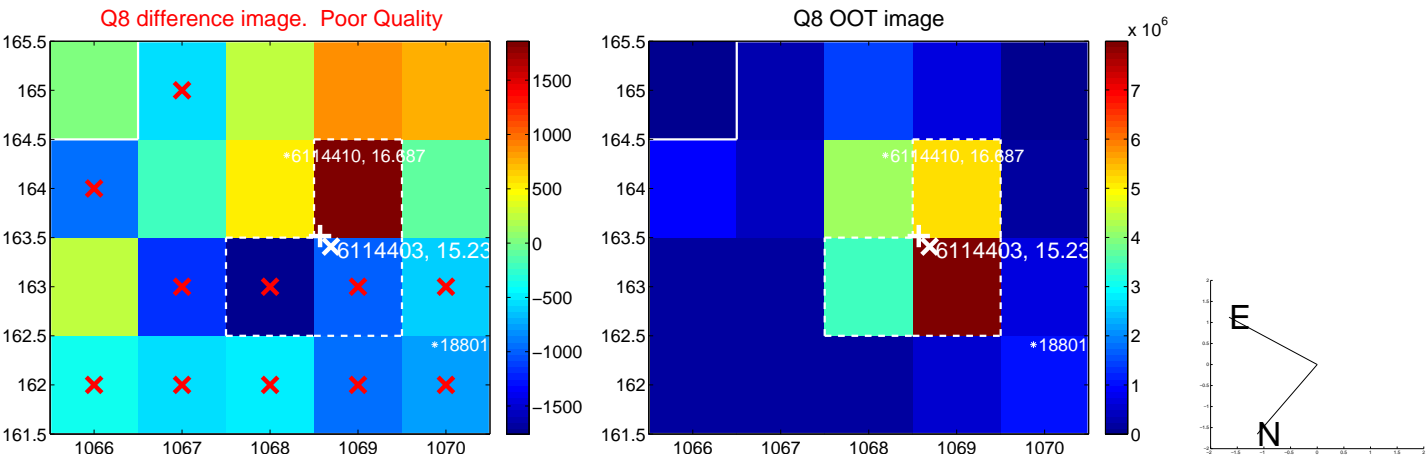
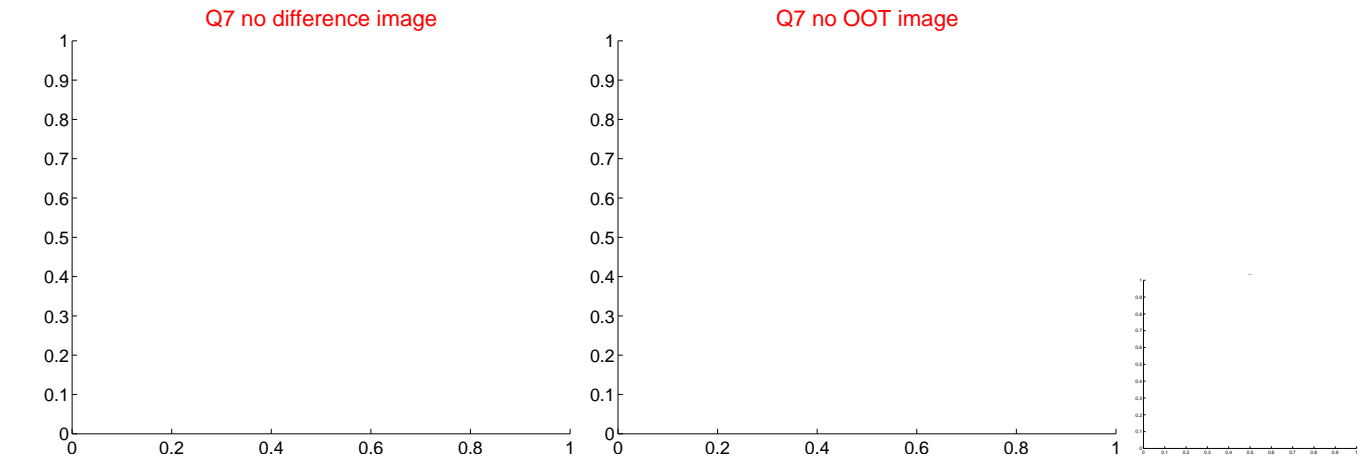
