

KIC 006105113

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})
006105113-01	OBS	No	0.879411	132.288983	64.8	1.831	11.2	10.5	4.50	4754	4.46	0.00
006105113-02	OBS	No	0.879413	131.858810	45.8	2.733	9.6	6.2	4.50	4754	3.74	0.00
006105113-03	OBS	No	107.101199	138.456202	1627.6	5.986	8.3	7.3	4.50	4754	36.66	50.04
006105113-04	OBS	No	112.212971	205.646245	1481.9	3.863	8.2	7.8	4.50	4754	17.74	47.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006105113-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006105113-02	OBS	FP	0.00	1	0	1	0	LPP_DV—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET—HALO_GHOST
006105113-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
006105113-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

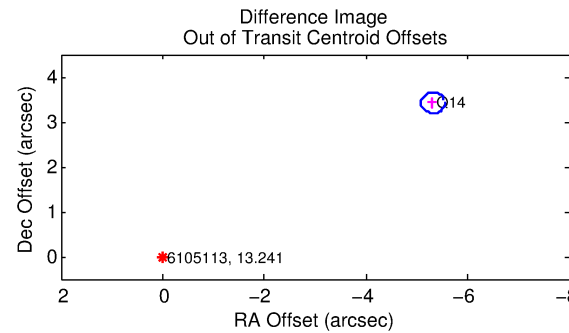
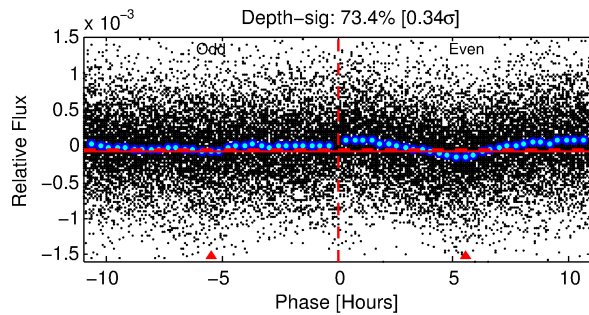
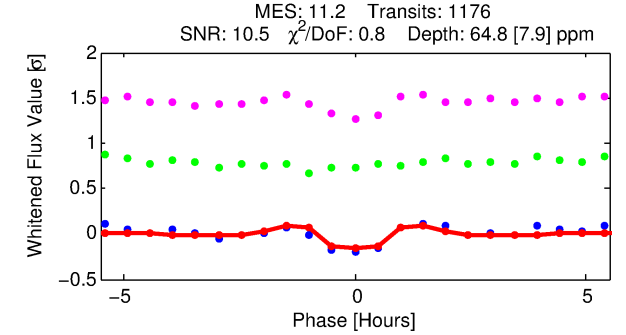
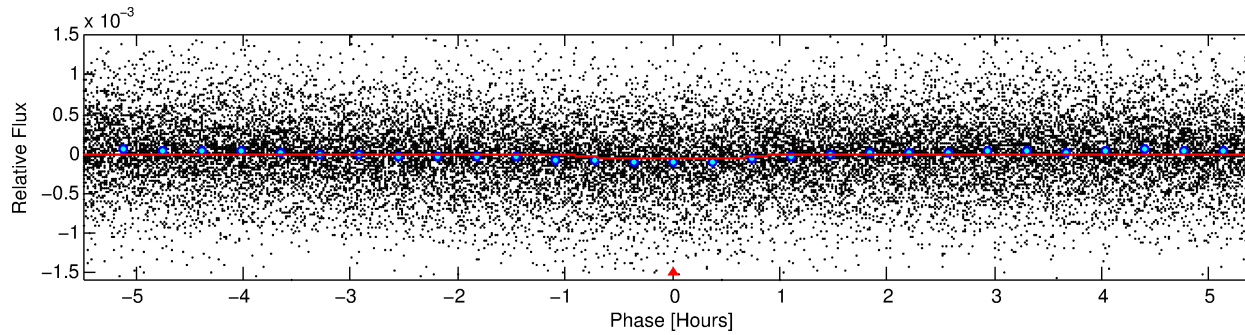
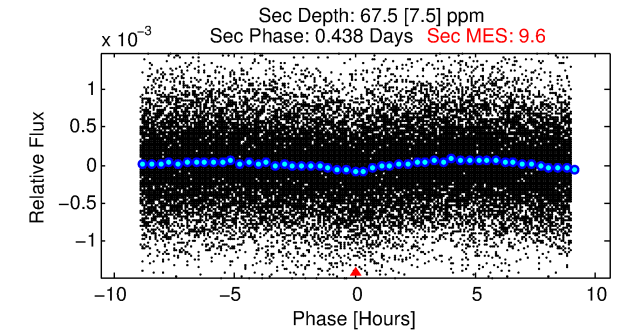
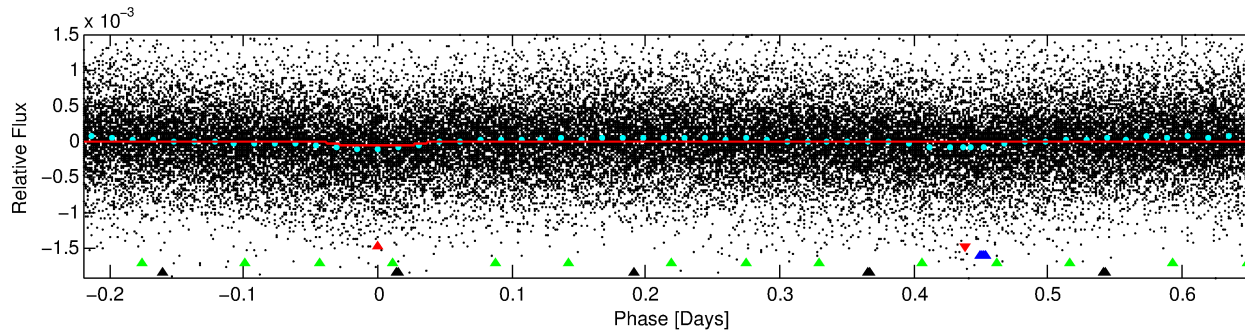
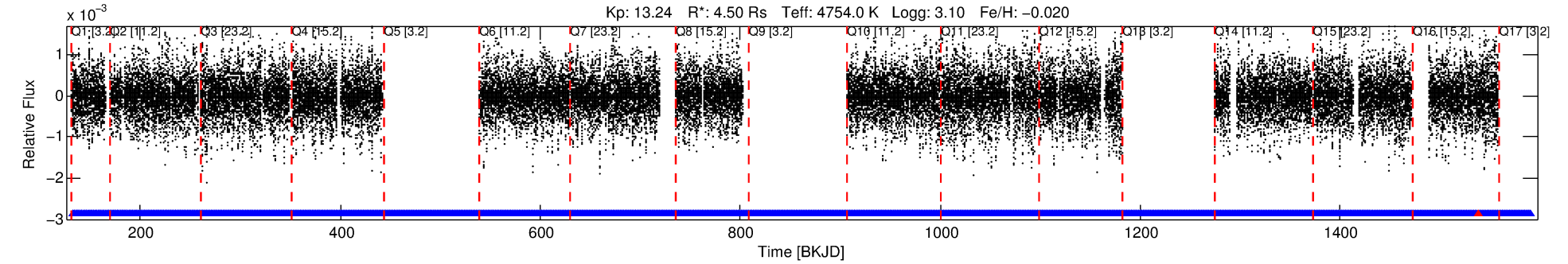
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006105113-01

No Significant Match Found

DV One-Page Summary

KIC: 6105113 Candidate: 1 of 4 Period: 0.879 d



DV Fit Results:

Period = 0.87941 [0.00001] d
Epoch = 132.2890 [0.0013] BKJD
Rp/R* = 0.0091 [0.0030]
a/R* = 1.91 [1.76]
b = 0.90 [0.27]
Seff = N/A
Teq = N/A
Rp = 4.46 [4.02] Re
a = N/A
Ag = N/A
Teffp = N/A

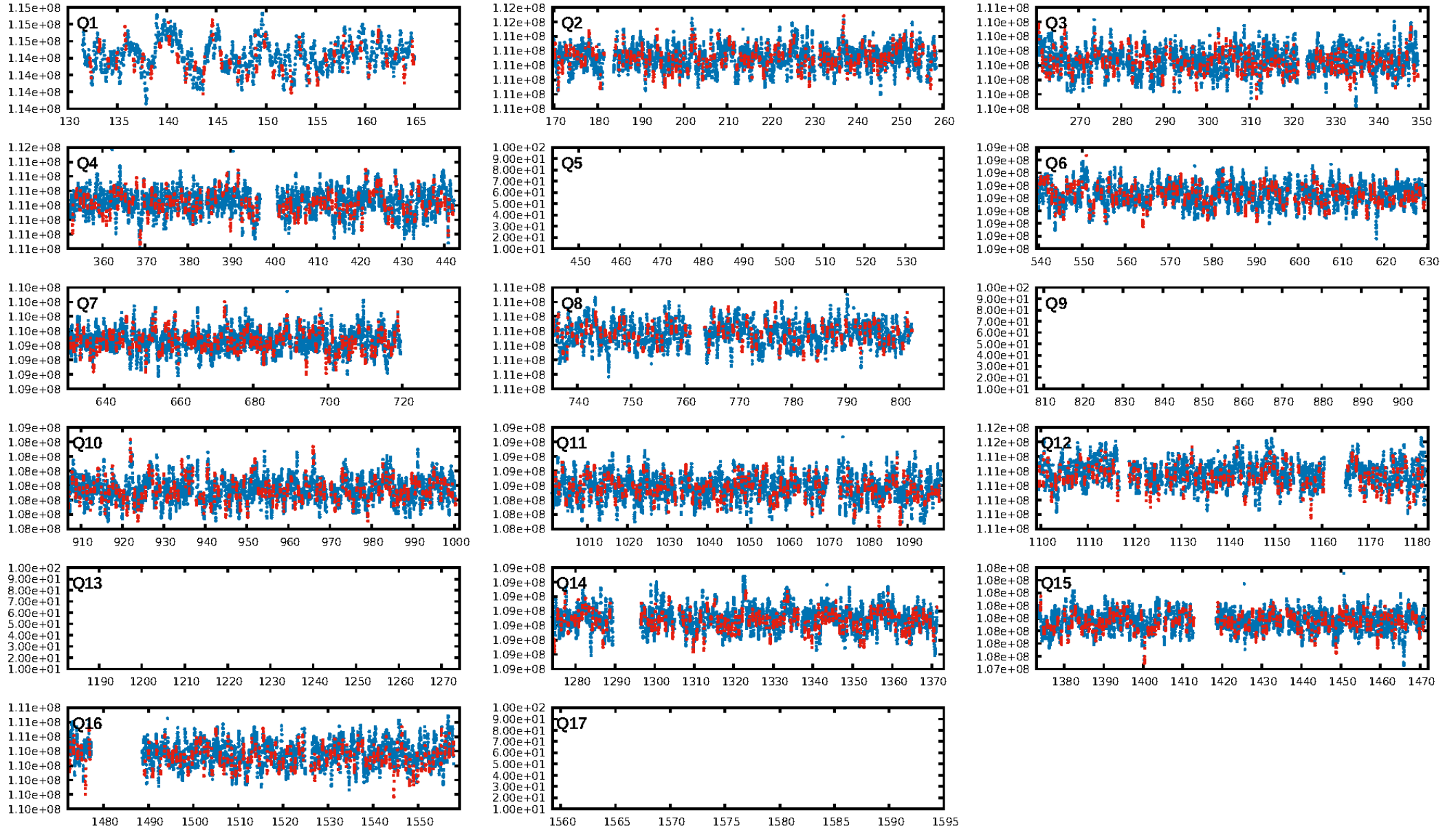
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.88e-32
RollingBand-fgt: 1.00 [1137/1138]
GhostDiagnostic-chr: -0.4538
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 6.315 arcsec [81.14σ]
KicOffset-rm: 6.469 arcsec [83.49σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [13/13]

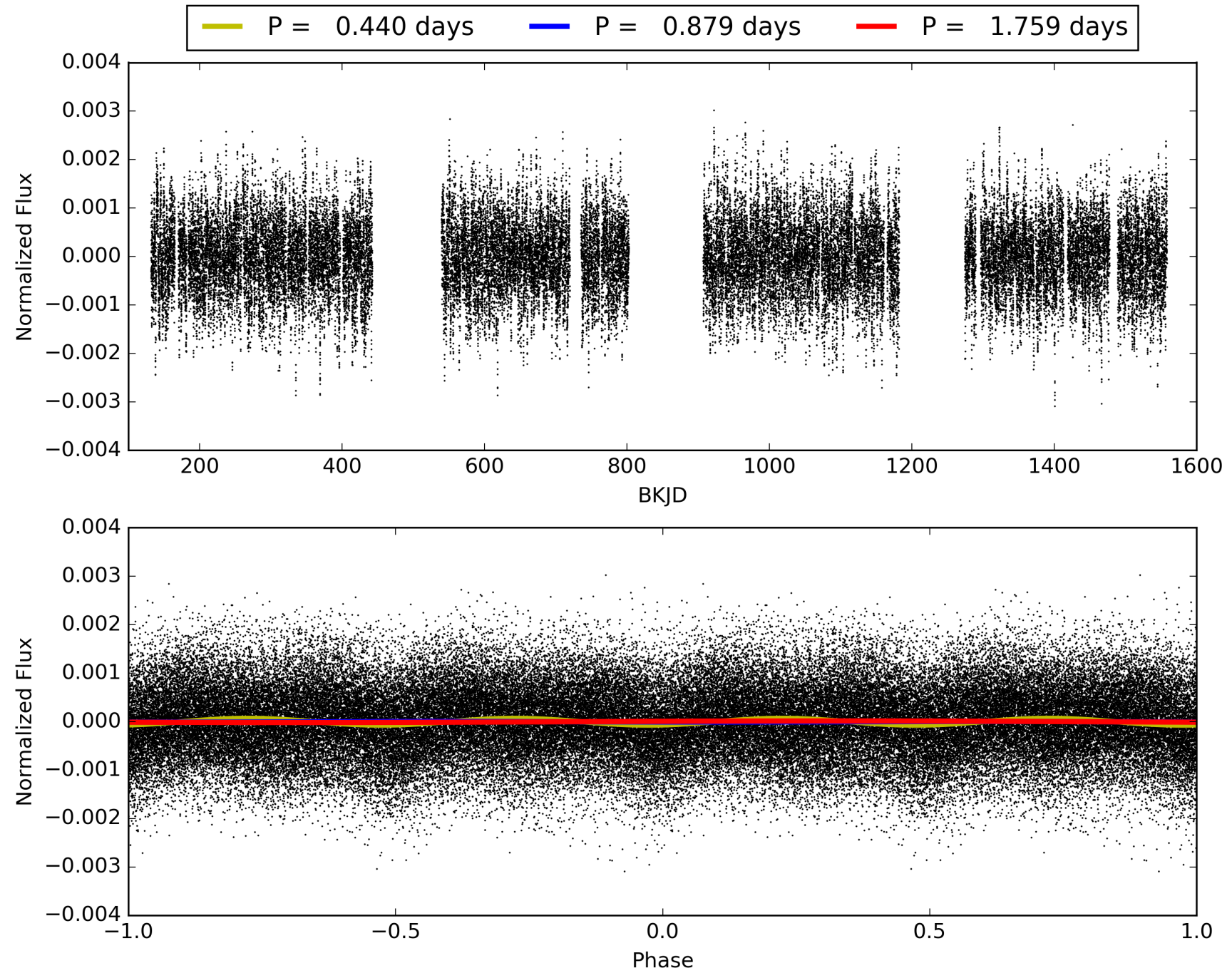
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:48:19 Z

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

TCE 006105113-01, PDC Light Curves

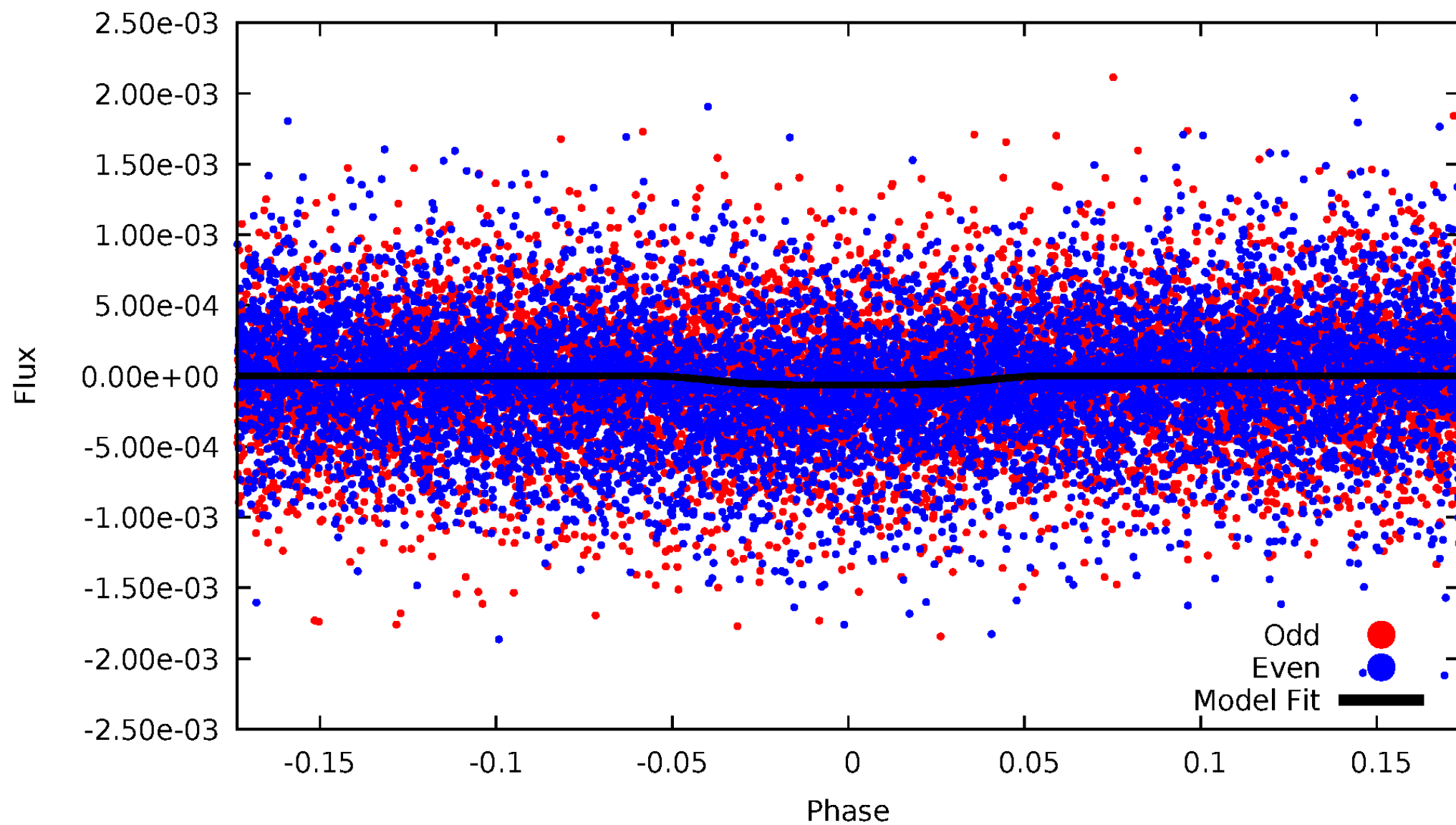


TCE 006105113-01



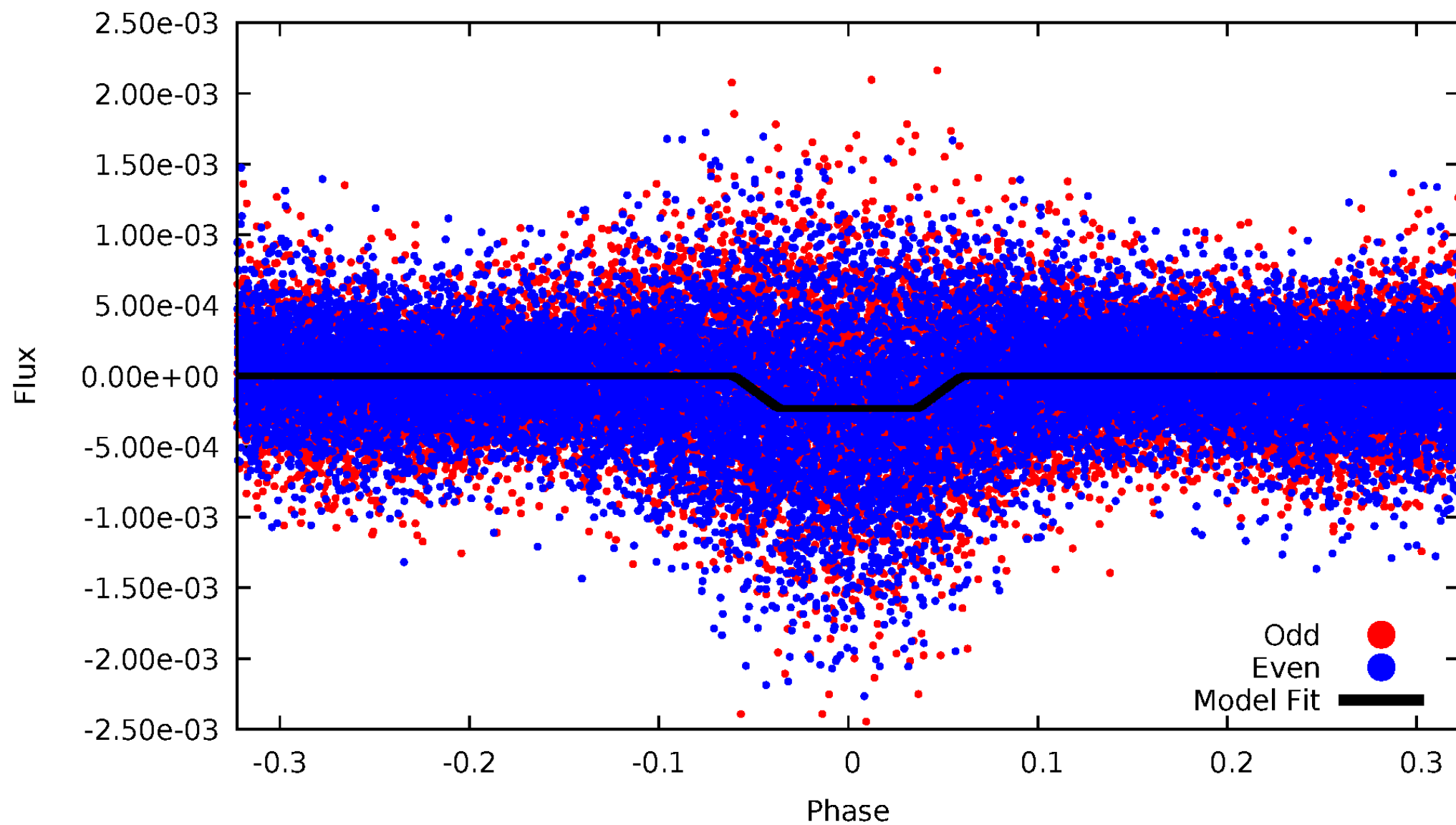
DV Odd/Even

TCE 006105113-01

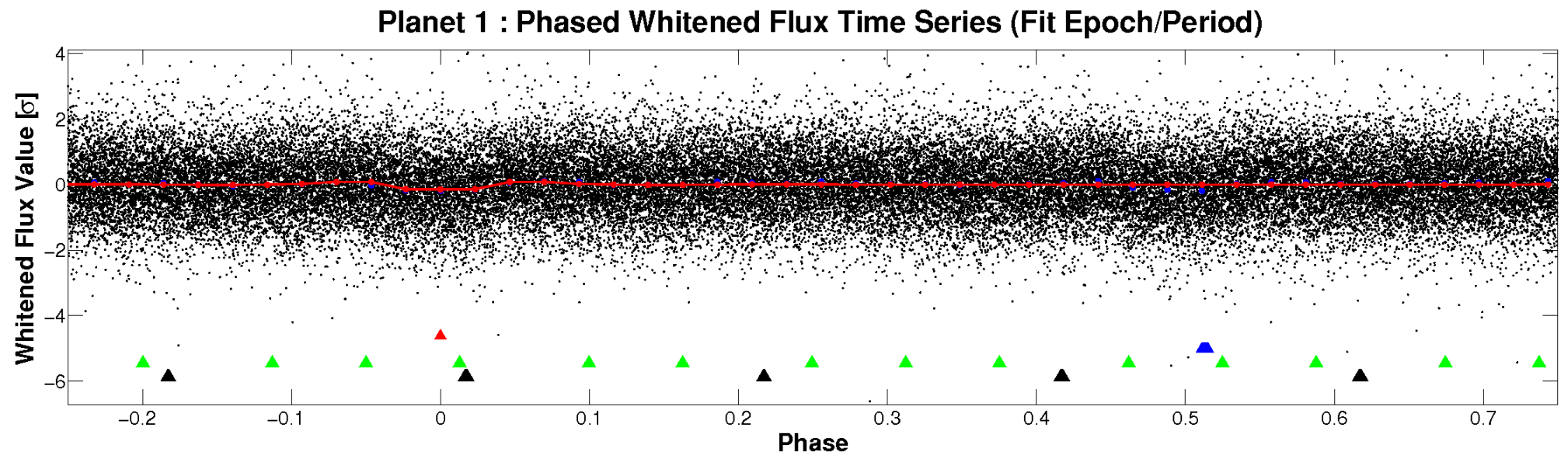
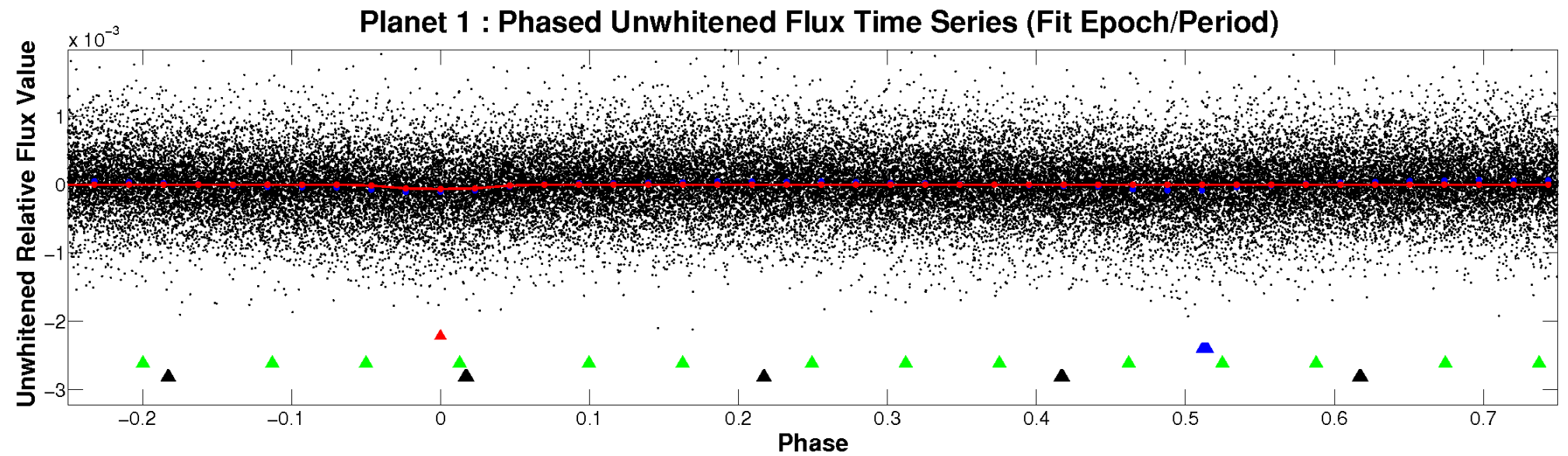


ALT Odd/Even

TCE 006105113-01

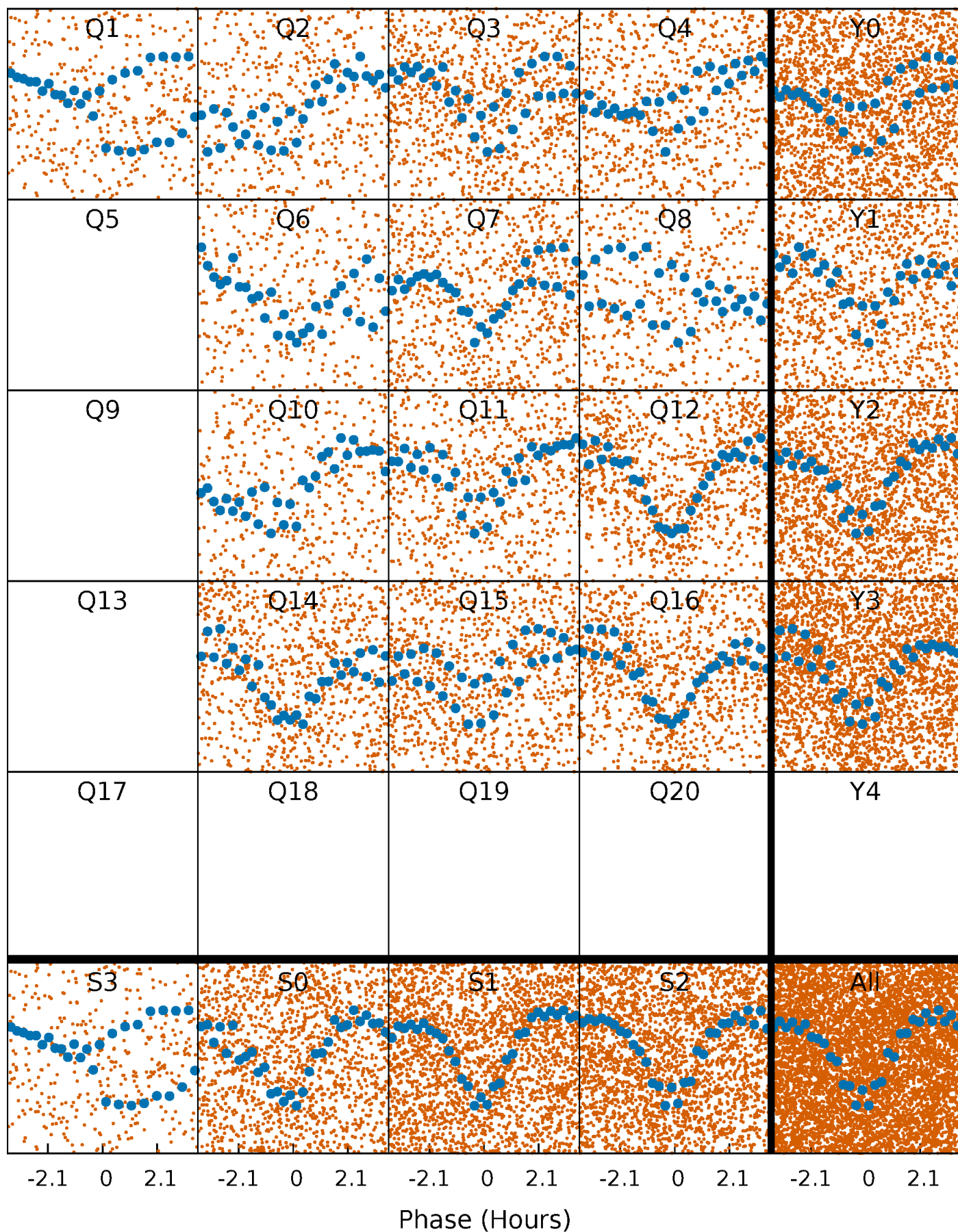


Non-Whitened Vs. Whitened Light Curve



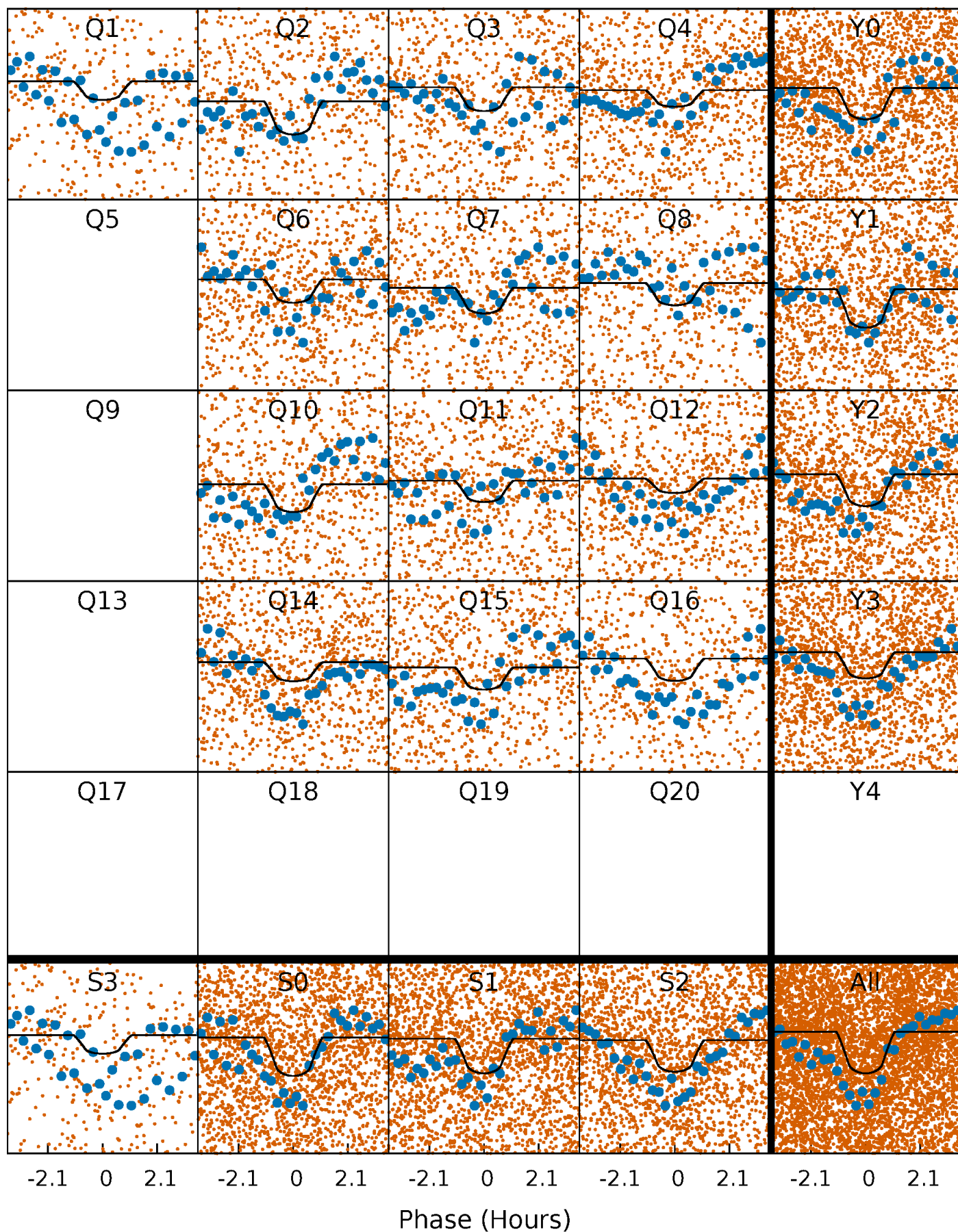
PDC Quarter-Phased Transit Curves

TCE 006105113-01 P= 0.879411 Days $T_0=132.288983$ (BKJD)



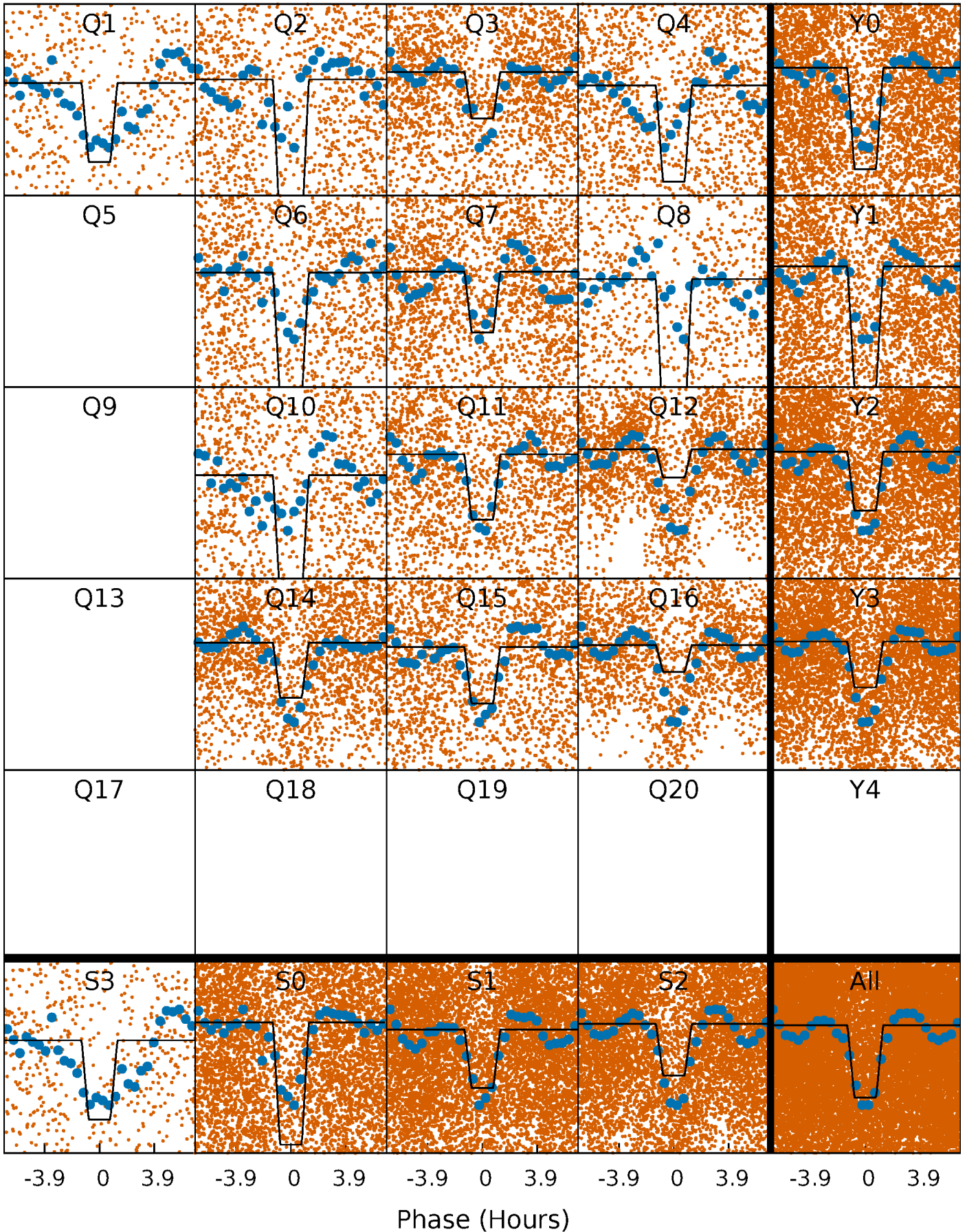
DV Quarter-Phased Transit Curves

TCE 006105113-01 P= 0.879411 Days $T_0=132.288983$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

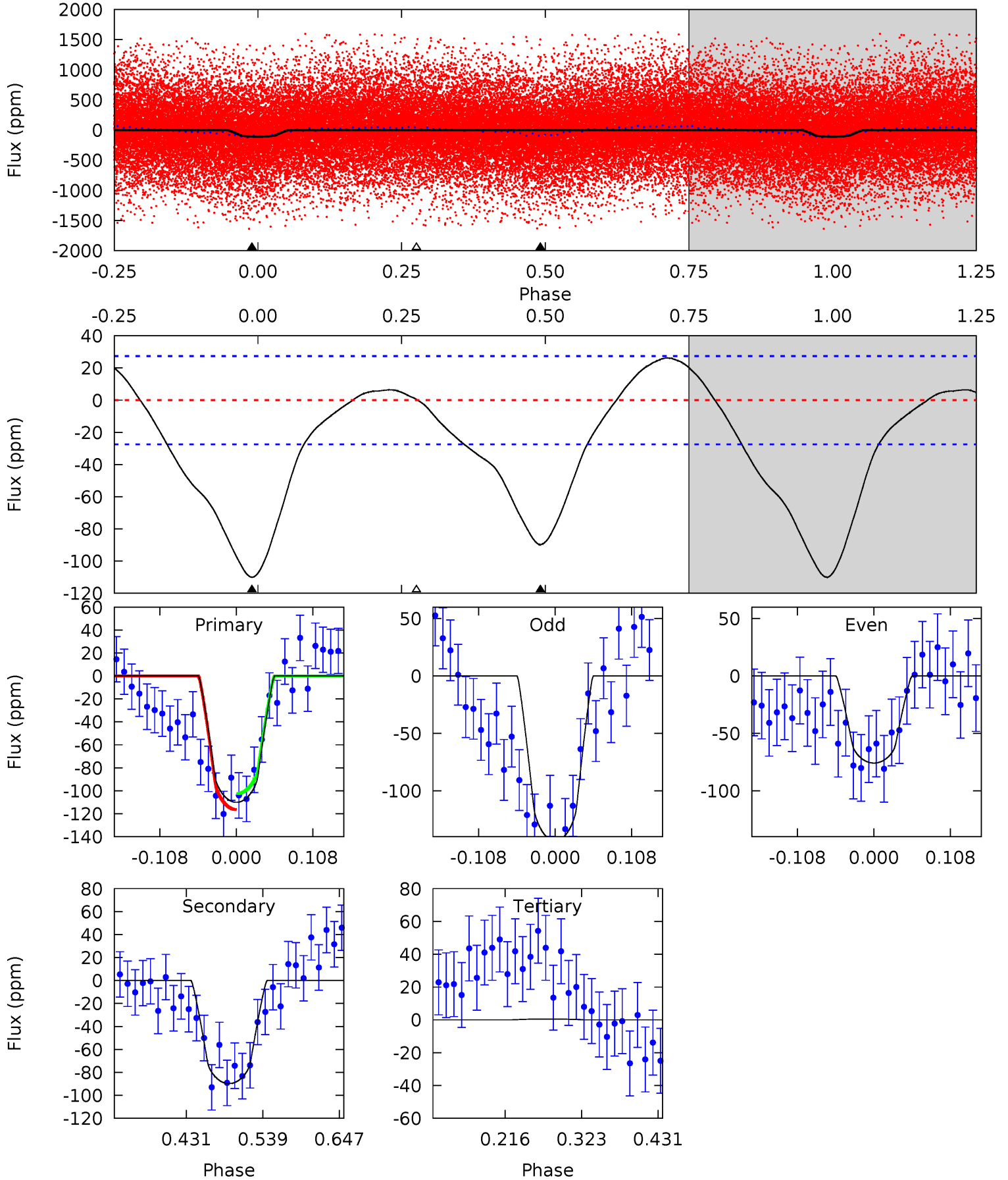
TCE 006105113-01 P= 0.879397 Days $T_0=132.295515$ (BKJD)



DV Model-Shift Uniqueness Test

006105113-01, P = 0.879411 Days, E = 131.409572 Days

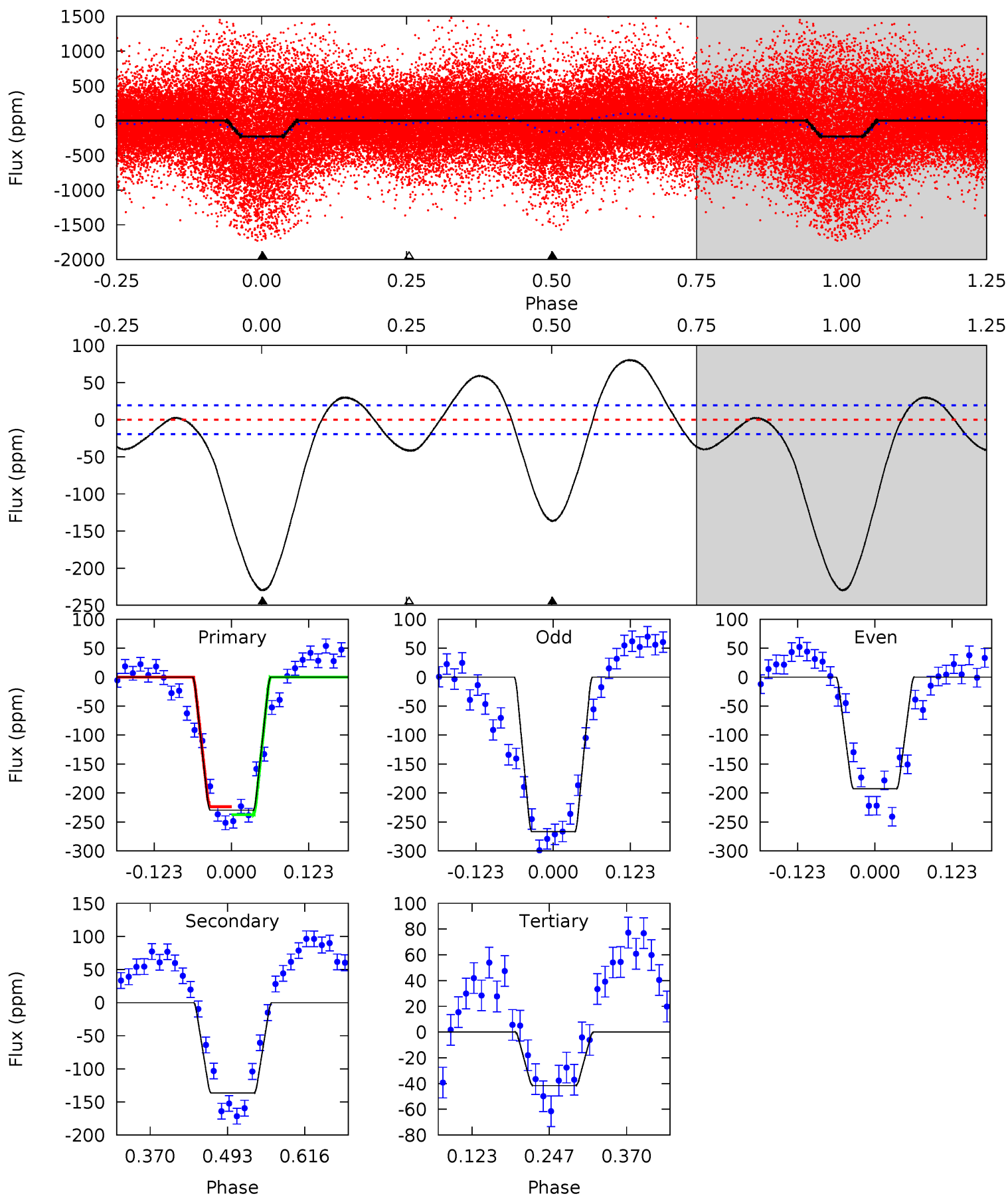
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	14.9	-0.08	0	4.55	1.61	3.00	18.3	18.3	15.0	14.9	5.64	1.23	0.19	1.15



Alt Model-Shift Uniqueness Test

006105113-01, P = 0.879397 Days, E = 131.416118 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.4	31.7	9.65	0	4.52	1.54	8.25	43.7	53.4	22.0	31.7	8.61	1.01	0.26	1.62



Stellar Parameters For KIC 006105113

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4754^{+113}_{-178}	$3.098^{+1.536}_{-0.384}$	$-0.020^{+0.250}_{-0.400}$	$4.496^{+3.082}_{-3.767}$	$0.924^{+0.239}_{-0.292}$	$0.014^{+3.467}_{-0.011}$
	+2%/-4%	+50%/-12%	+1250%/-2000%	+69%/-84%	+26%/-32%	+24211%/-74%
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 006105113-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-90 ± 6	$3.99^{+2.61}_{-2.13}$	4515^{+886}_{-1115}	4367^{+1196}_{-1172}	$0.952^{+3.518}_{-0.604}$
Alt.	-136 ± 4	$6.53^{+3.59}_{-3.11}$	4466^{+930}_{-1187}	3688^{+632}_{-7089}	$0.539^{+1.415}_{-0.310}$

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

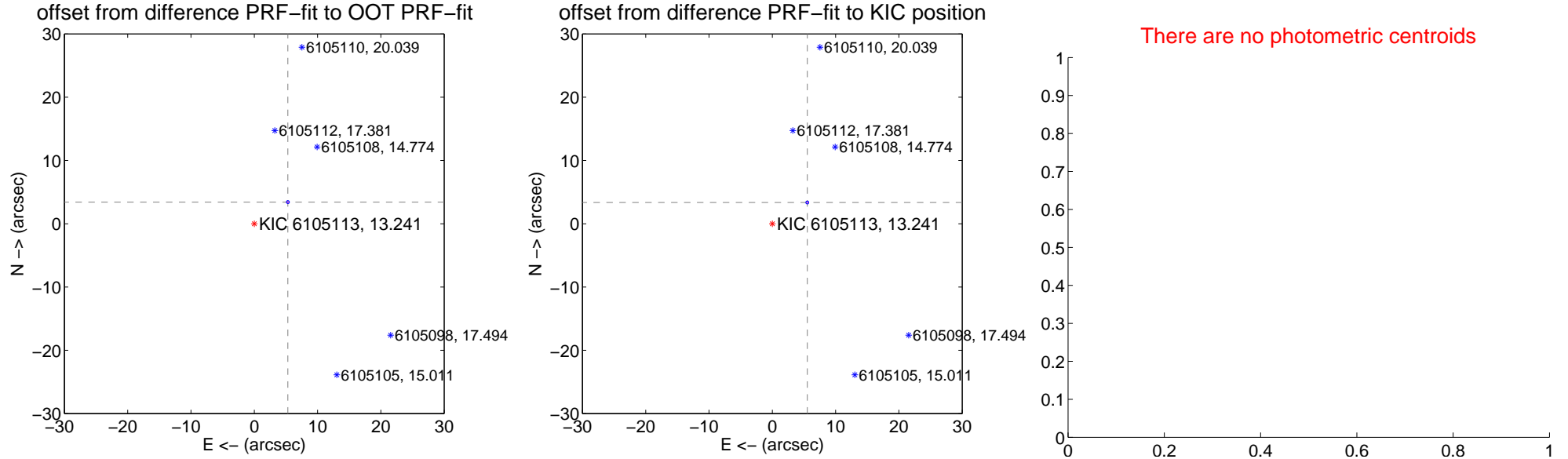
DV Centroid Data

Supplemental centroid analysis for 006105113-01. Kepler magnitude: 13.24. Transit SNR 10.54