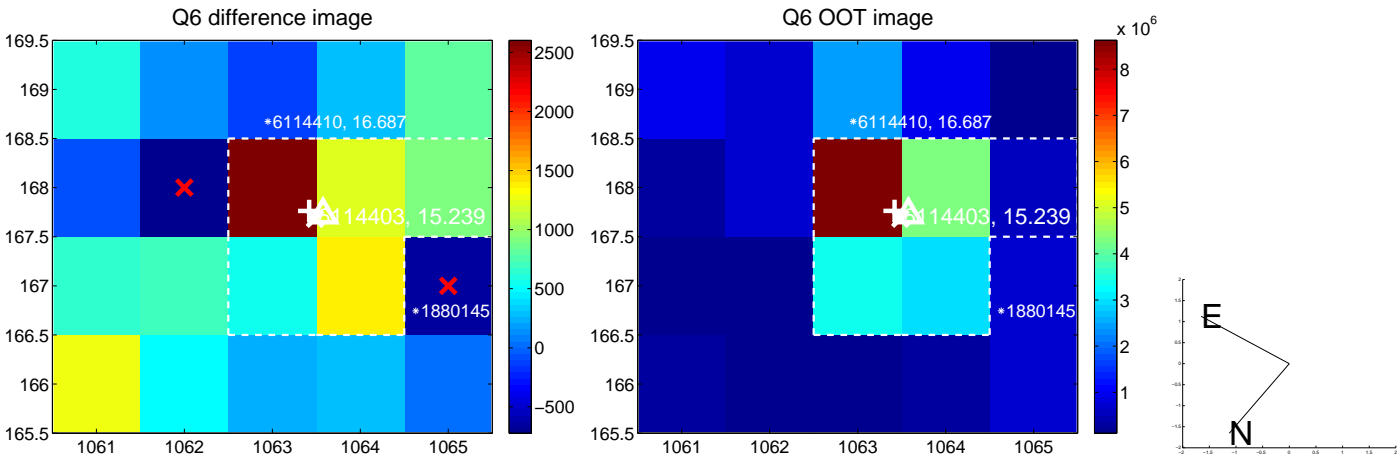
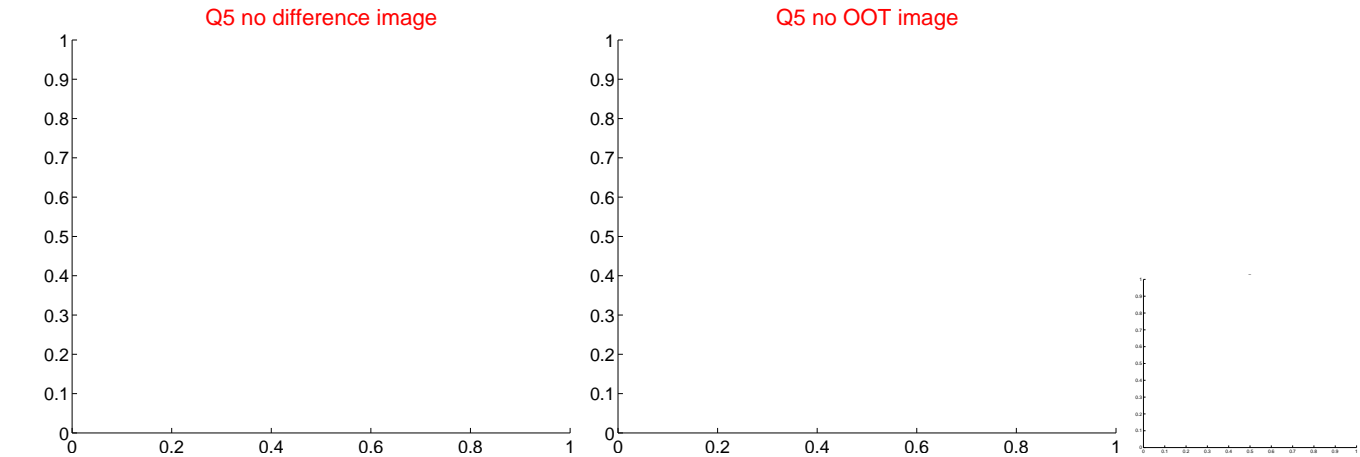
Q4 difference image. Poor Quality



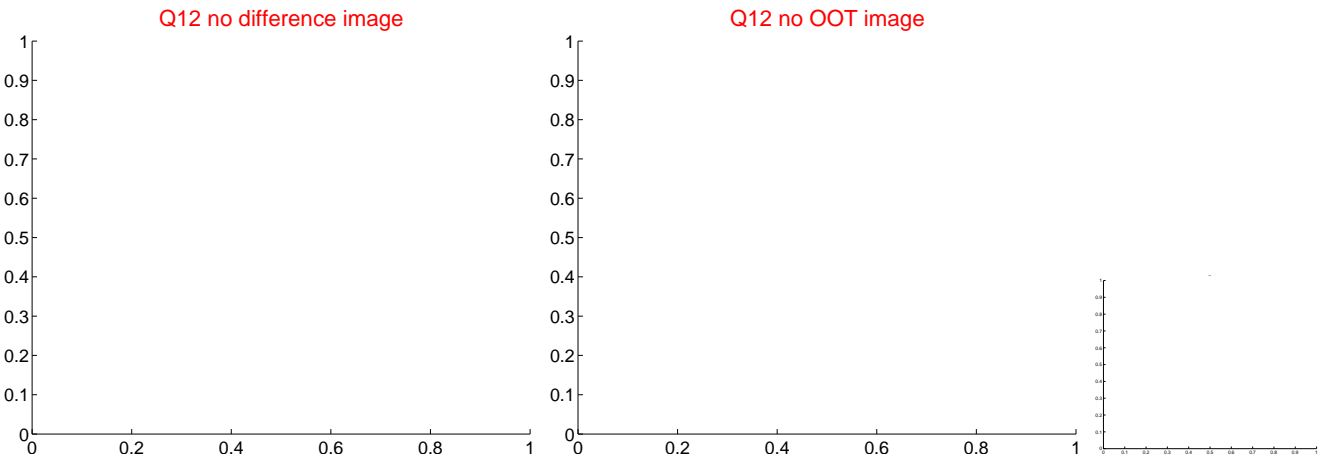
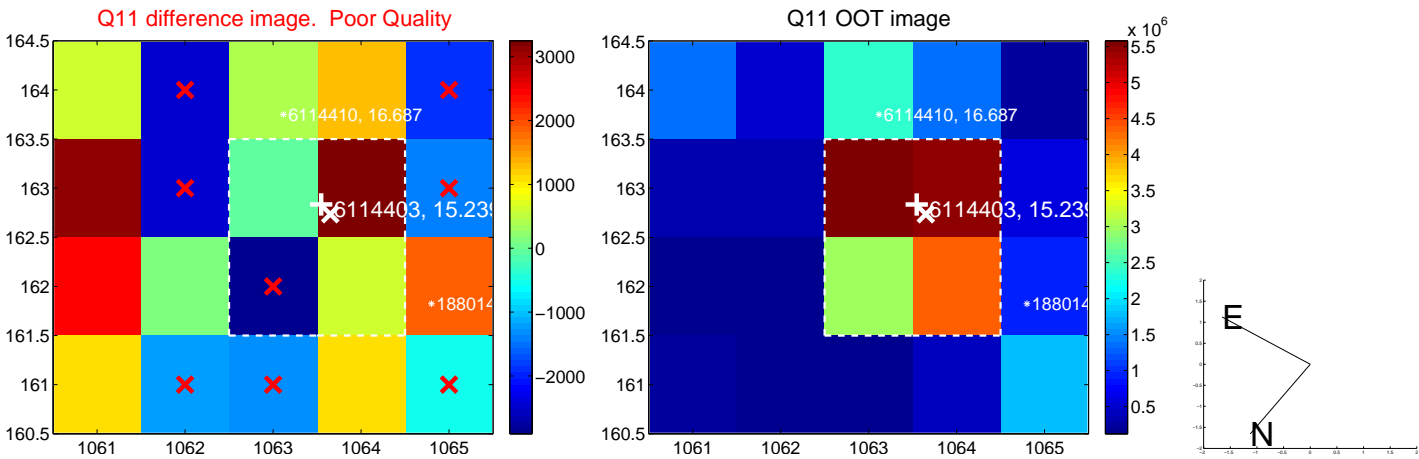