There are 1 quarters with good PRF difference image offsets

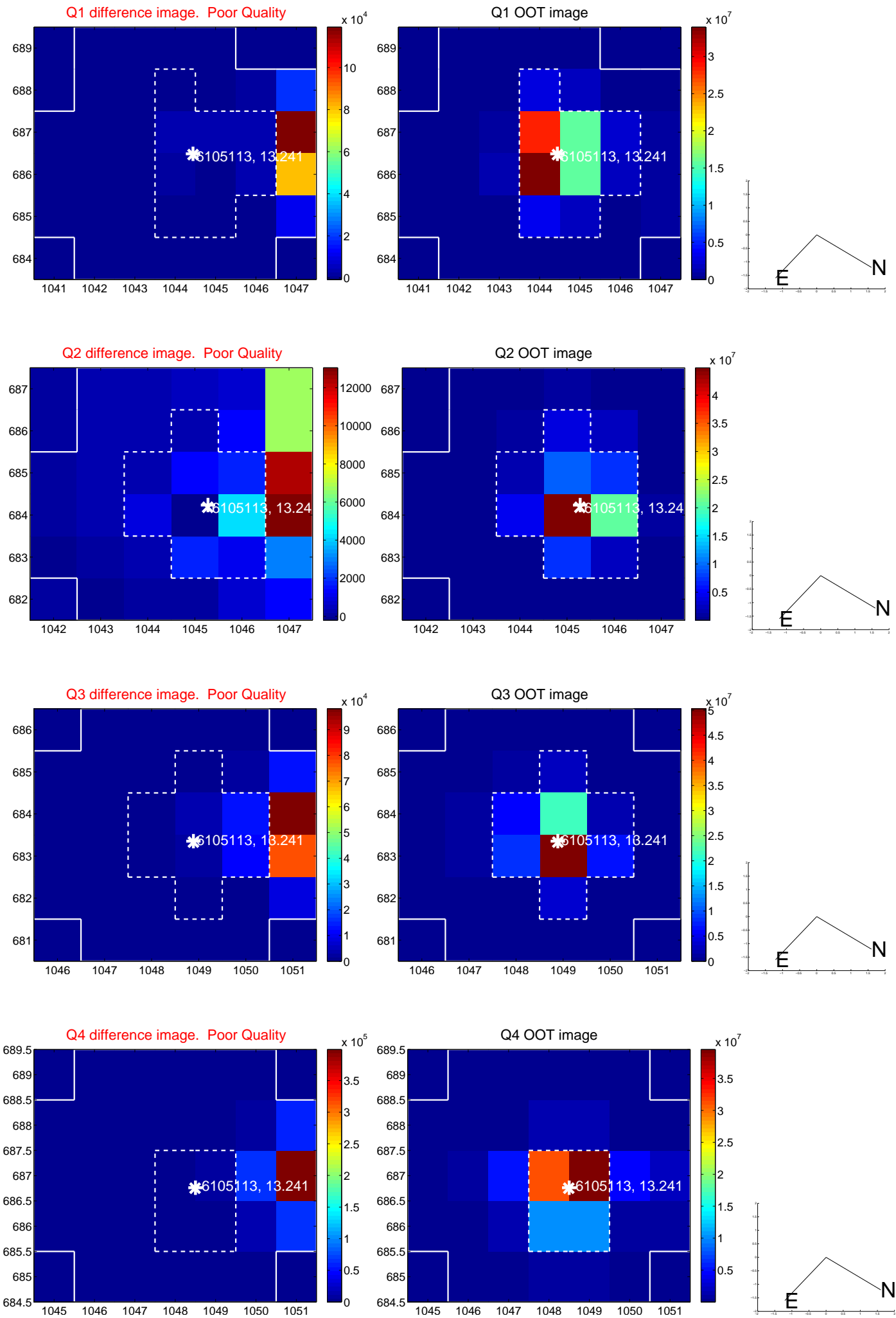
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.315 ± 0.078	81.14	-5.309 ± 0.073	3.421 ± 0.088
PRF-fit source offset from KIC position	6.469 ± 0.077	83.49	-5.529 ± 0.073	3.358 ± 0.088
photometric centroid source offset	—	—	—	—

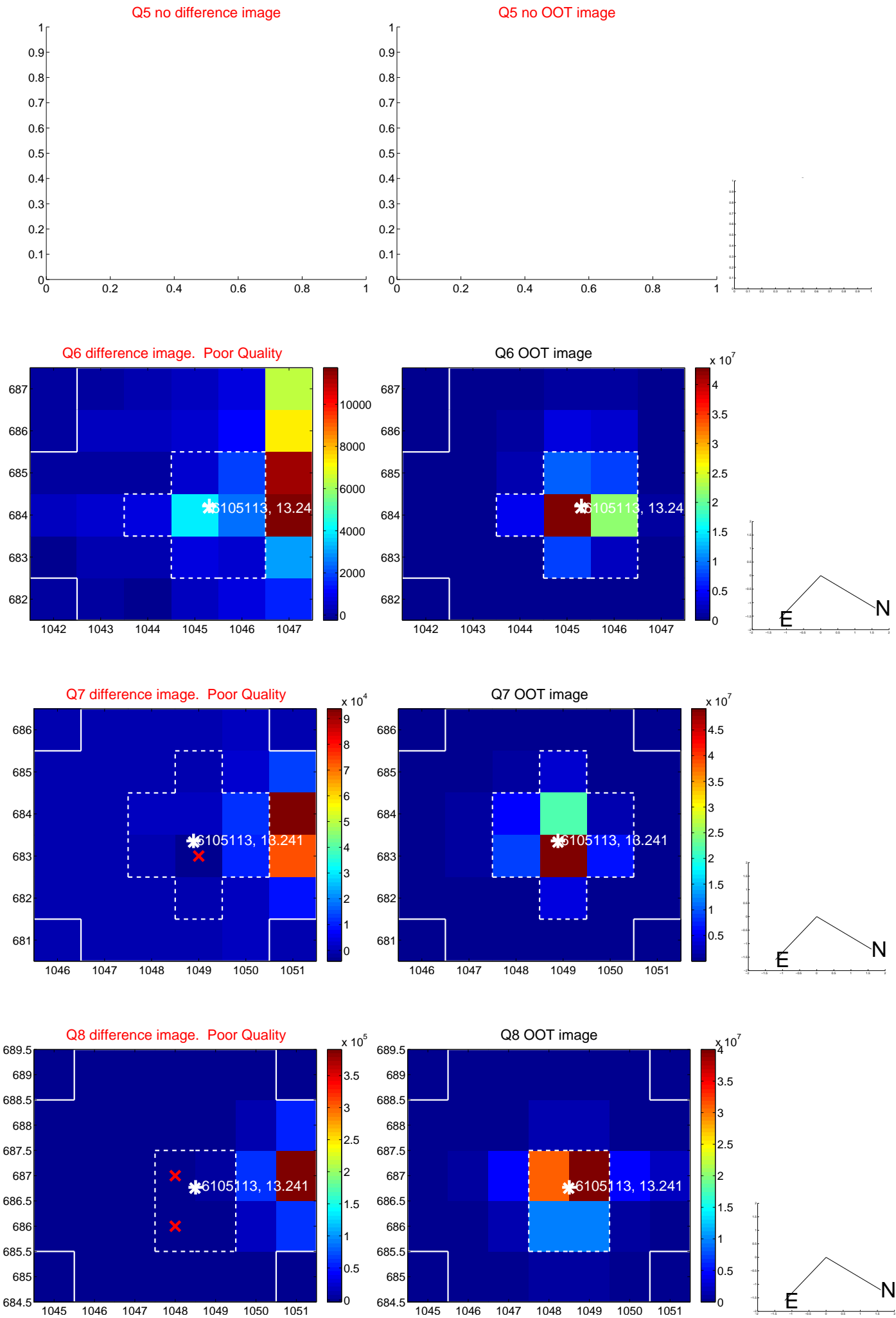


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

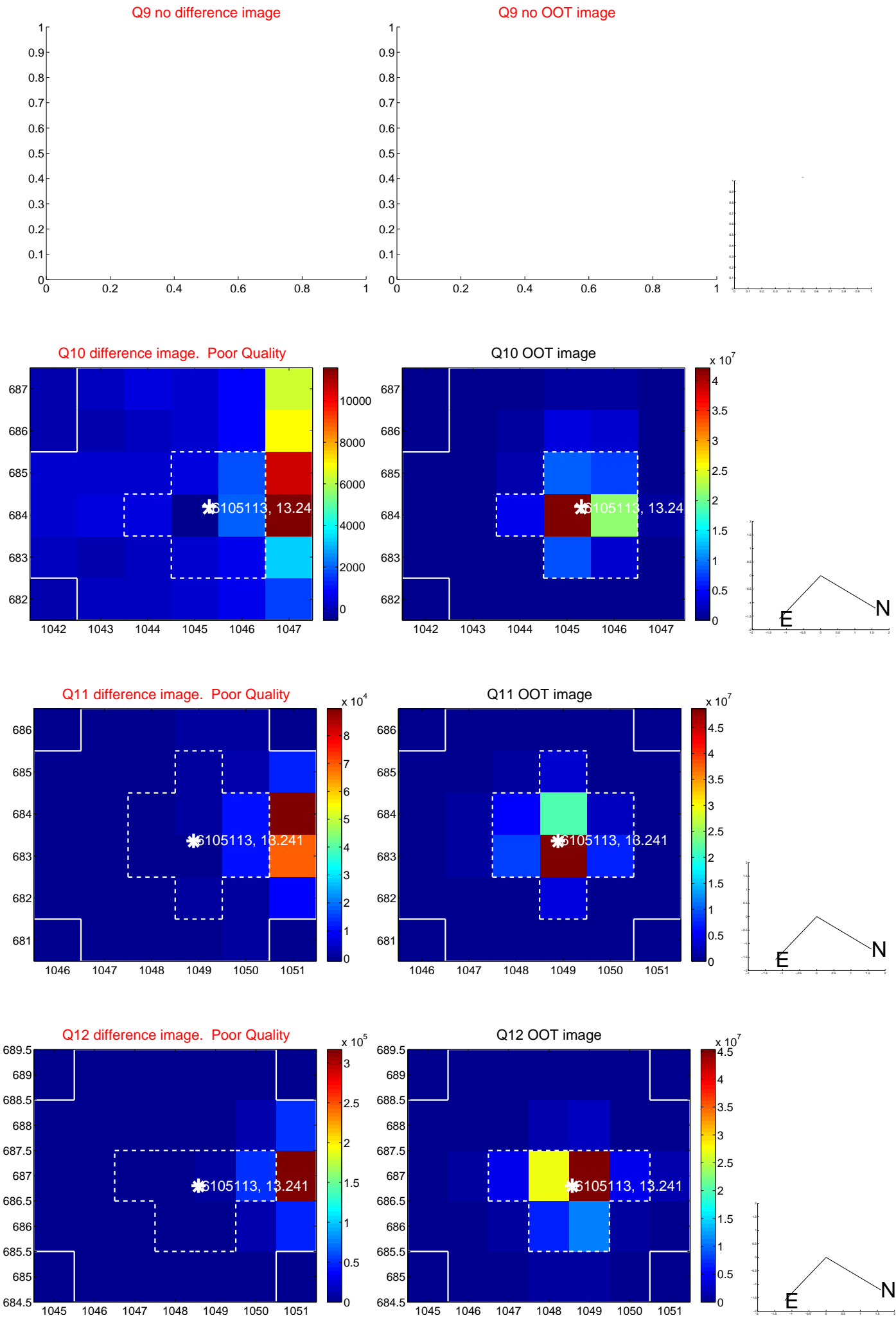
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



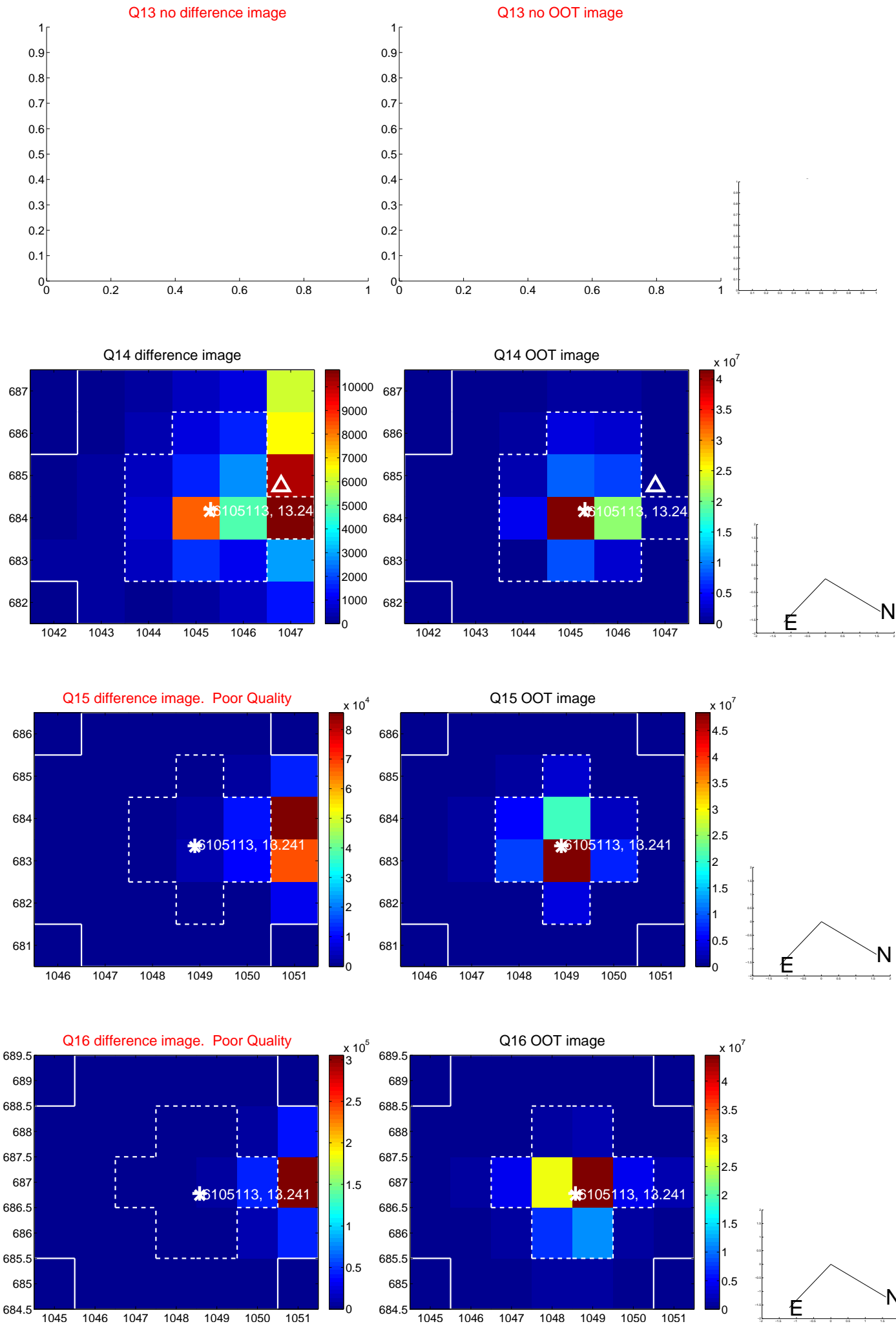
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



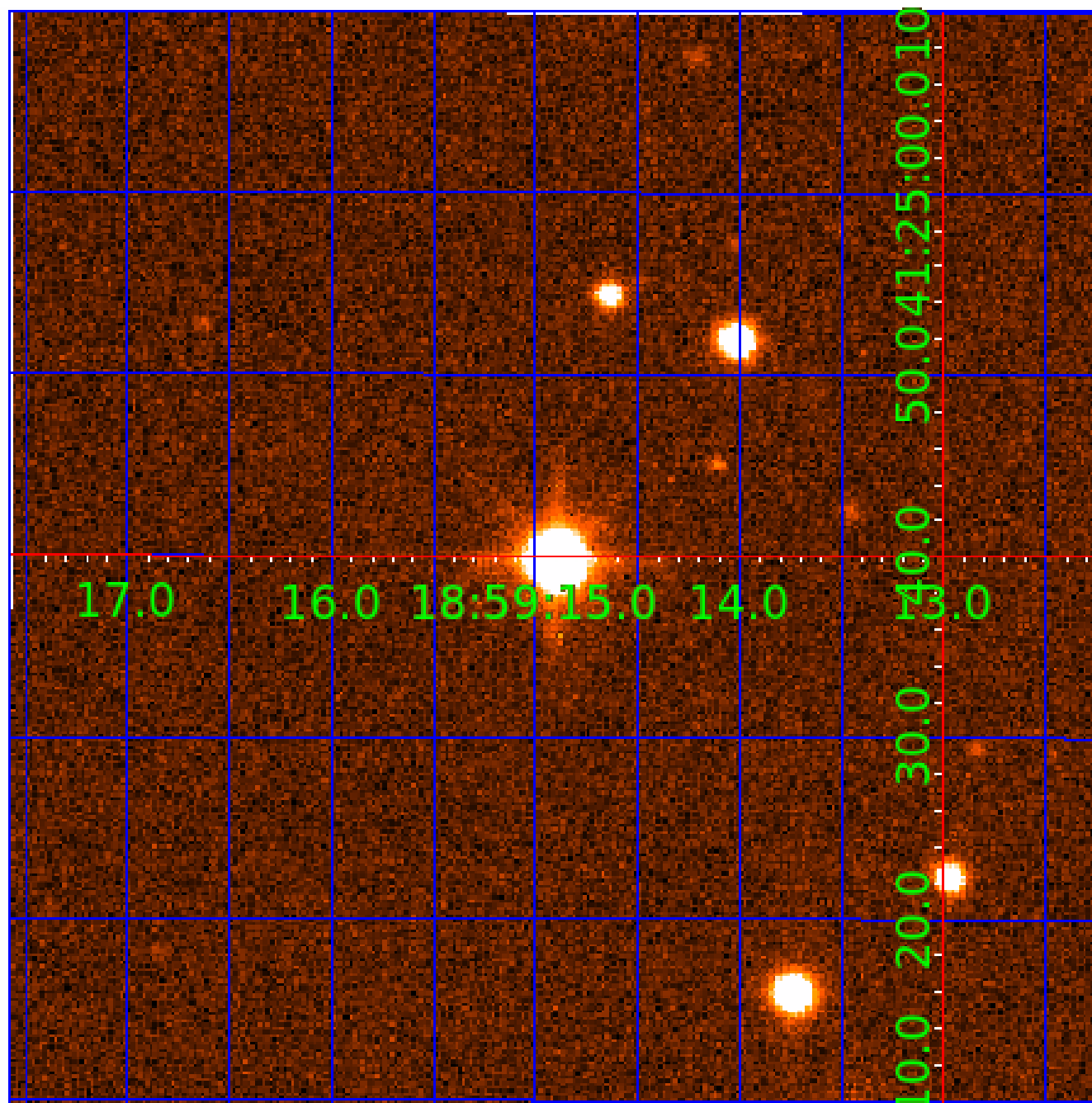
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 006105113

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})
006105113-01	OBS	No	0.879411	132.288983	64.8	1.831	11.2	10.5	4.50	4754	4.46	0.00
006105113-02	OBS	No	0.879413	131.858810	45.8	2.733	9.6	6.2	4.50	4754	3.74	0.00
006105113-03	OBS	No	107.101199	138.456202	1627.6	5.986	8.3	7.3	4.50	4754	36.66	50.04
006105113-04	OBS	No	112.212971	205.646245	1481.9	3.863	8.2	7.8	4.50	4754	17.74	47.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006105113-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006105113-02	OBS	FP	0.00	1	0	1	0	LPP_DV—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET—HALO_GHOST
006105113-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
006105113-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

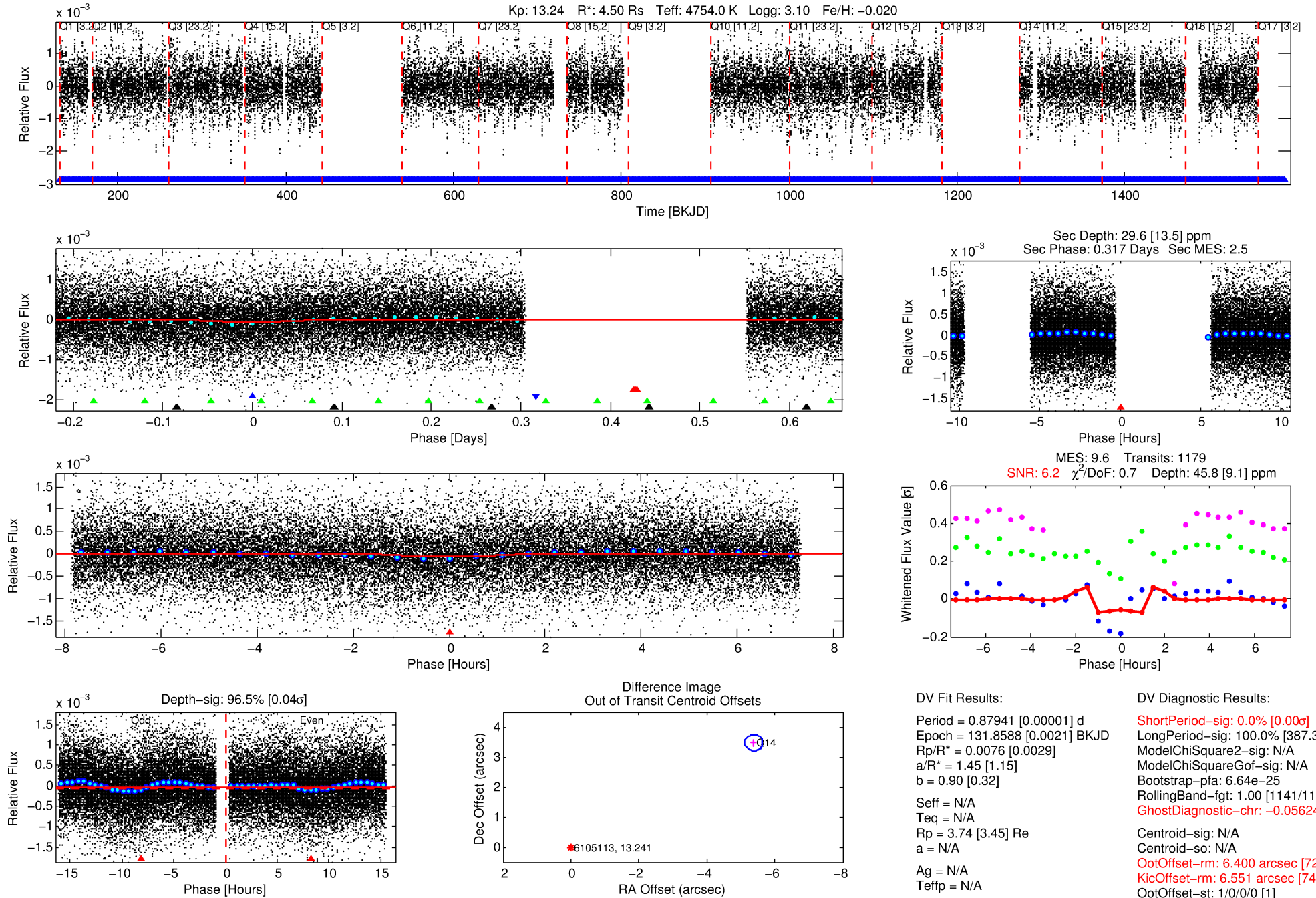
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006105113-02

No Significant Match Found

DV One-Page Summary

KIC: 6105113 Candidate: 2 of 4 Period: 0.879 d



DV Fit Results:

Period = 0.87941 [0.00001] d
Epoch = 131.8588 [0.0021] BKJD
Rp/R* = 0.0076 [0.0029]
a/R* = 1.45 [1.15]
b = 0.90 [0.32]
Seff = N/A
Teq = N/A
Rp = 3.74 [3.45] Re
a = N/A
Ag = N/A
Teffp = N/A