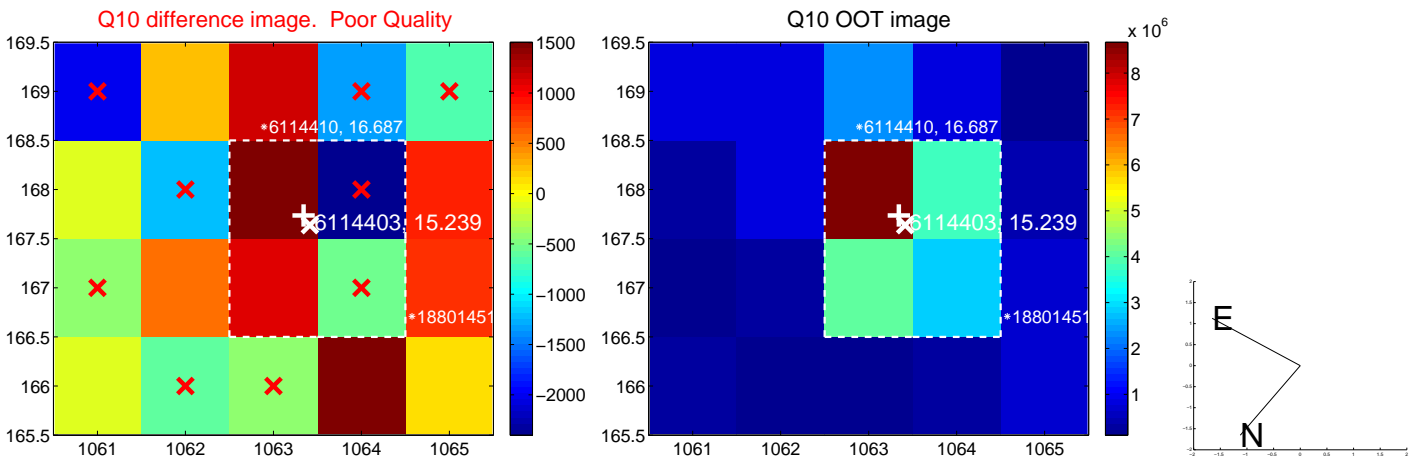
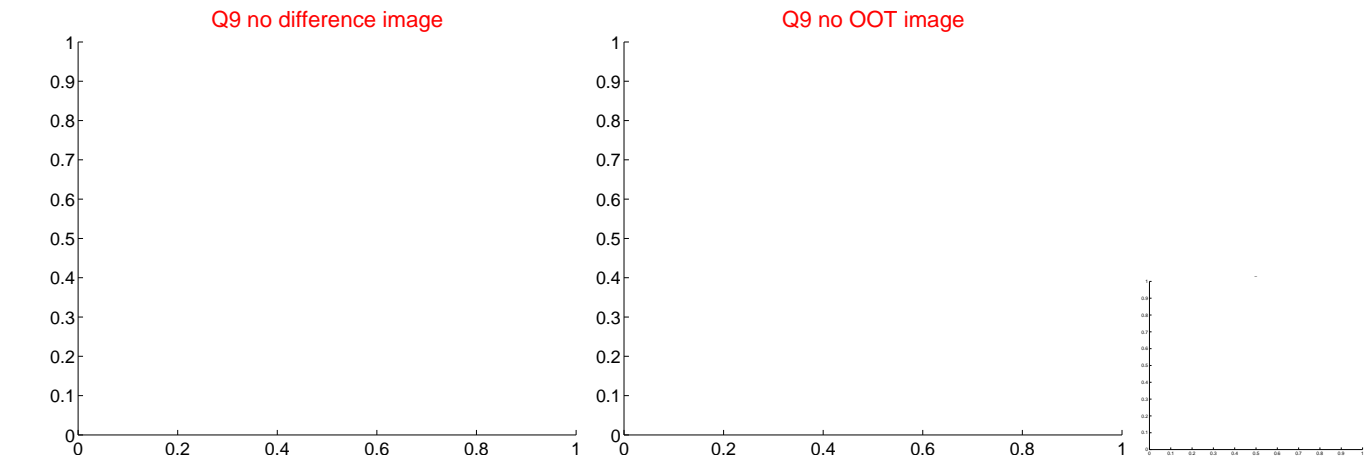
Q4 OOT image