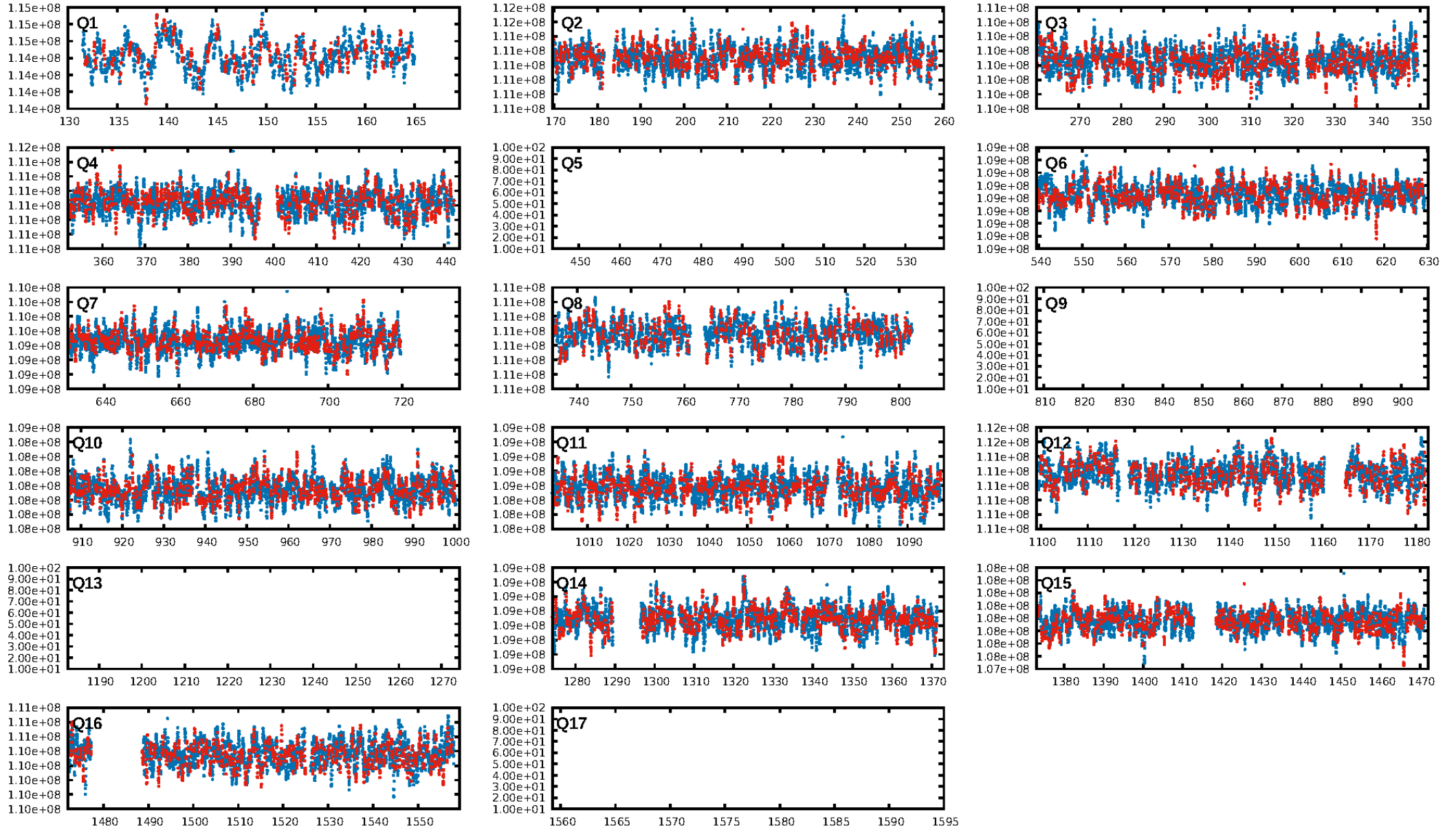
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [387.39 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.64e-25
RollingBand-fgt: 1.00 [1141/1141]
GhostDiagnostic-chr: -0.05624
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 6.400 arcsec [72.02 σ]
KicOffset-rm: 6.551 arcsec [74.22 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [13/13]

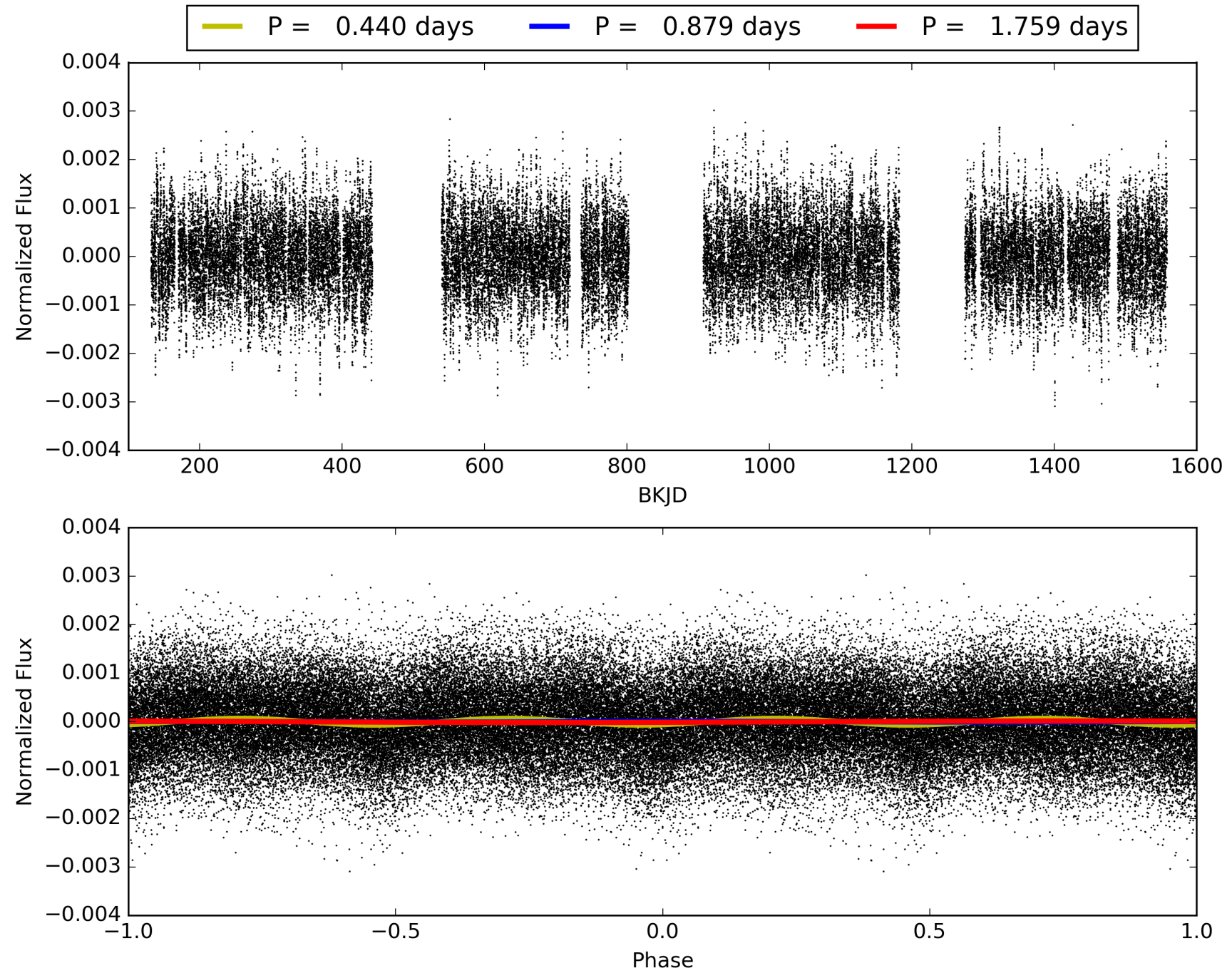
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:48:28 Z

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

TCE 006105113-02, PDC Light Curves

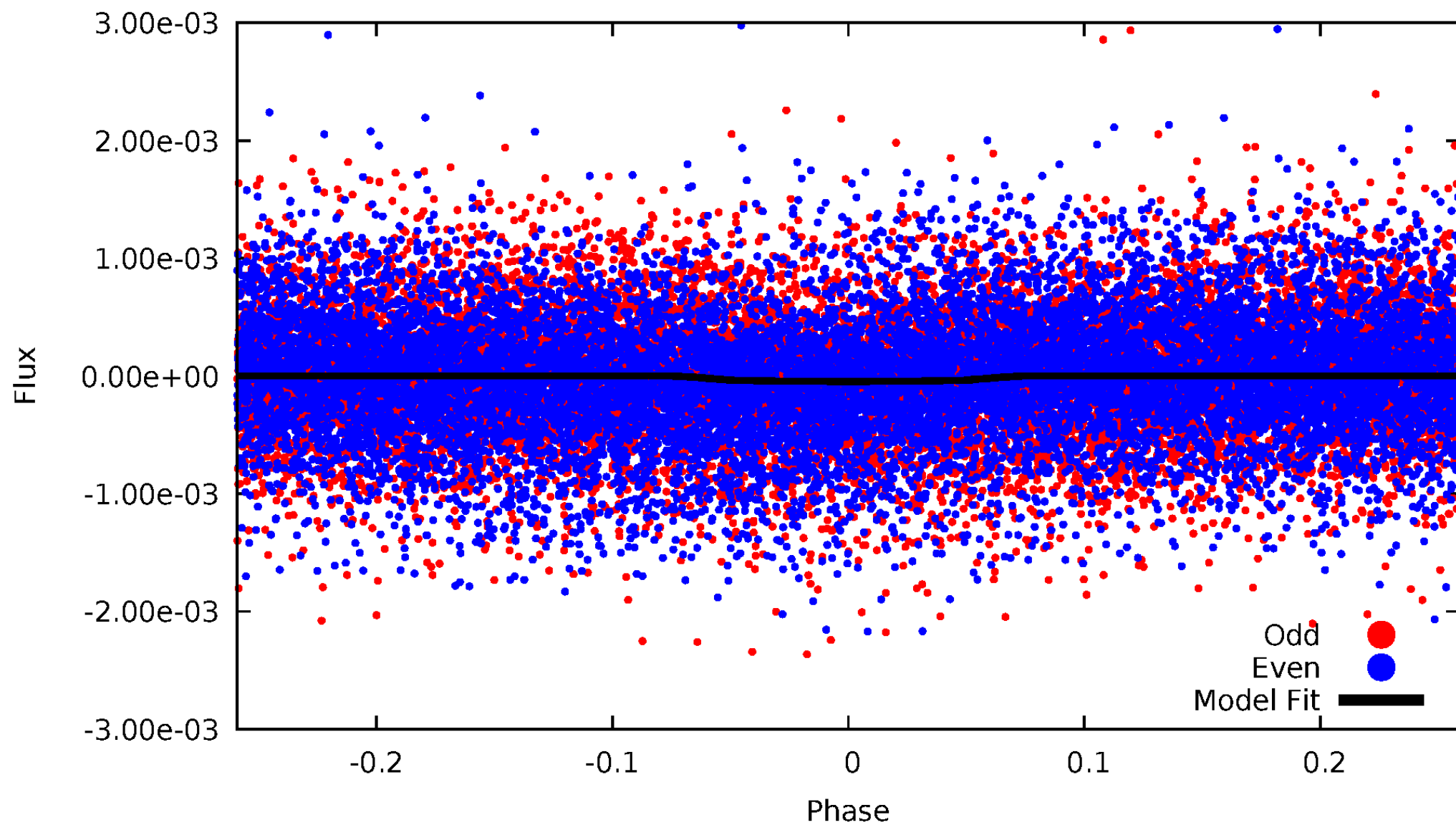


TCE 006105113-02



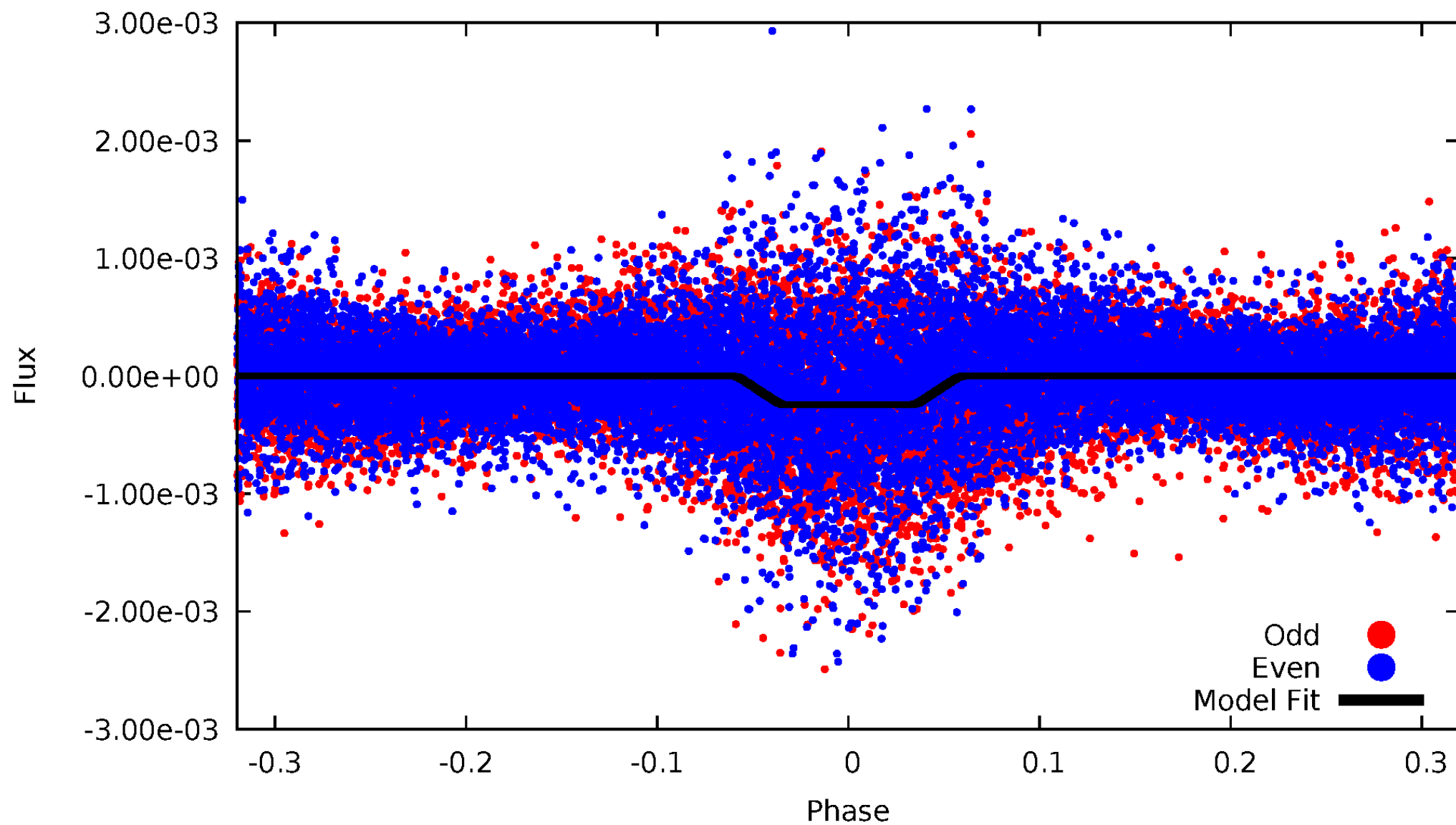
DV Odd/Even

TCE 006105113-02



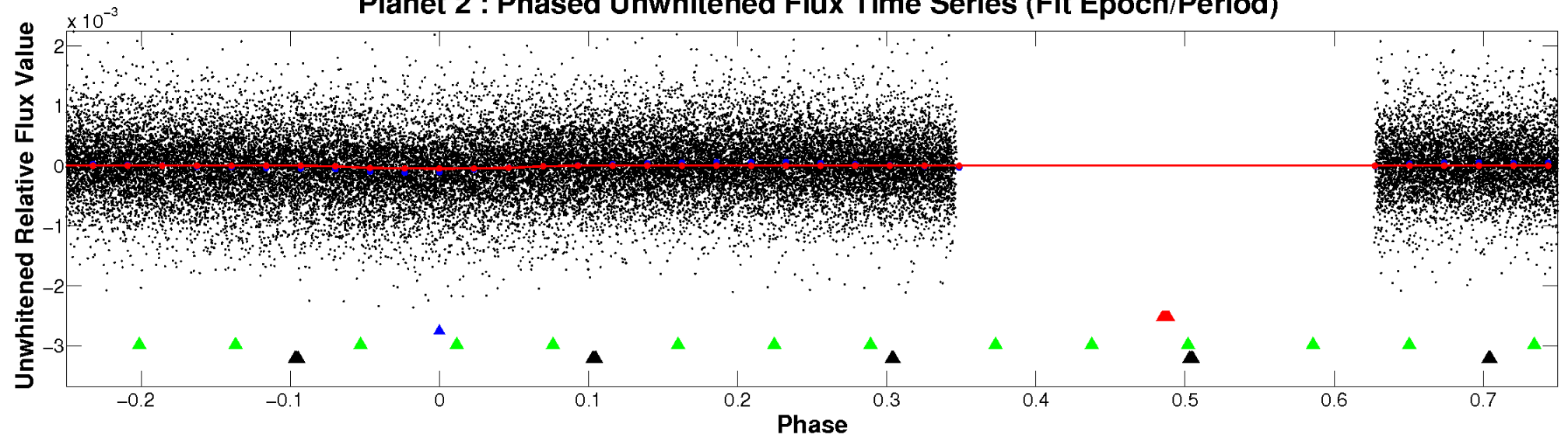
ALT Odd/Even

TCE 006105113-02

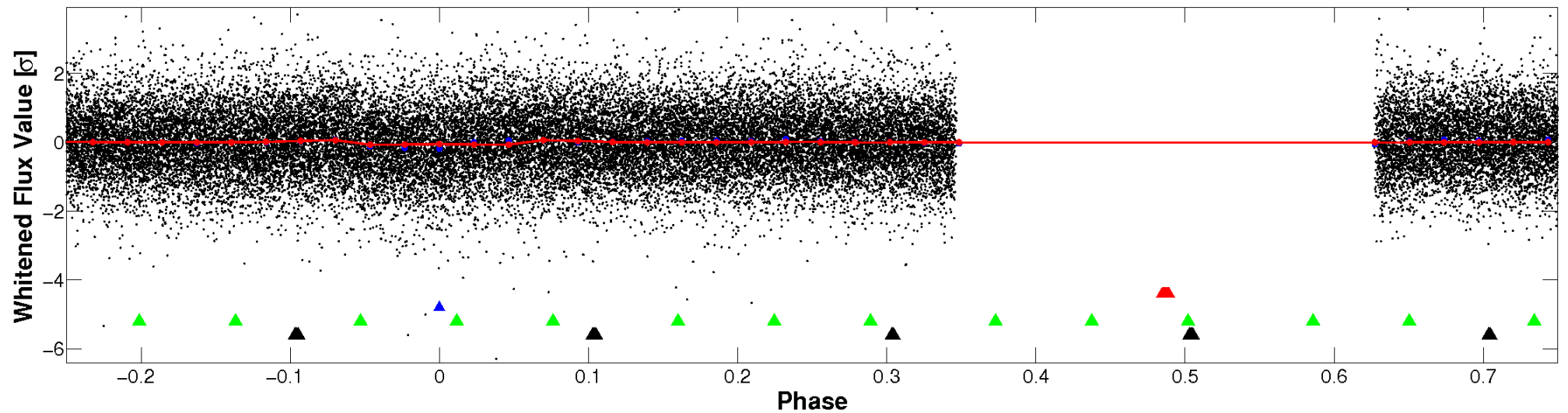


Non-Whitened Vs. Whitened Light Curve

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

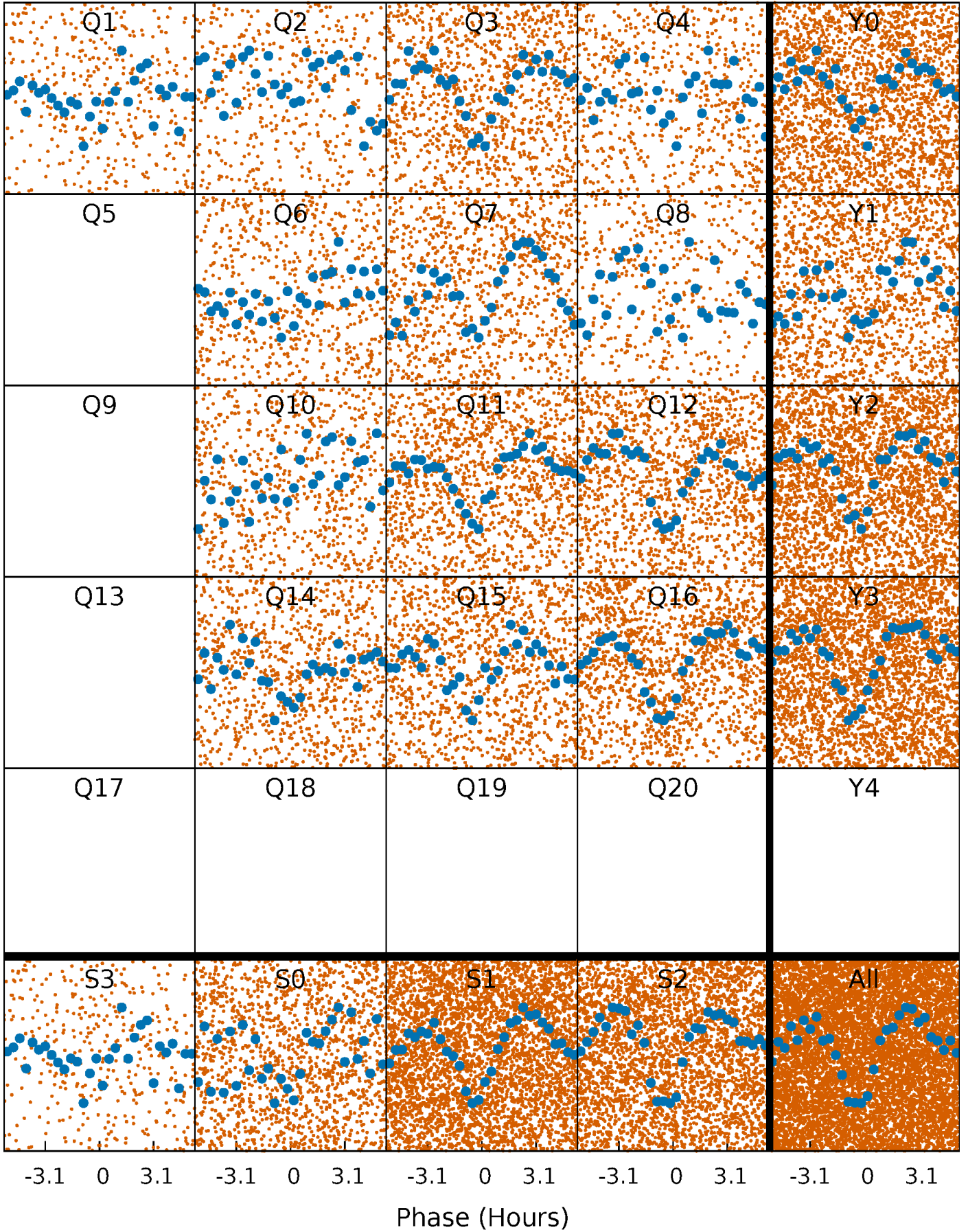


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



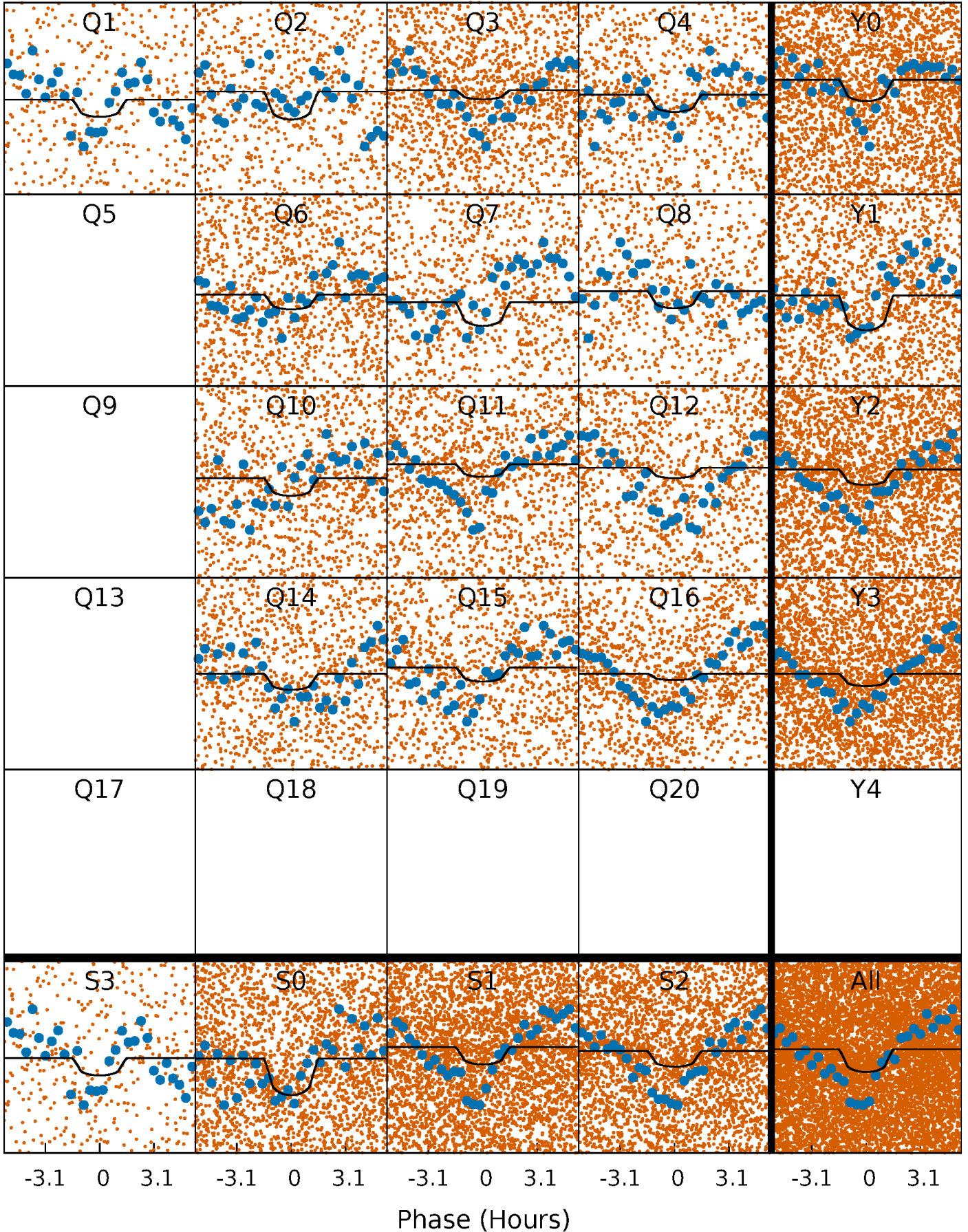
PDC Quarter-Phased Transit Curves

TCE 006105113-02 P= 0.879413 Days $T_0=131.858810$ (BKJD)