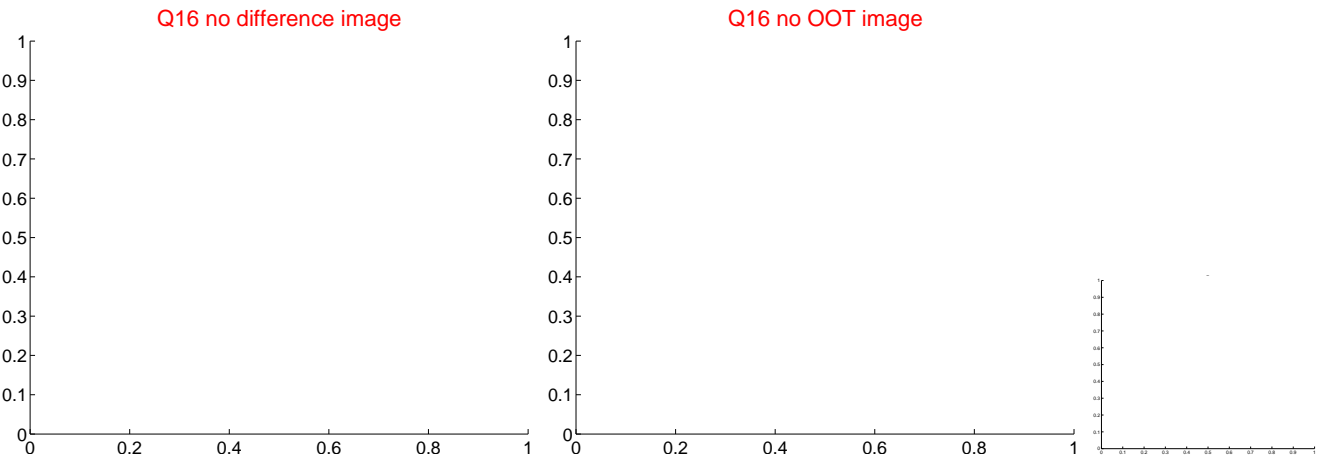
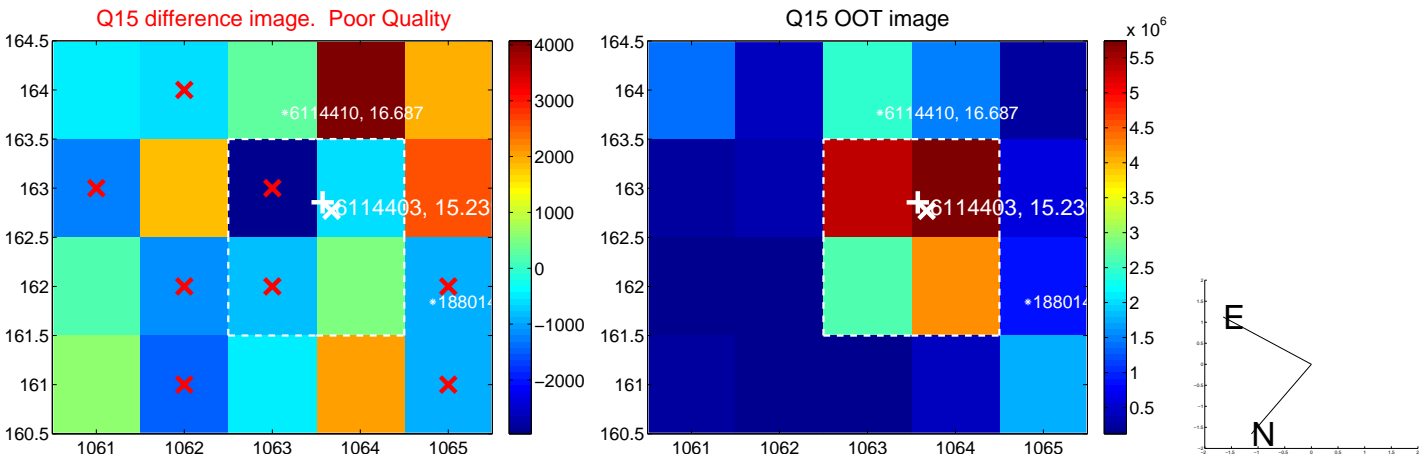
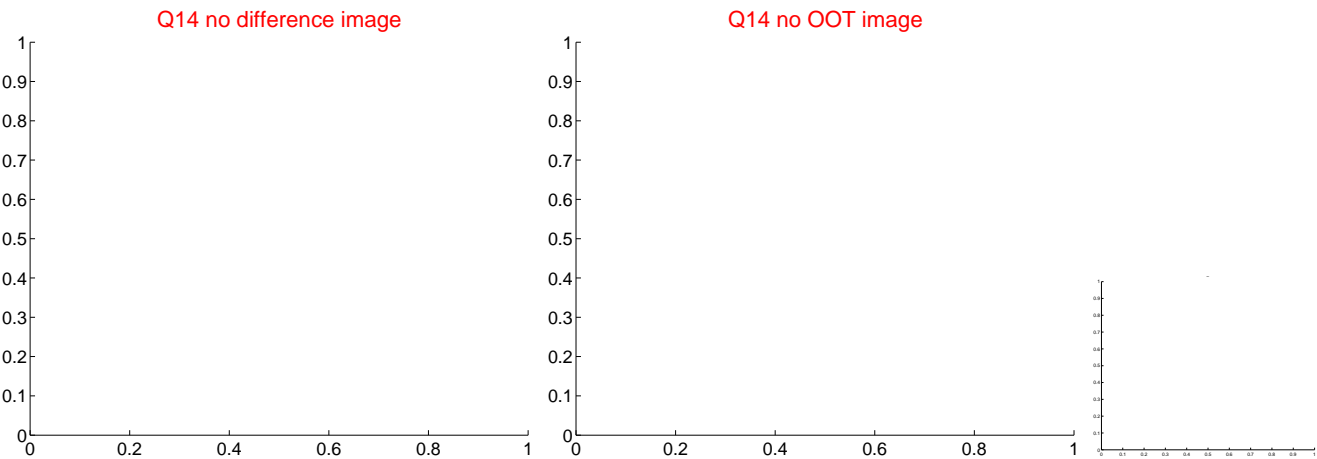
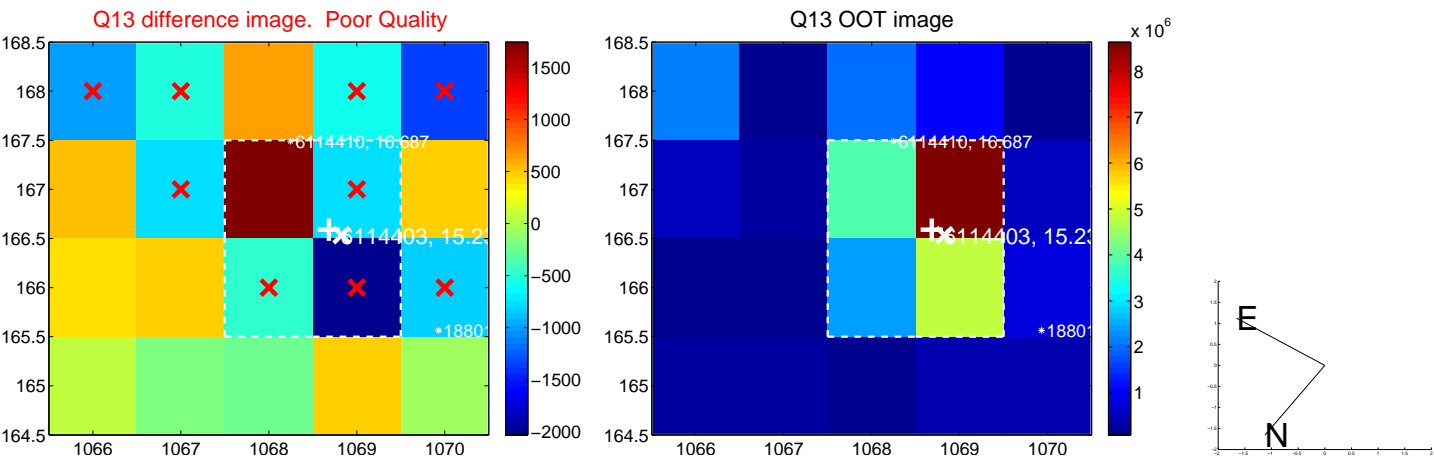
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