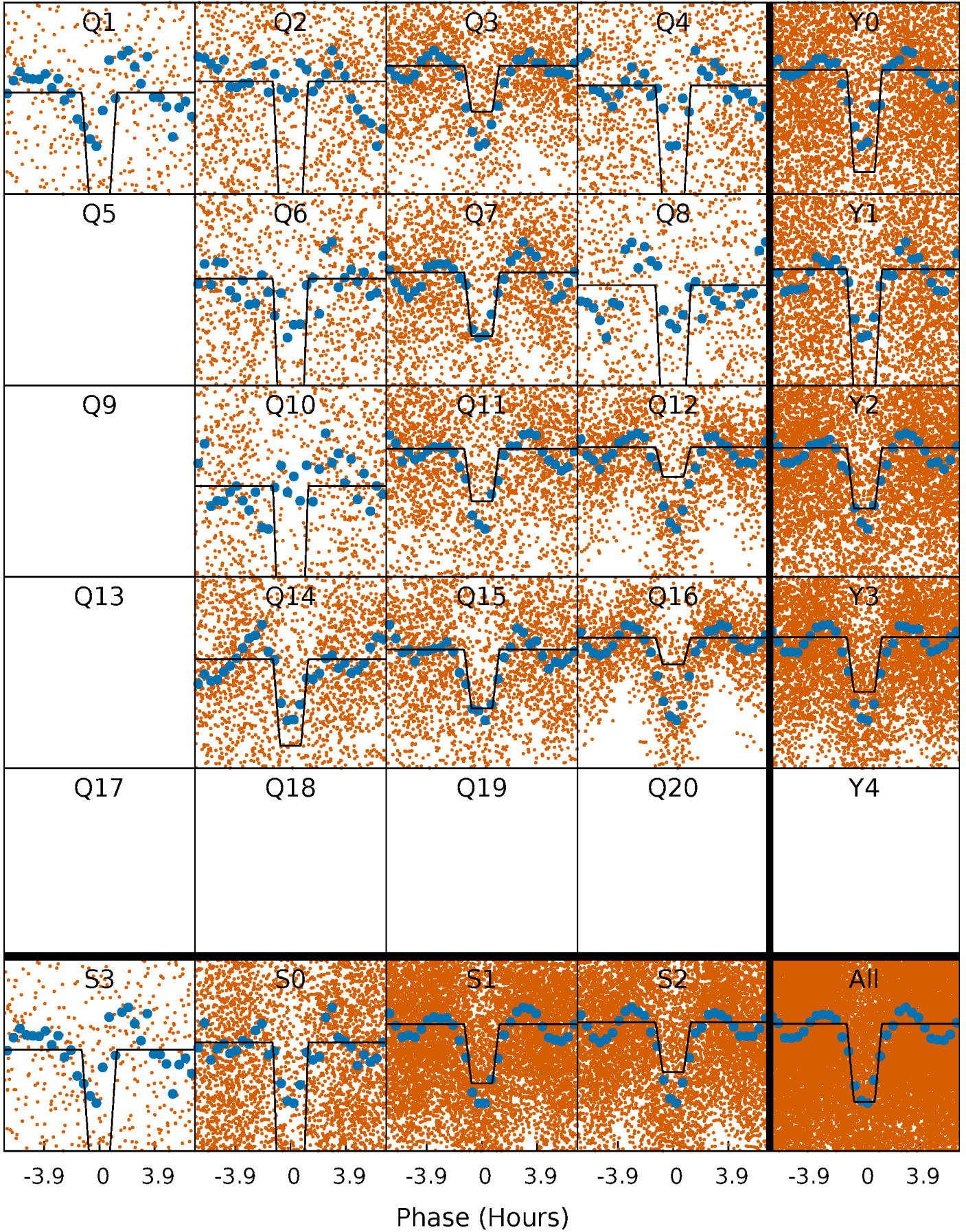
DV Quarter-Phased Transit Curves

TCE 006105113-02 P= 0.879413 Days $T_0=131.858810$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

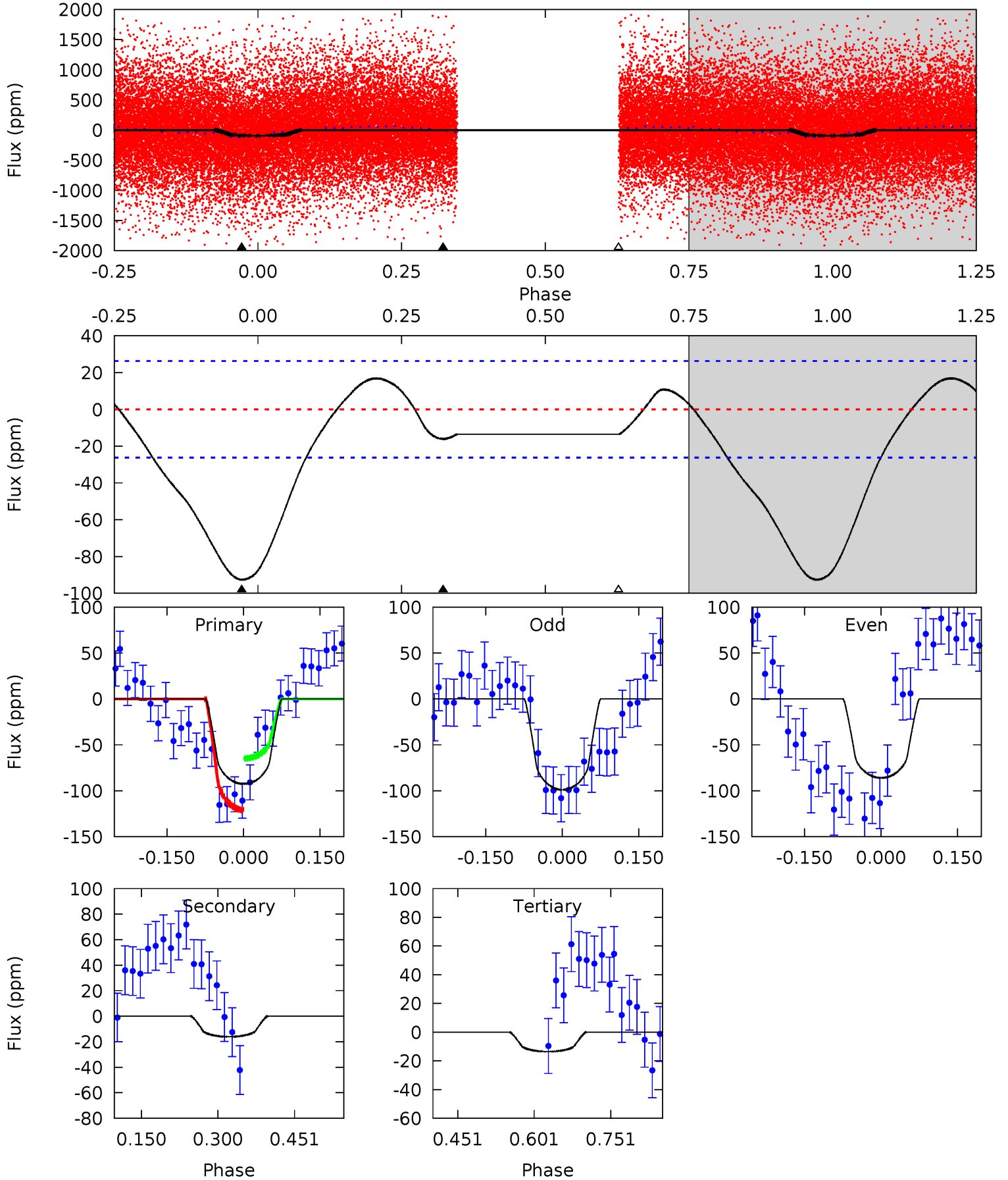
TCE 006105113-02 P= 0.879397 Days $T_0=131.857994$ (BKJD)



DV Model-Shift Uniqueness Test

006105113-02, P = 0.879413 Days, E = 130.979397 Days

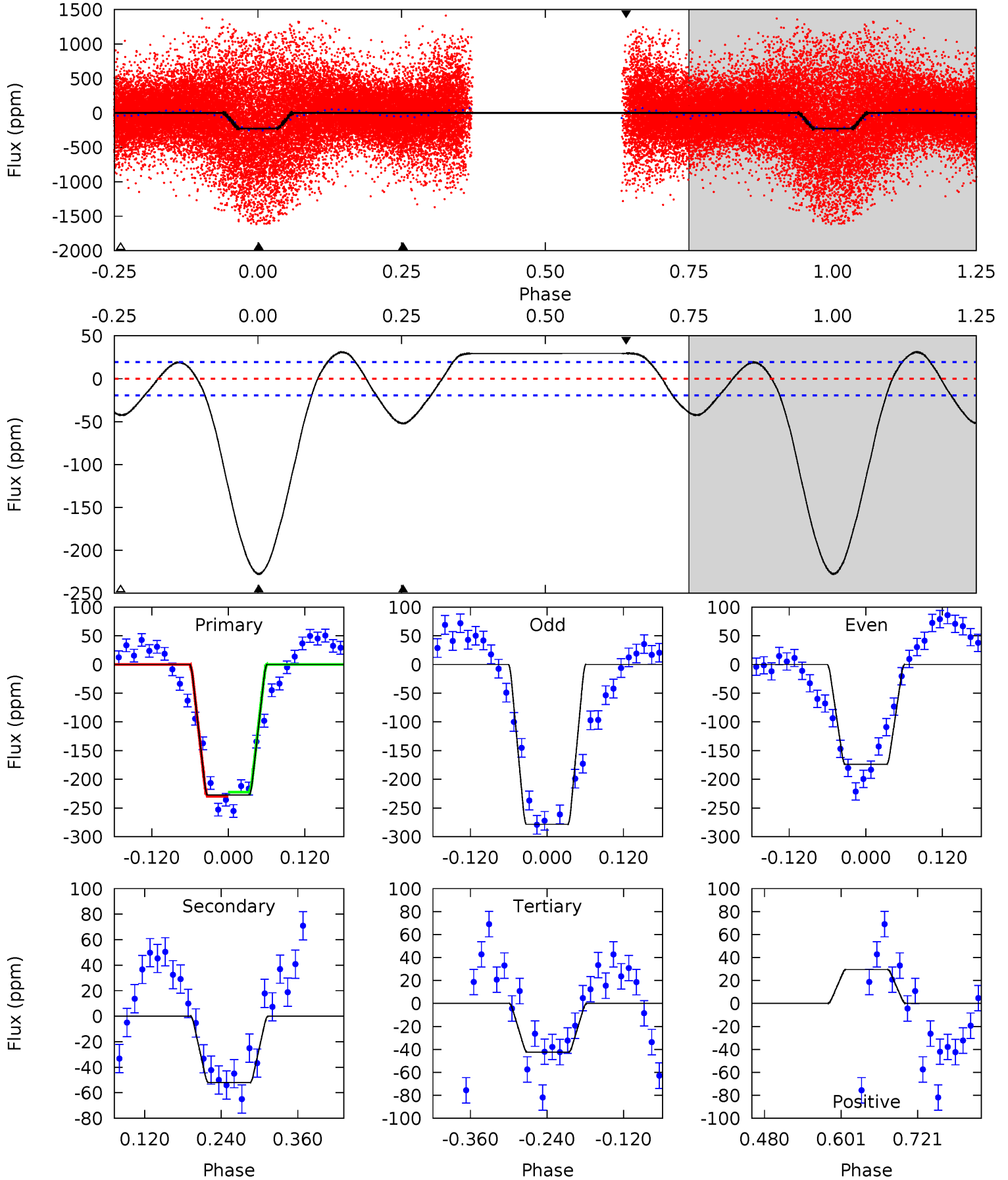
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	2.75	2.31	0	4.48	1.44	1.74	13.5	15.8	0.44	2.75	1.10	1.52	0.15	4.72



Alt Model-Shift Uniqueness Test

006105113-02, P = 0.879397 Days, E = 130.978597 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.1	12.1	9.88	6.89	4.53	1.55	5.65	43.2	46.2	2.26	5.25	11.9	1.03	0.12	0.95



Stellar Parameters For KIC 006105113

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4754^{+113}_{-178}	$3.098^{+1.536}_{-0.384}$	$-0.020^{+0.250}_{-0.400}$	$4.496^{+3.082}_{-3.767}$	$0.924^{+0.239}_{-0.292}$	$0.014^{+3.467}_{-0.011}$
	+2%/-4%	+50%/-12%	+1250%/-2000%	+69%/-84%	+26%/-32%	+24211%/-74%
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 006105113-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 6	$3.25^{+2.61}_{-1.76}$	4500^{+954}_{-1094}	-2937^{+6942}_{-1227}	$0.242^{+1.004}_{-0.171}$
Alt.	-52 ± 4	$6.66^{+3.93}_{-2.99}$	4512^{+933}_{-1179}	-3331^{+6600}_{-891}	$0.189^{+0.426}_{-0.113}$

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

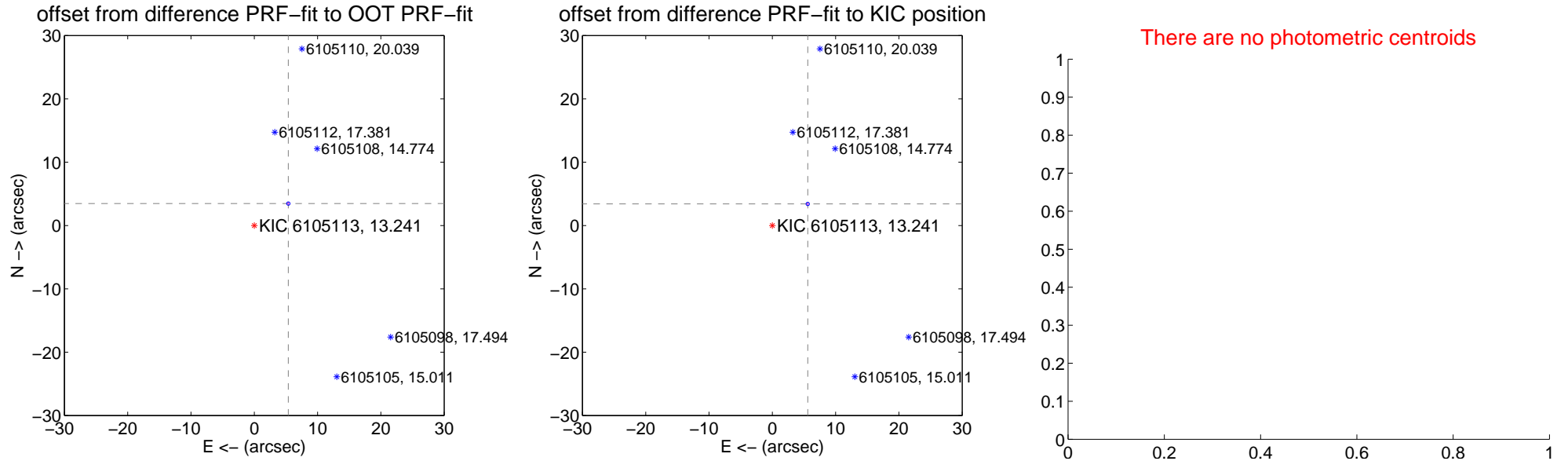
DV Centroid Data

Supplemental centroid analysis for 006105113-02. Kepler magnitude: 13.24. Transit SNR 6.23

There are 1 quarters with good PRF difference image offsets

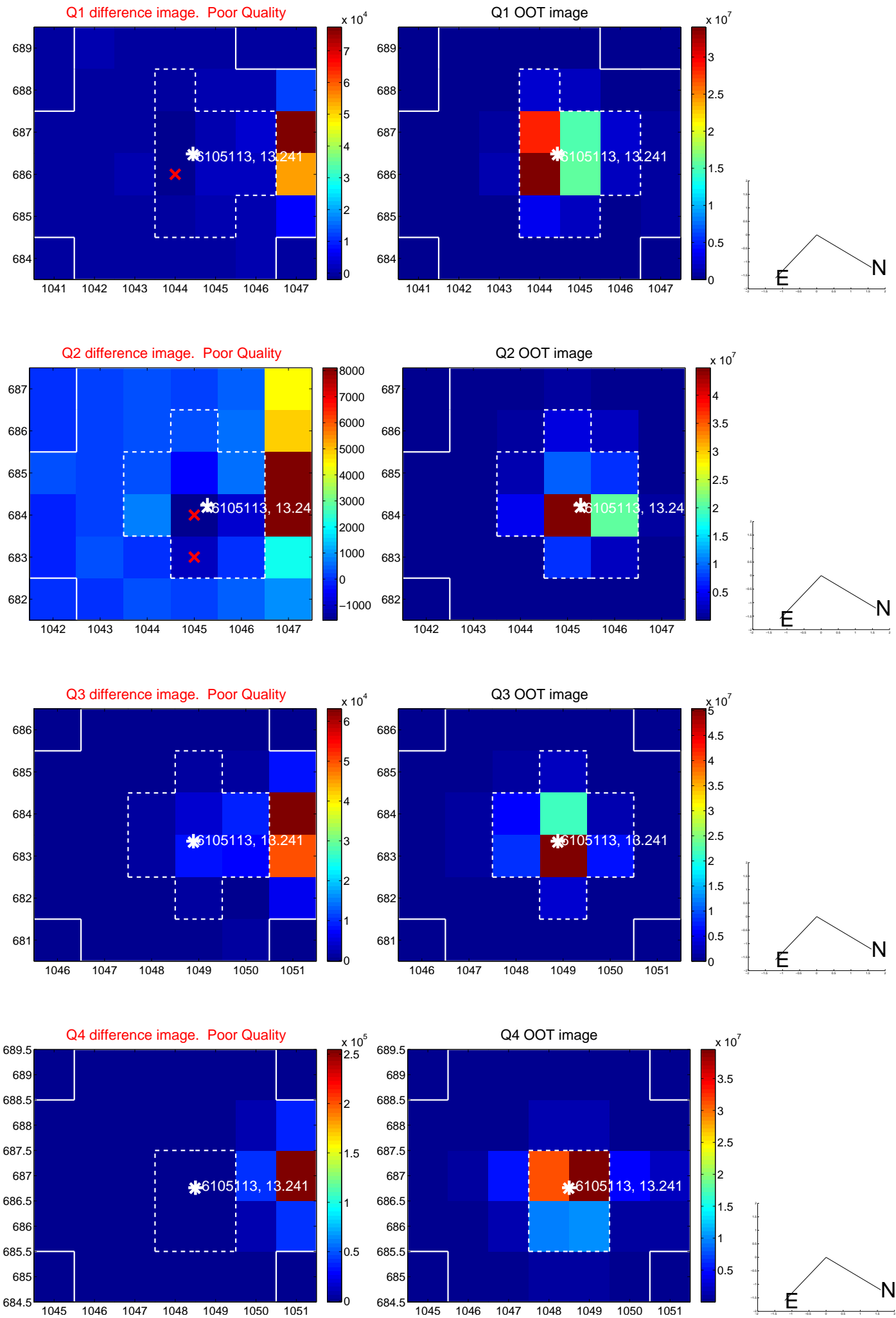
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.400 ± 0.089	72.02	-5.380 ± 0.081	3.467 ± 0.106
PRF-fit source offset from KIC position	6.551 ± 0.088	74.22	-5.594 ± 0.081	3.408 ± 0.106
photometric centroid source offset	—	—	—	—