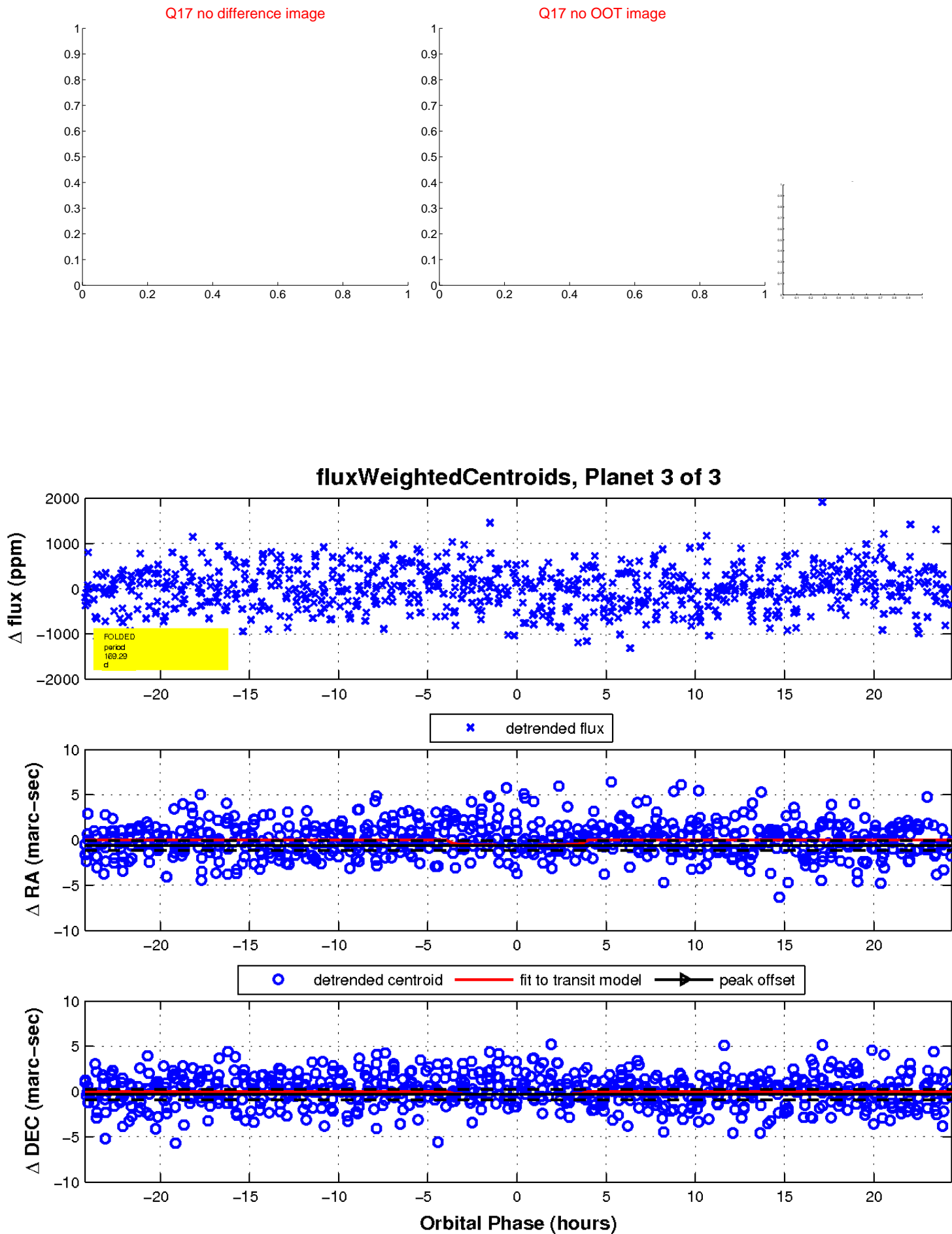
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