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

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



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

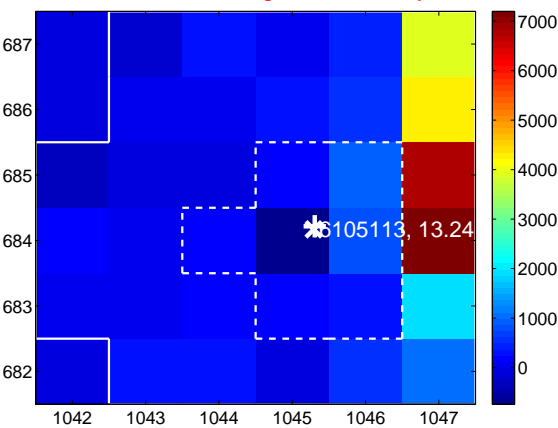
Q5 no difference image



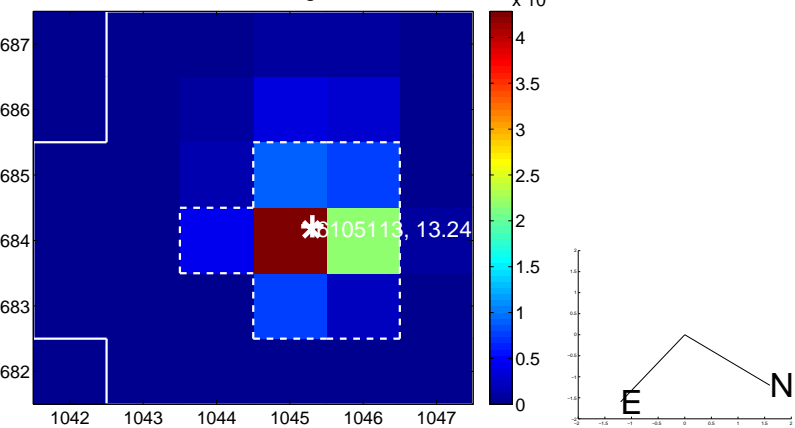
Q5 no OOT image



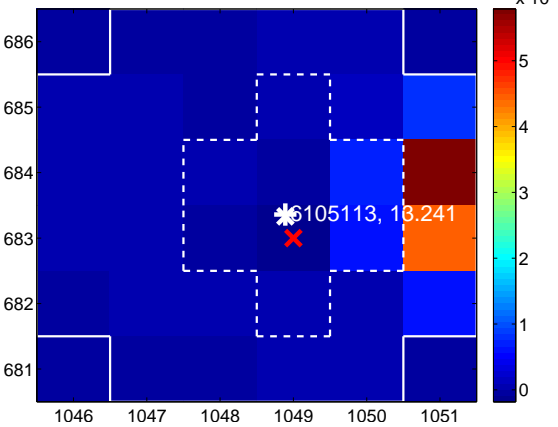
Q6 difference image. Poor Quality



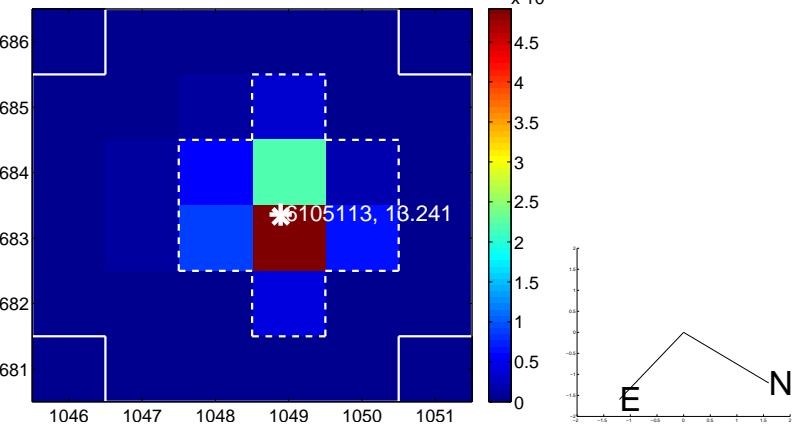
Q6 OOT image



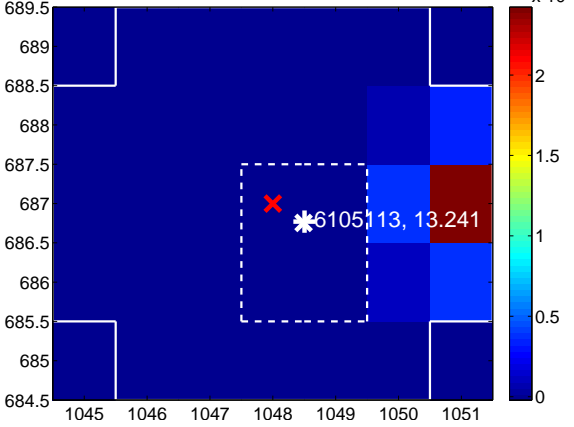
Q7 difference image. Poor Quality



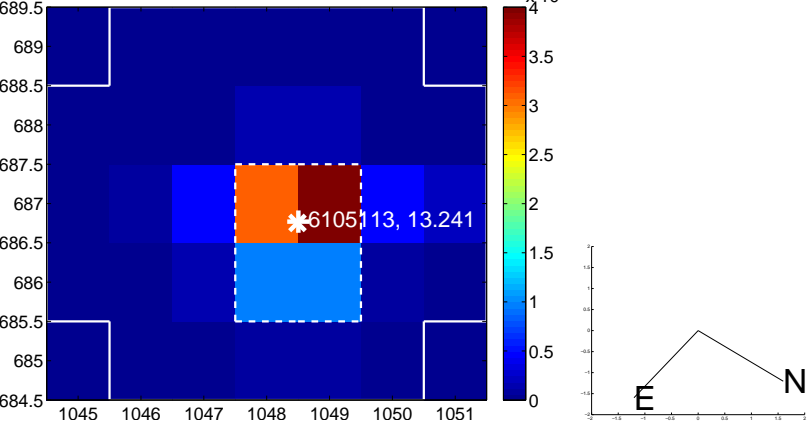
Q7 OOT image



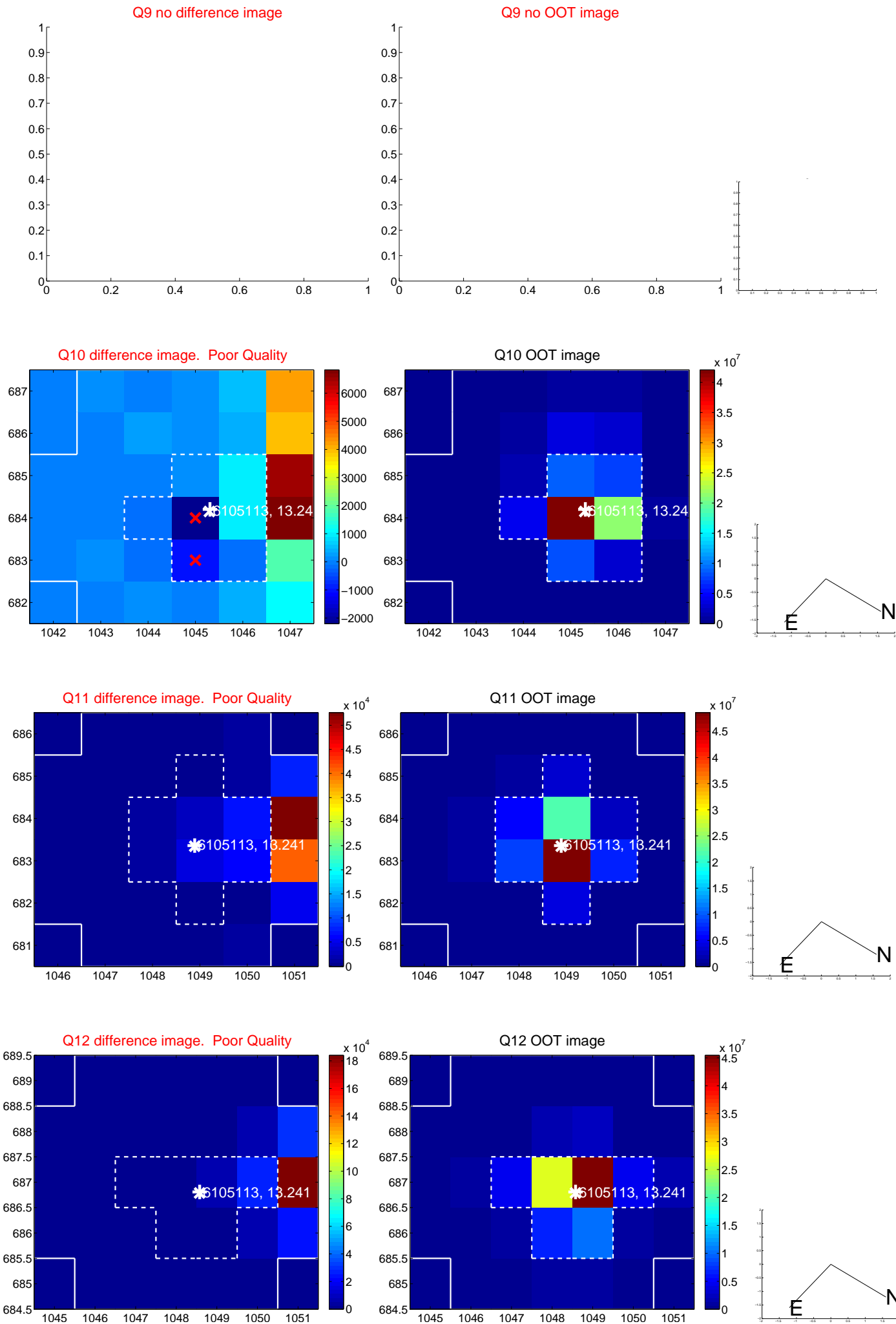
Q8 difference image. Poor Quality



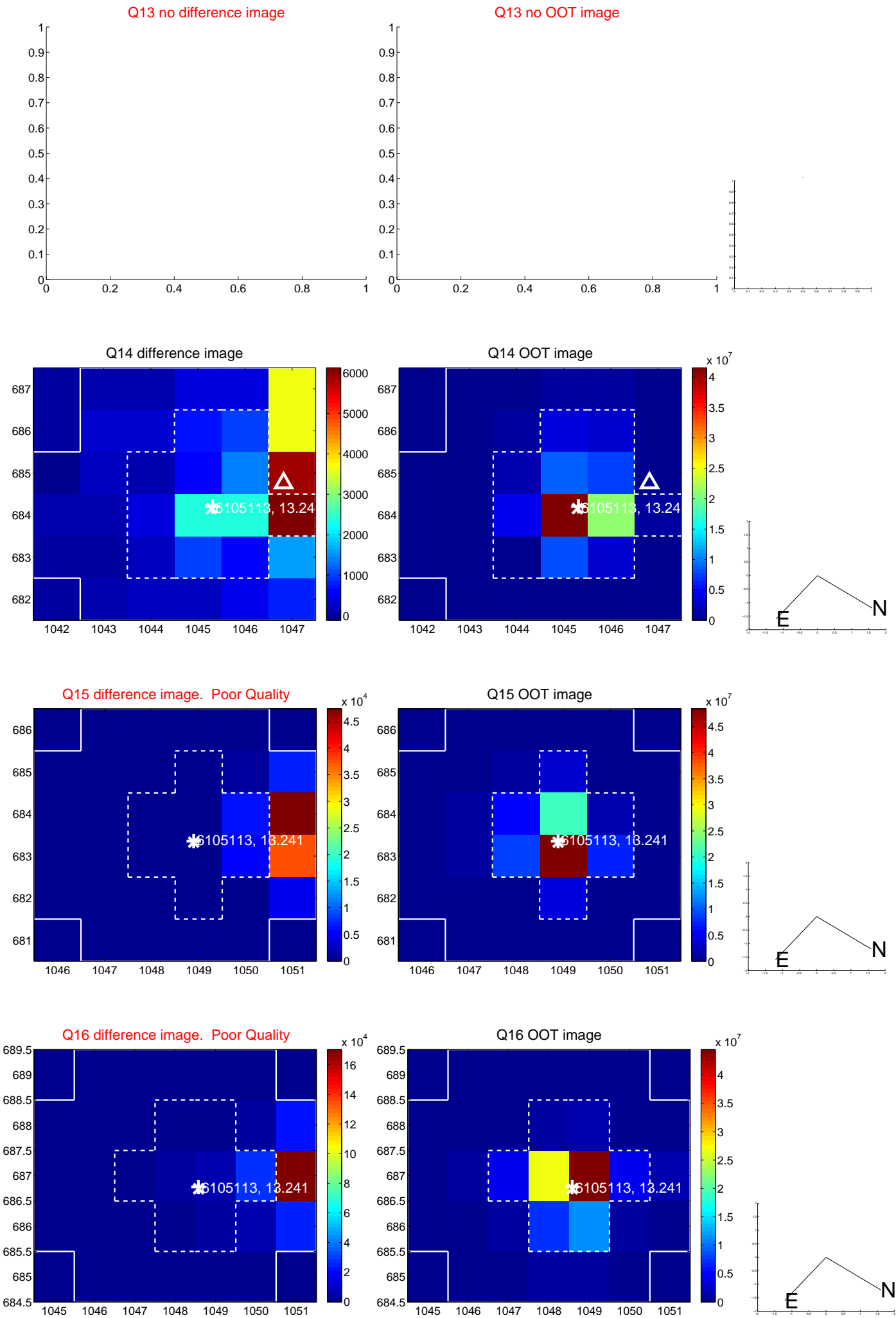
Q8 OOT image



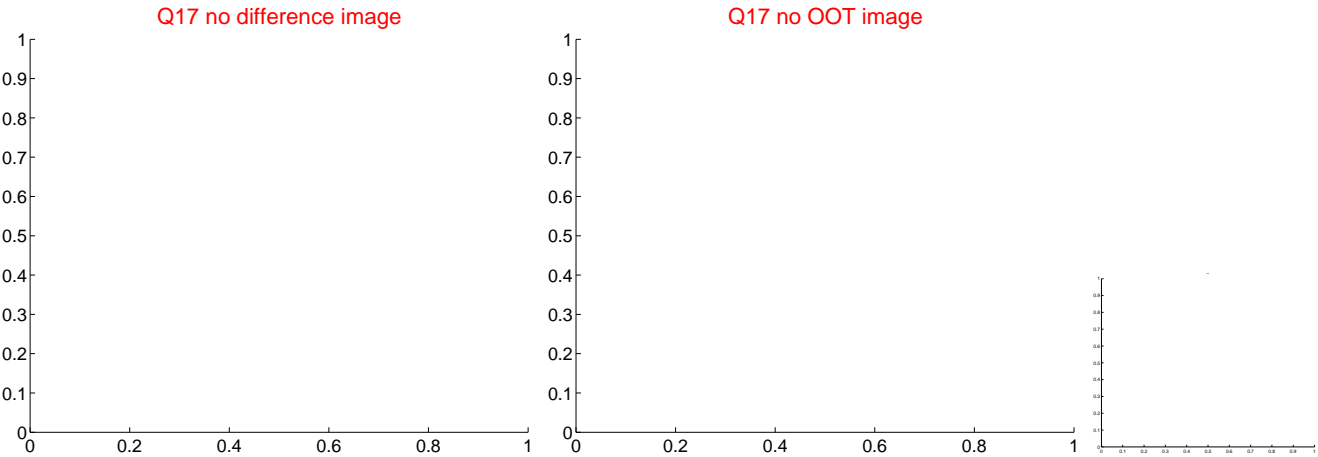
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



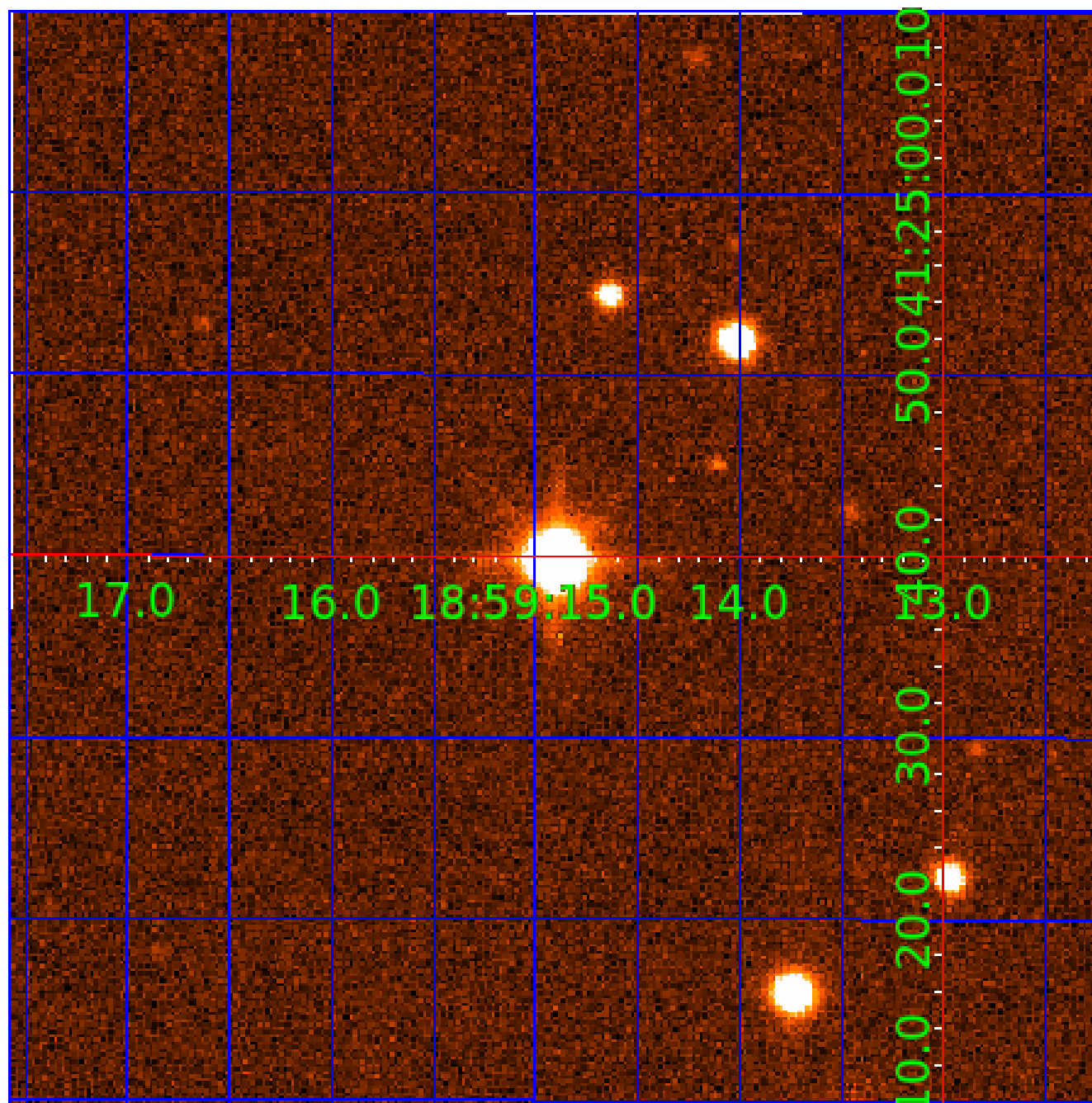
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 006105113

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})
006105113-01	OBS	No	0.879411	132.288983	64.8	1.831	11.2	10.5	4.50	4754	4.46	0.00
006105113-02	OBS	No	0.879413	131.858810	45.8	2.733	9.6	6.2	4.50	4754	3.74	0.00
006105113-03	OBS	No	107.101199	138.456202	1627.6	5.986	8.3	7.3	4.50	4754	36.66	50.04
006105113-04	OBS	No	112.212971	205.646245	1481.9	3.863	8.2	7.8	4.50	4754	17.74	47.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006105113-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006105113-02	OBS	FP	0.00	1	0	1	0	LPP_DV—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET—HALO_GHOST
006105113-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
006105113-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

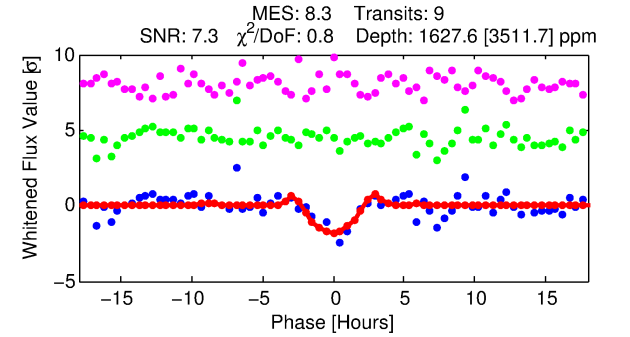
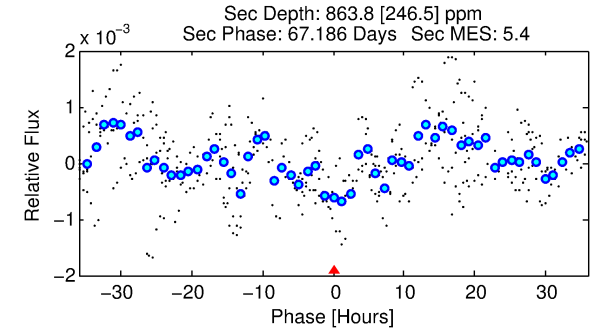
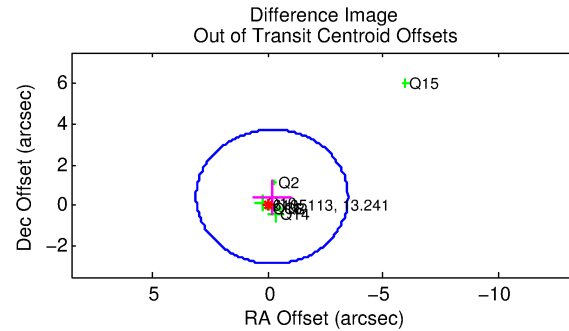
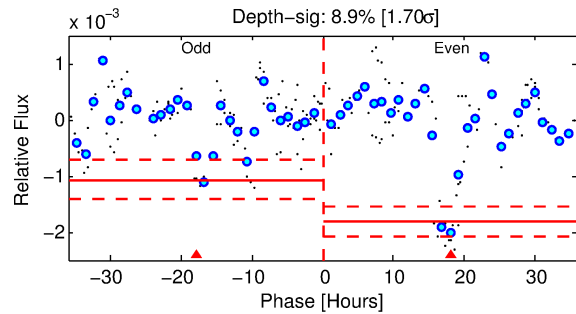
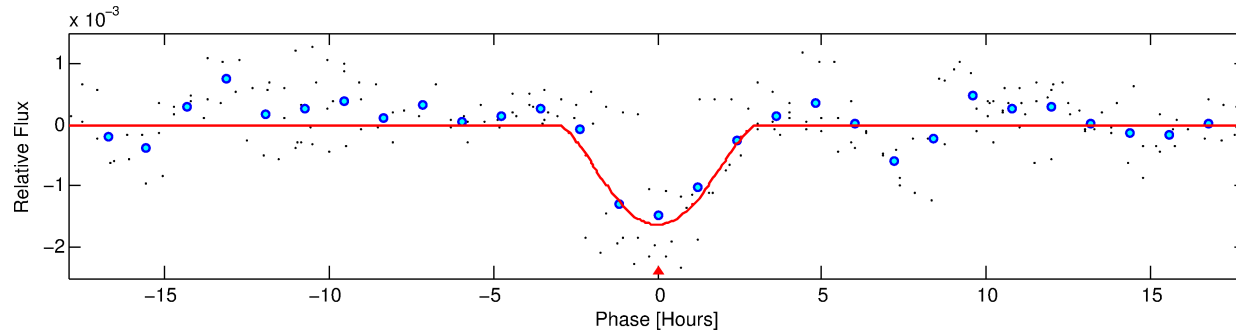
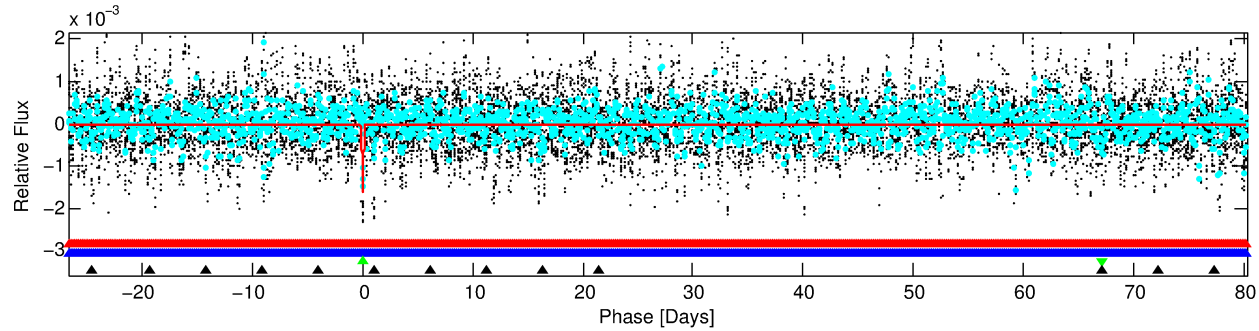
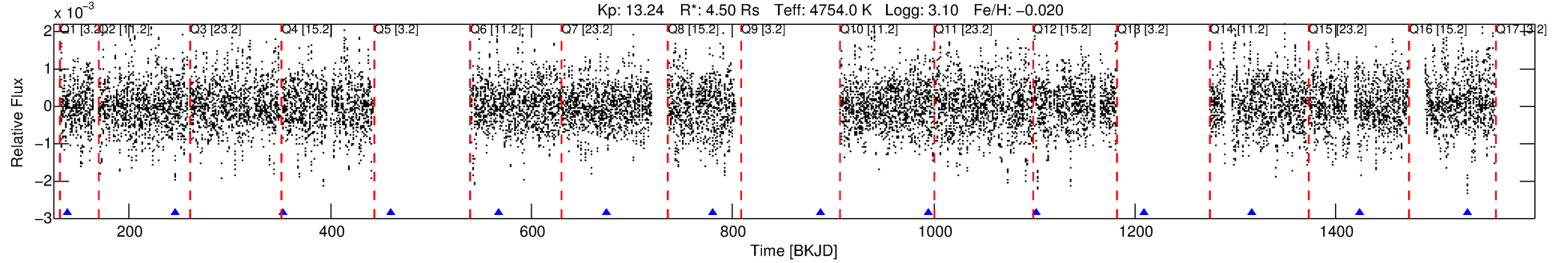
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006105113-03

No Significant Match Found

DV One-Page Summary

KIC: 6105113 Candidate: 3 of 4 Period: 107.101 d



DV Fit Results:

Period = 107.10120 [0.00155] d
Epoch = 138.4562 [0.0139] BKJD
Rp/R* = 0.0747 [0.1623]
a/R* = 53.83 [24.93]
b = 1.00 [0.33]
Seff = 50.04 [121.48]
Teq = 678 [412] K
Rp = 36.66 [85.35] Re
a = 0.4300 [0.5609] AU
Ag = 65.36 [325.62] [0.20 σ]
Teff = 2981 [3246] K [0.70 σ]

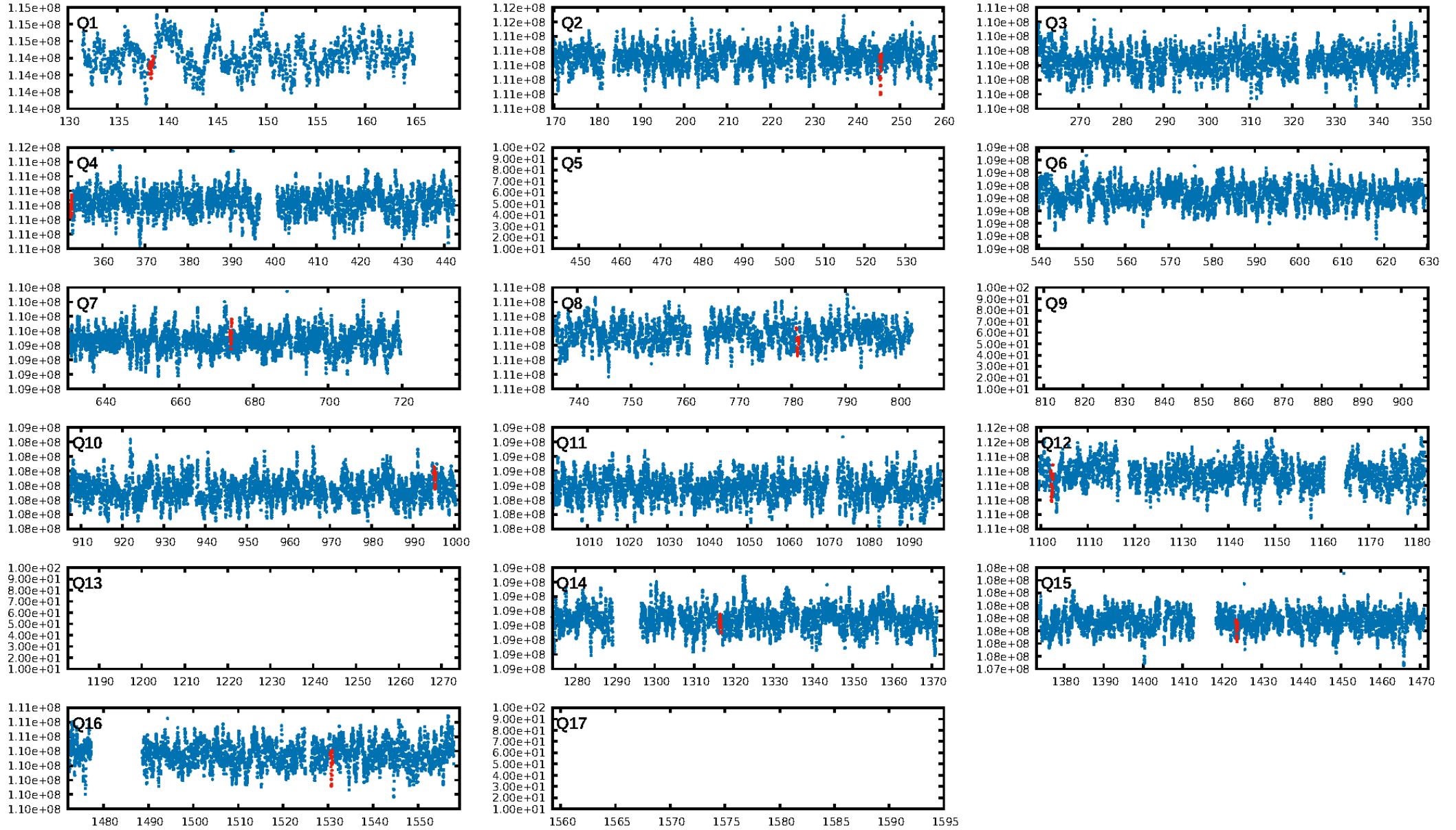
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [387.39 σ]
LongPeriod-sig: 100.0% [17.22 σ]
ModelChiSquare2-sig: 6.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.82e-11
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -1.456
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.466 arcsec [0.43 σ]
OotOffset-st: 3/1/2/0 [6]
KicOffset-rm: 0.456 arcsec [0.31 σ]
KicOffset-st: 3/1/2/0 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/9]

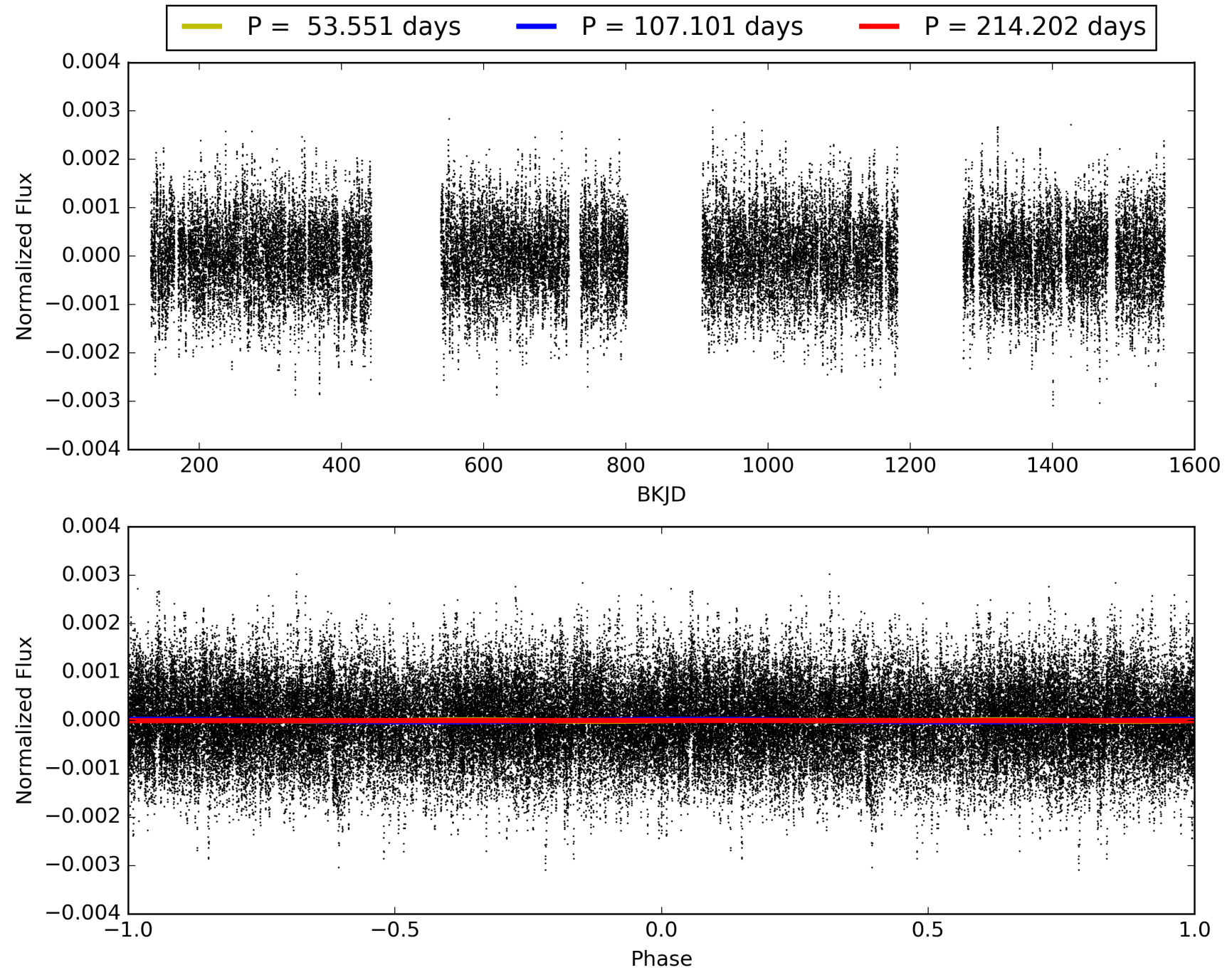
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:48:36 Z

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

TCE 006105113-03, PDC Light Curves

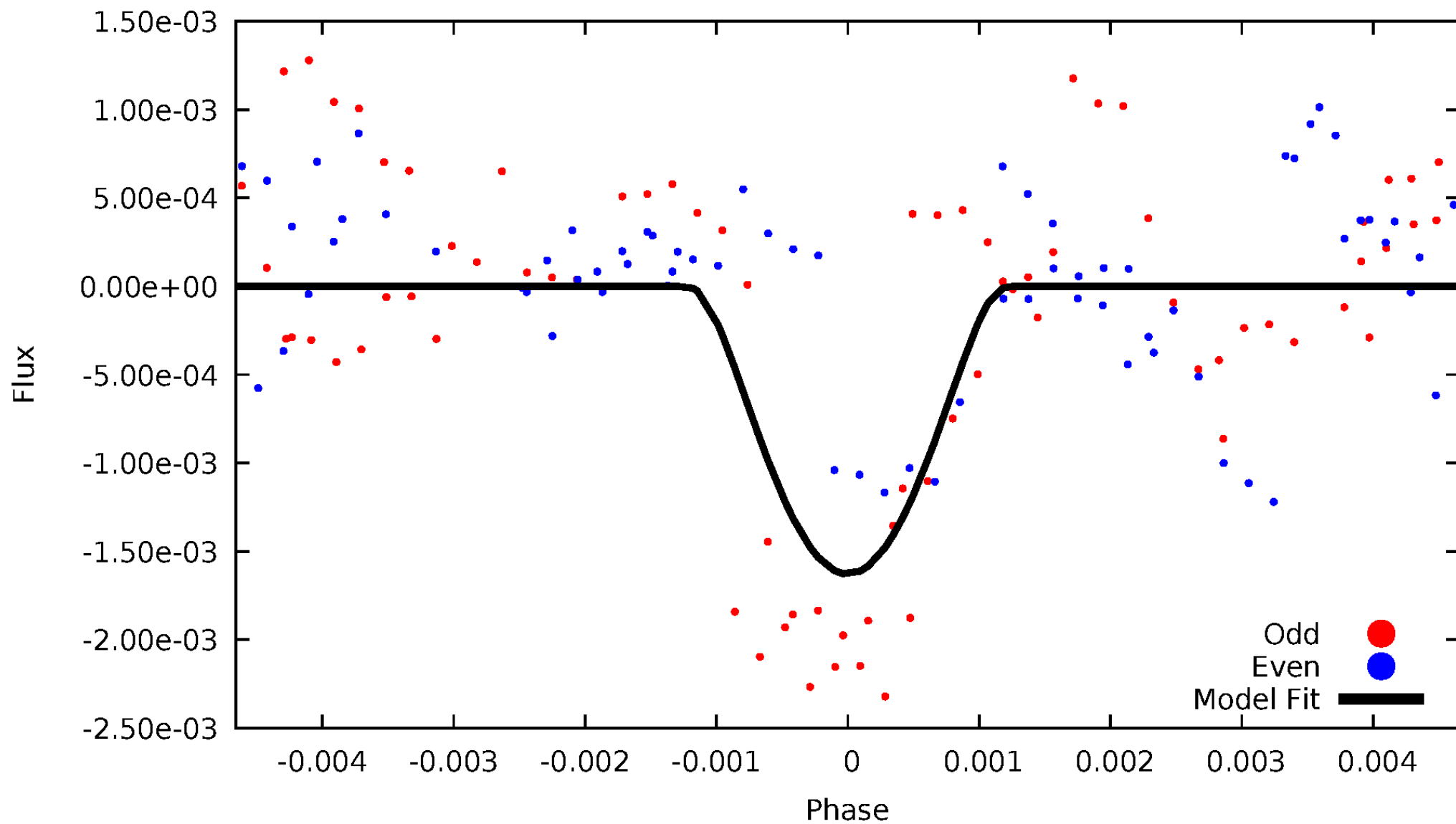


TCE 006105113-03



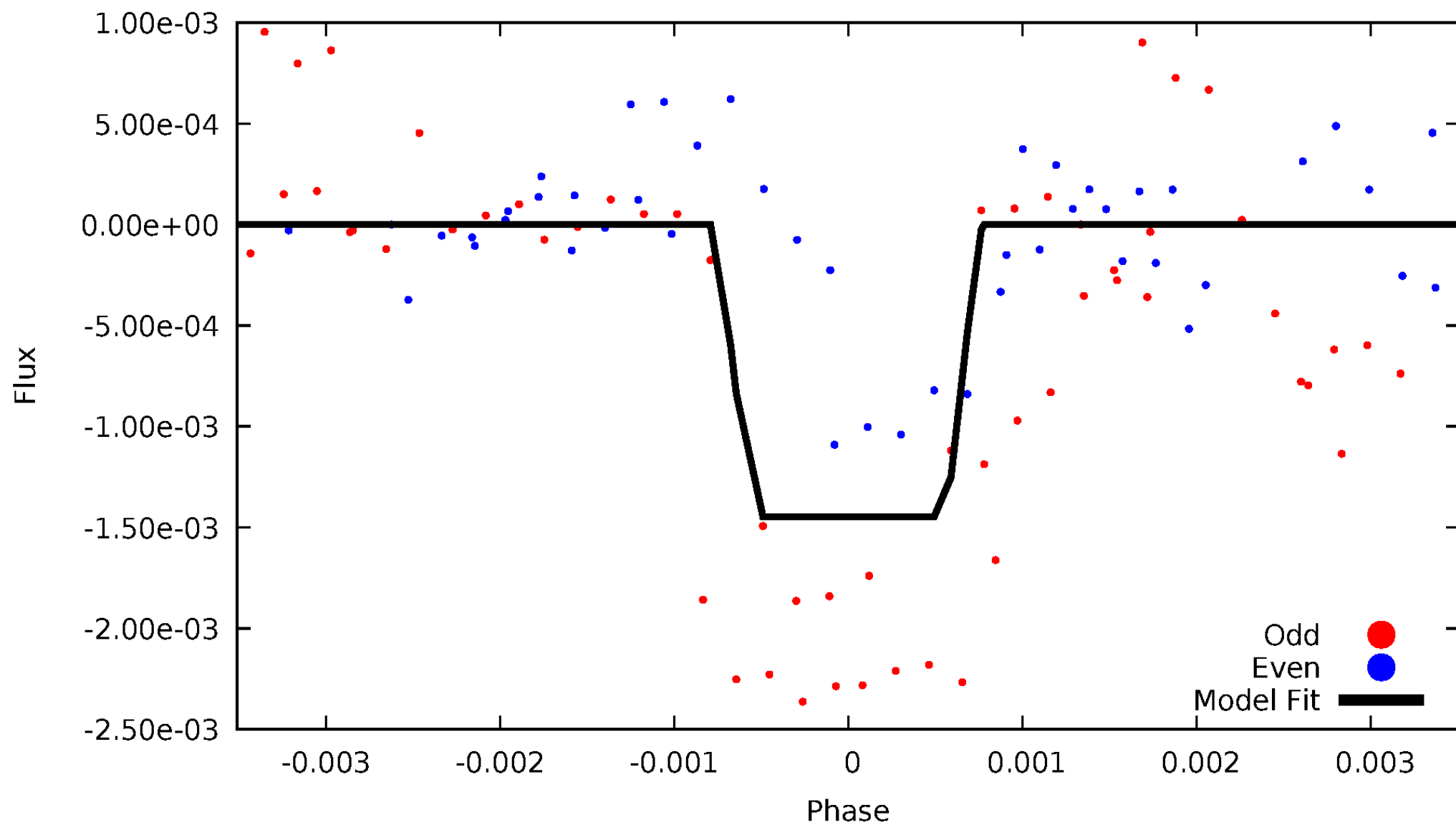
DV Odd/Even

TCE 006105113-03



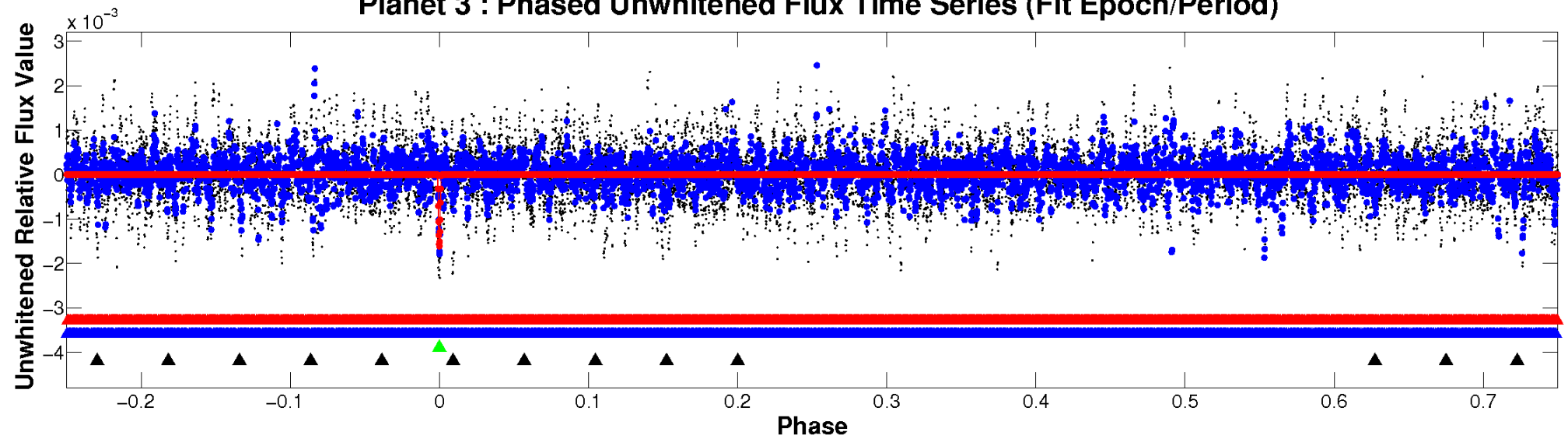
ALT Odd/Even

TCE 006105113-03

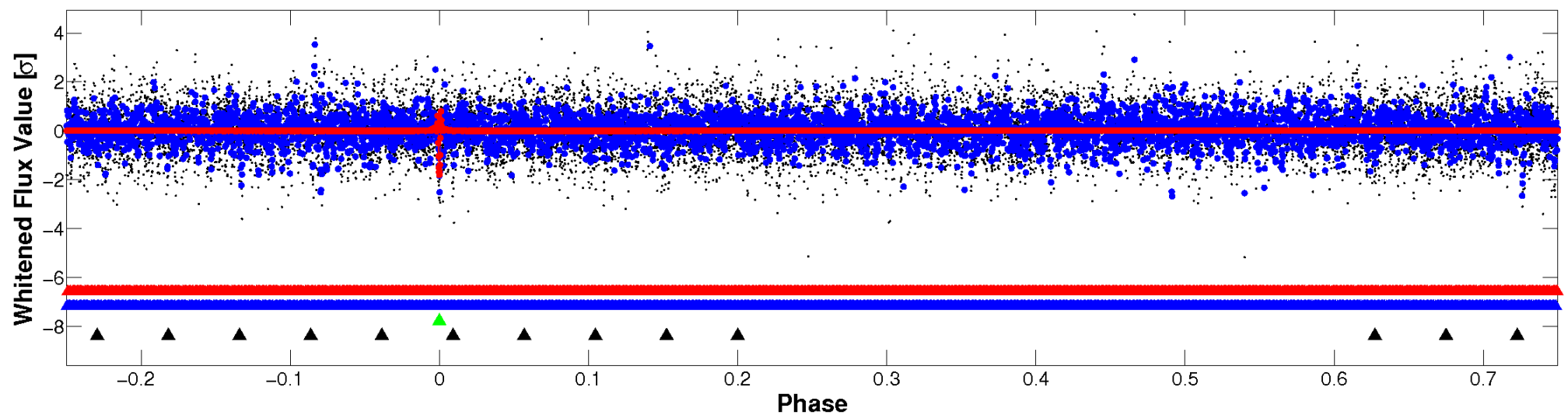


Non-Whitened Vs. Whitened Light Curve

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

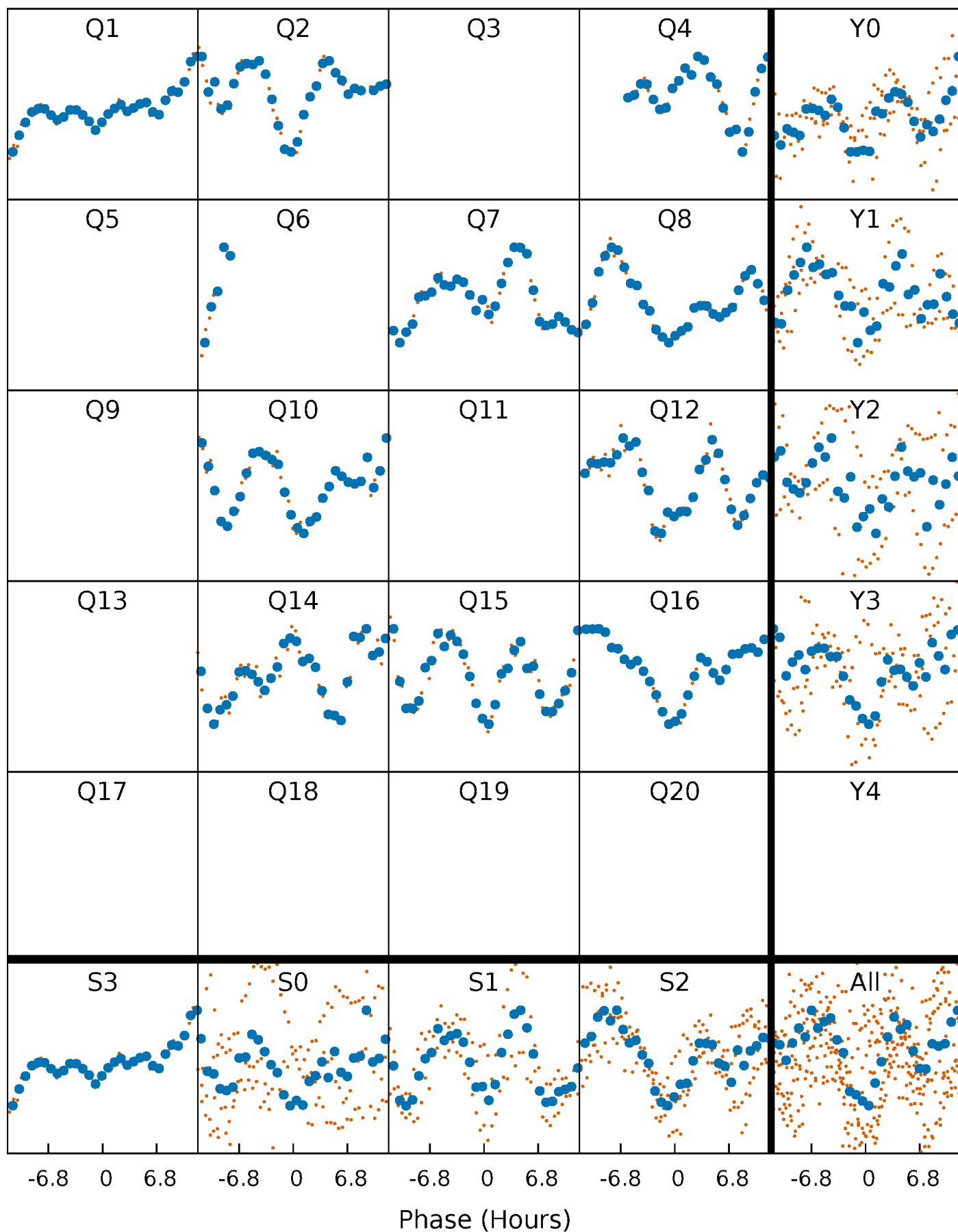


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



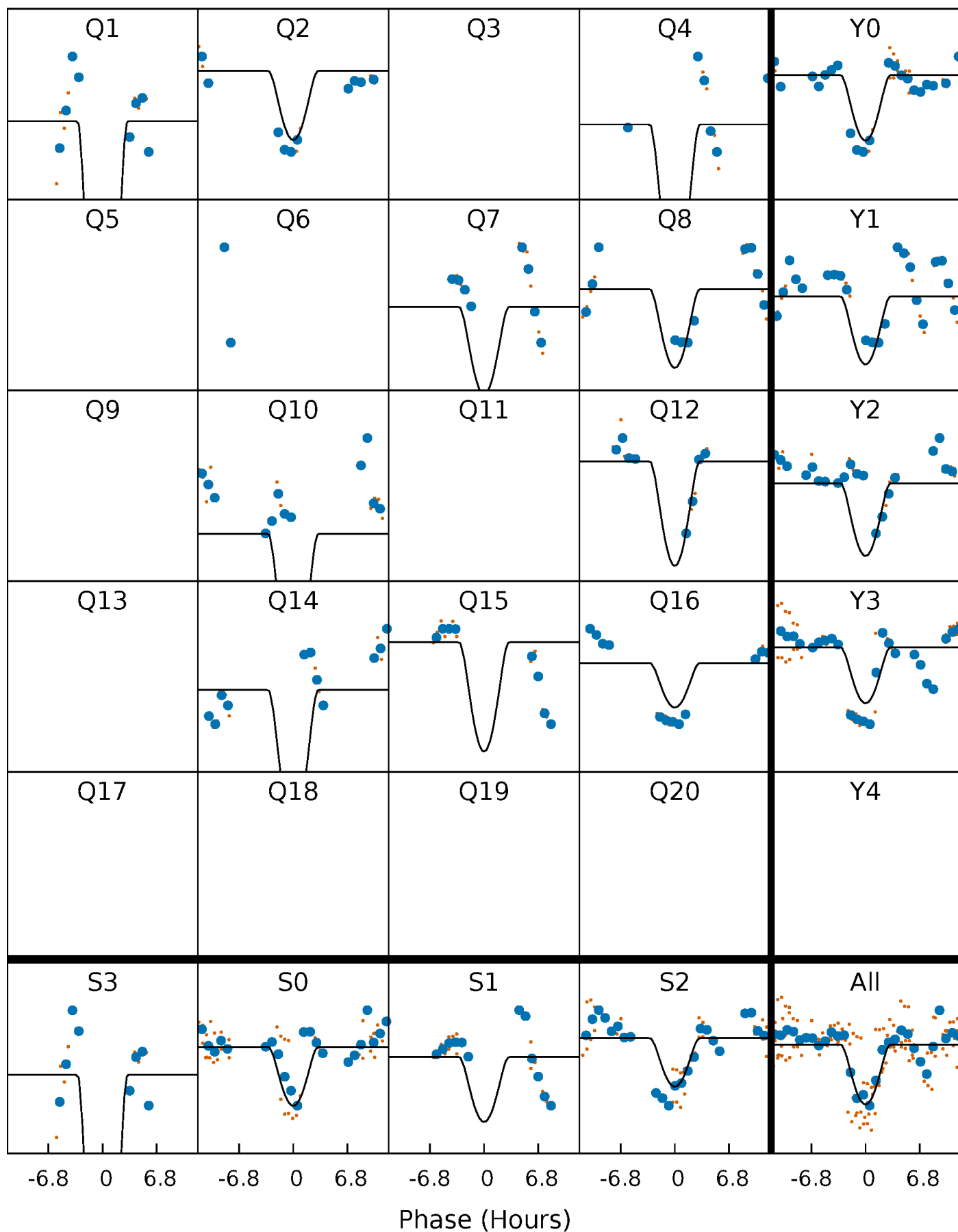
PDC Quarter-Phased Transit Curves

TCE 006105113-03 P=107.101199 Days $T_0=138.456202$ (BKJD)



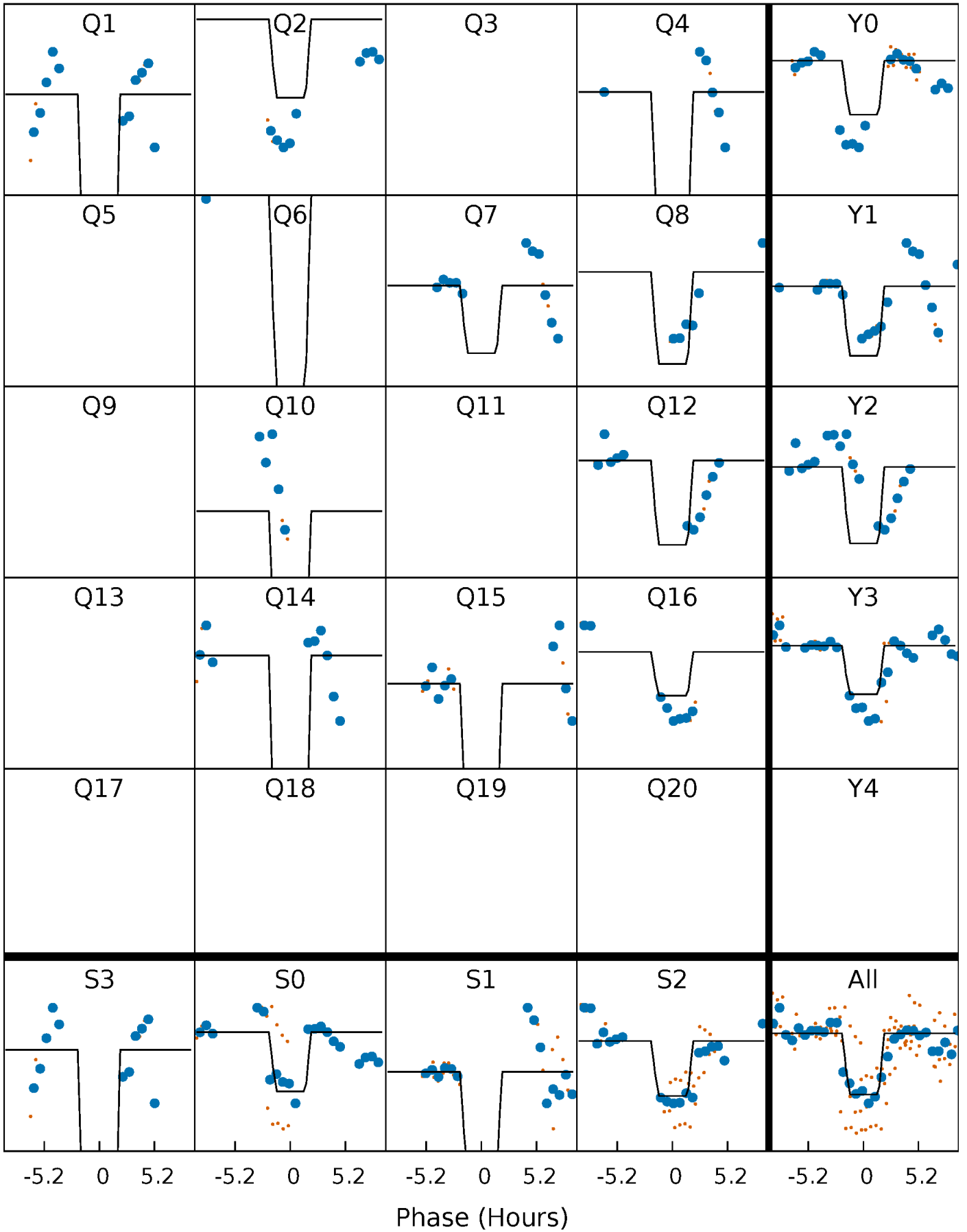
DV Quarter-Phased Transit Curves

TCE 006105113-03 P=107.101199 Days $T_0=138.456202$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

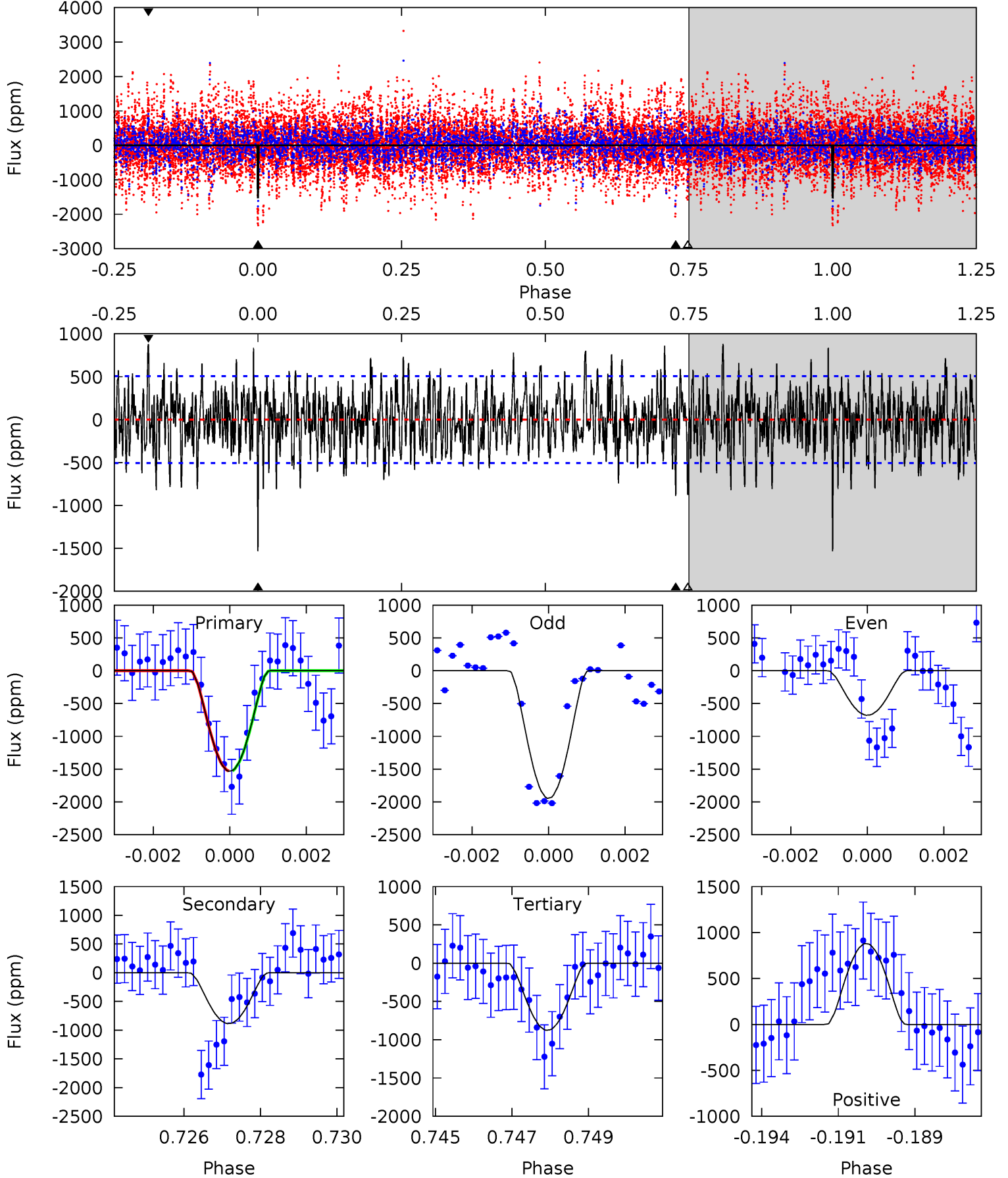
TCE 006105113-03 P=107.095873 Days $T_0=138.485897$ (BKJD)



DV Model-Shift Uniqueness Test

006105113-03, P = 107.101199 Days, E = 31.355003 Days

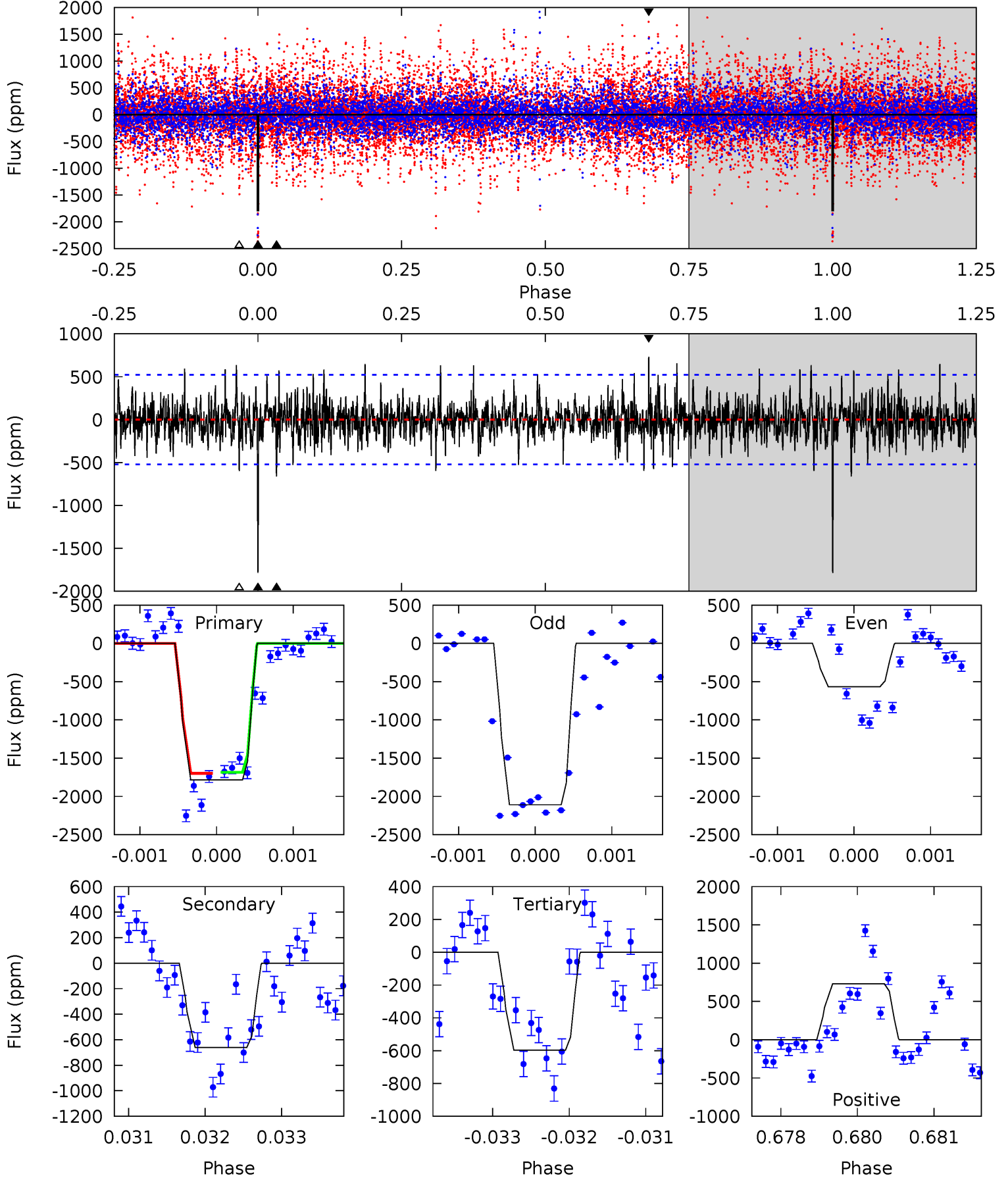
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	9.27	9.17	9.21	5.30	3.04	2.93	6.87	6.82	0.10	0.06	6.37	0.68	0.36	0.02



Alt Model-Shift Uniqueness Test

006105113-03, P = 107.095873 Days, E = 31.390024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	6.81	6.16	7.54	5.38	3.18	1.74	12.3	10.9	0.65	-0.73	7.99	0.86	0.29	0.08



Stellar Parameters For KIC 006105113

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4754^{+113}_{-178}	$3.098^{+1.536}_{-0.384}$	$-0.020^{+0.250}_{-0.400}$	$4.496^{+3.082}_{-3.767}$	$0.924^{+0.239}_{-0.292}$	$0.014^{+3.467}_{-0.011}$
	+2%/-4%	+50%/-12%	+1250%/-2000%	+69%/-84%	+26%/-32%	+24211%/-74%
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 006105113-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-886 ± 96	$56.55^{+80.37}_{-42.26}$	912^{+184}_{-218}	2838^{+1393}_{-473}	26^{+389}_{-21}
Alt.	-660 ± 97	$50.55^{+66.33}_{-37.03}$	901^{+188}_{-241}	2782^{+1153}_{-449}	26^{+301}_{-22}

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

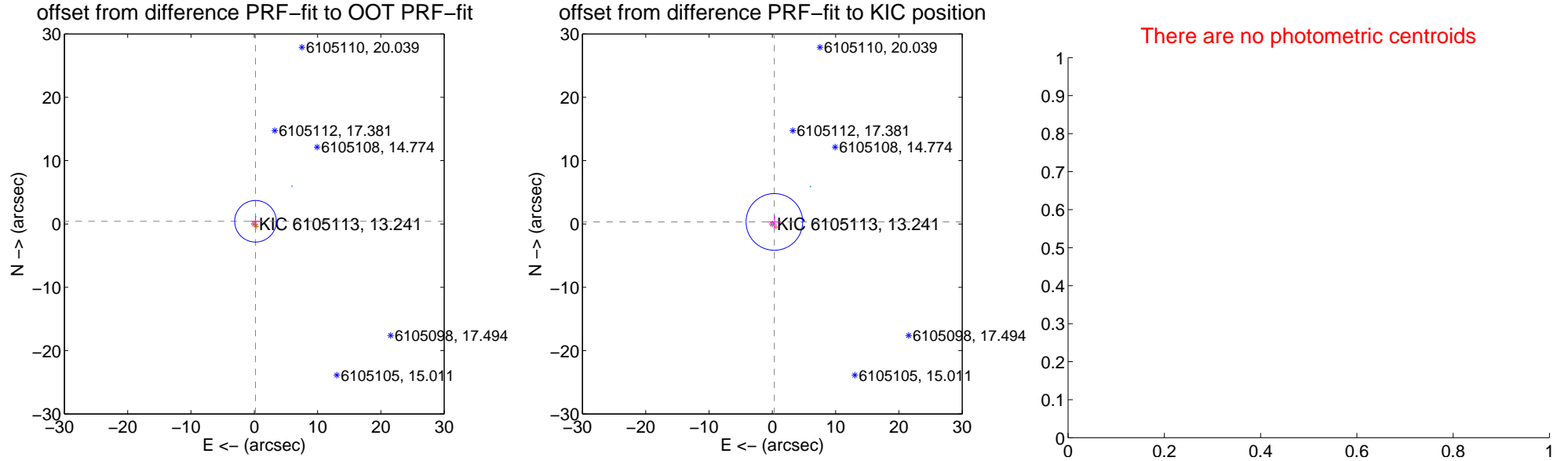
DV Centroid Data

Supplemental centroid analysis for 006105113-03. Kepler magnitude: 13.24. Transit SNR 7.31

There are 5 quarters with good PRF difference image offsets

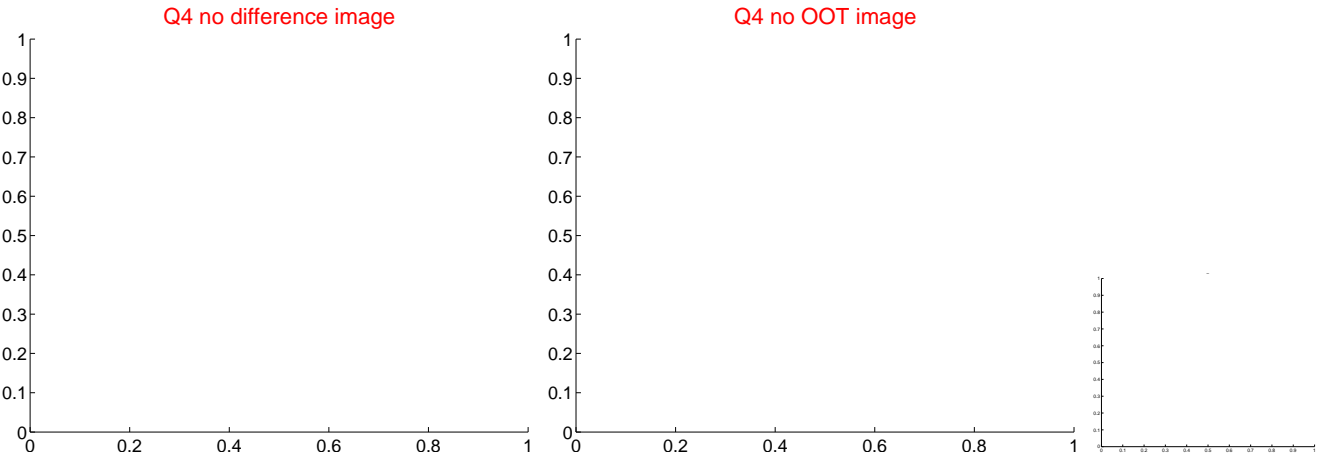
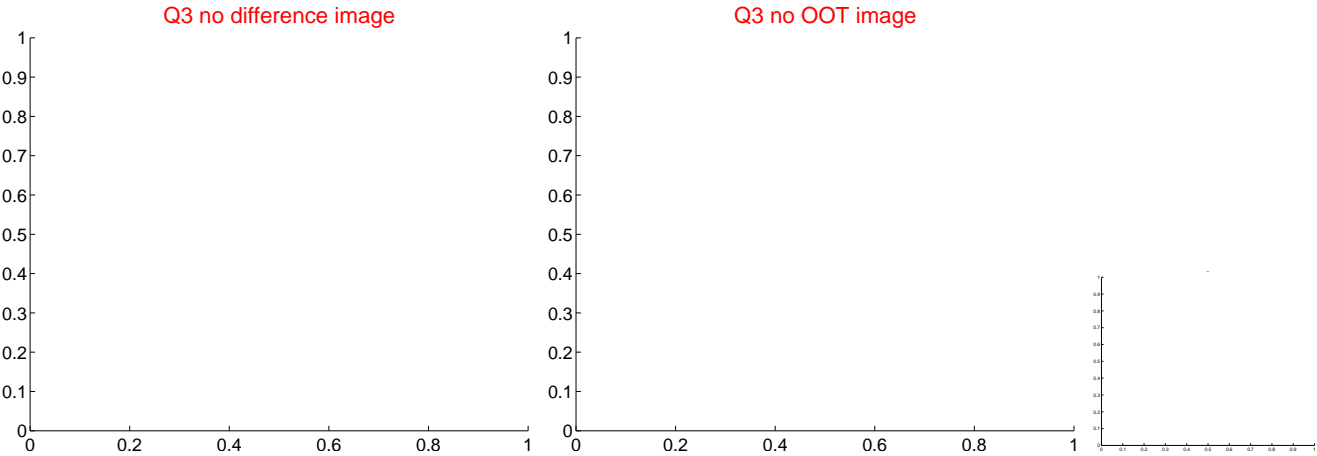
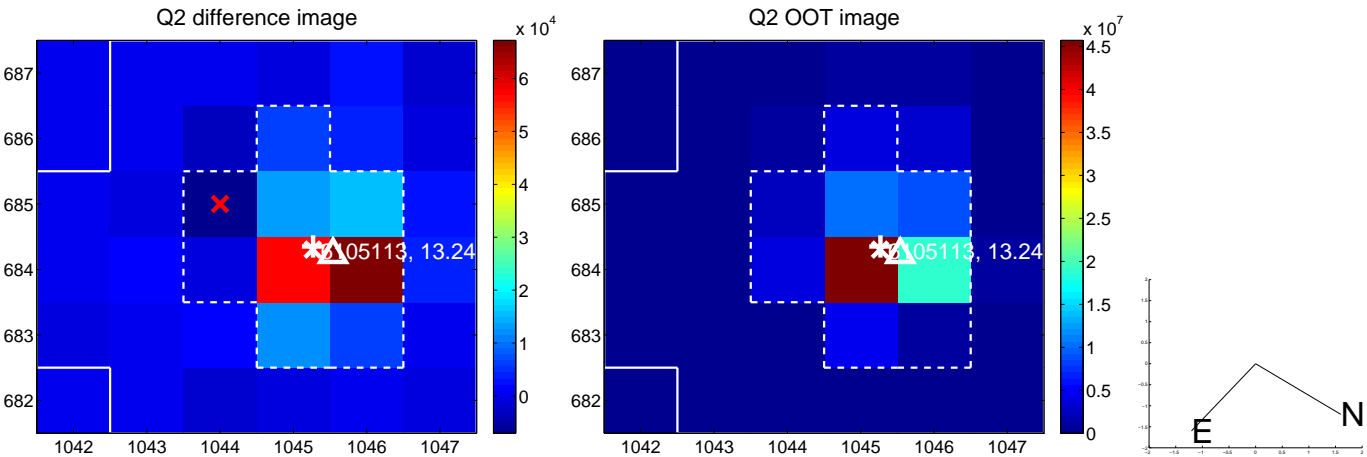
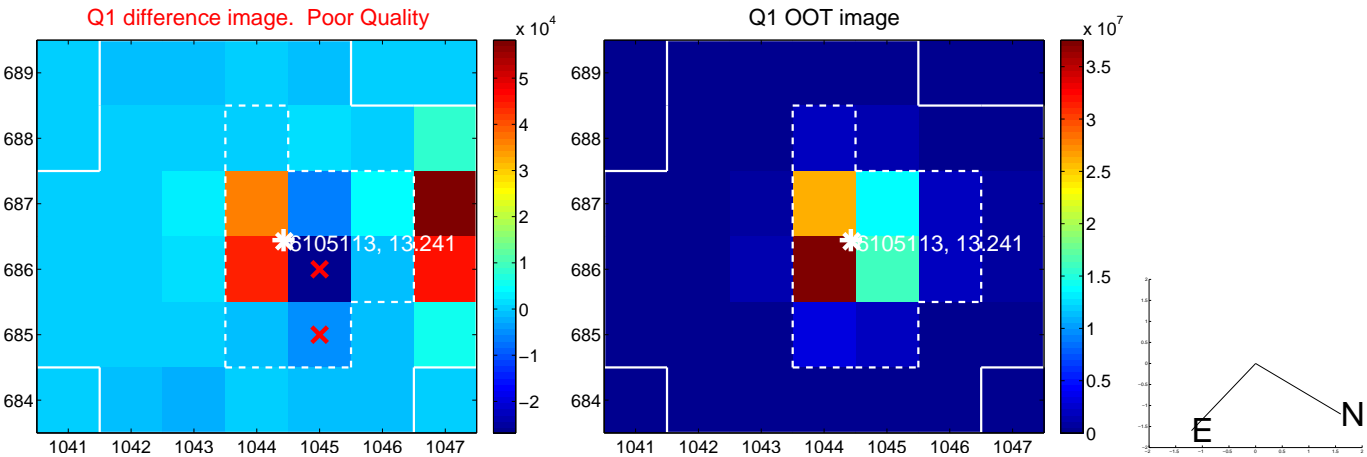
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.466 ± 1.094	0.43	-0.191 ± 0.817	0.426 ± 0.841
PRF-fit source offset from KIC position	0.456 ± 1.491	0.31	-0.324 ± 1.052	0.321 ± 1.074
photometric centroid source offset	—	—	—	—



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 ×: 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.

Q5 no difference image



Q5 no OOT image



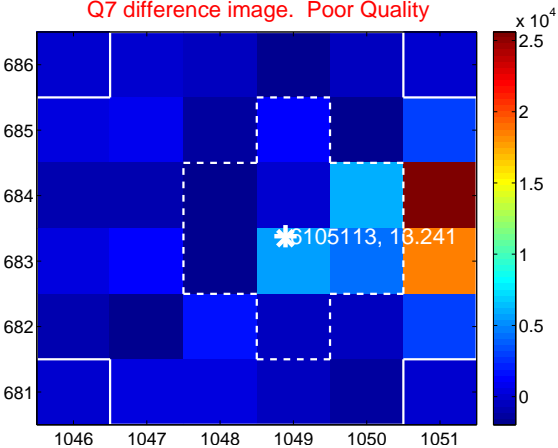
Q6 no difference image



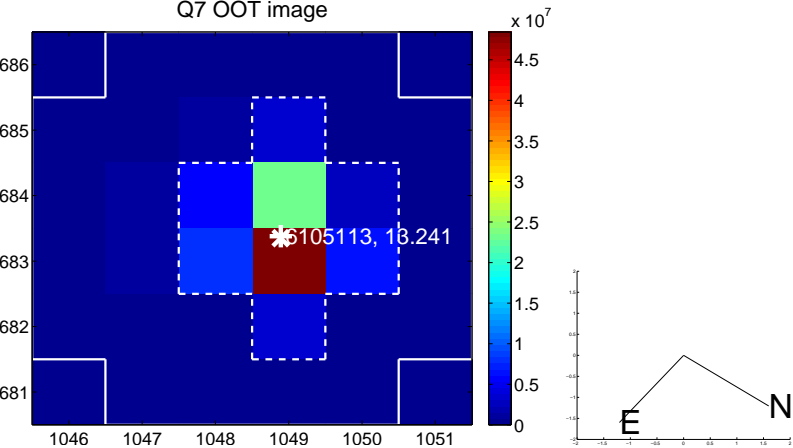
Q6 no OOT image



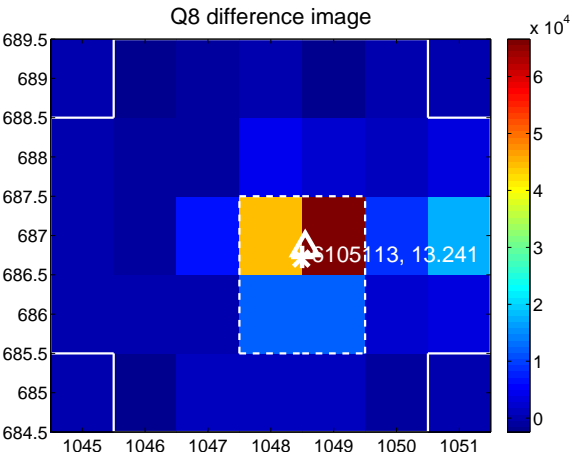
Q7 difference image. Poor Quality



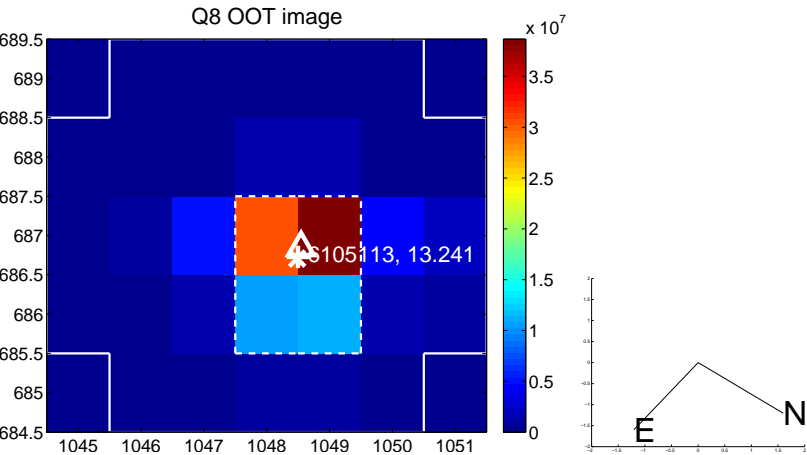
Q7 OOT image



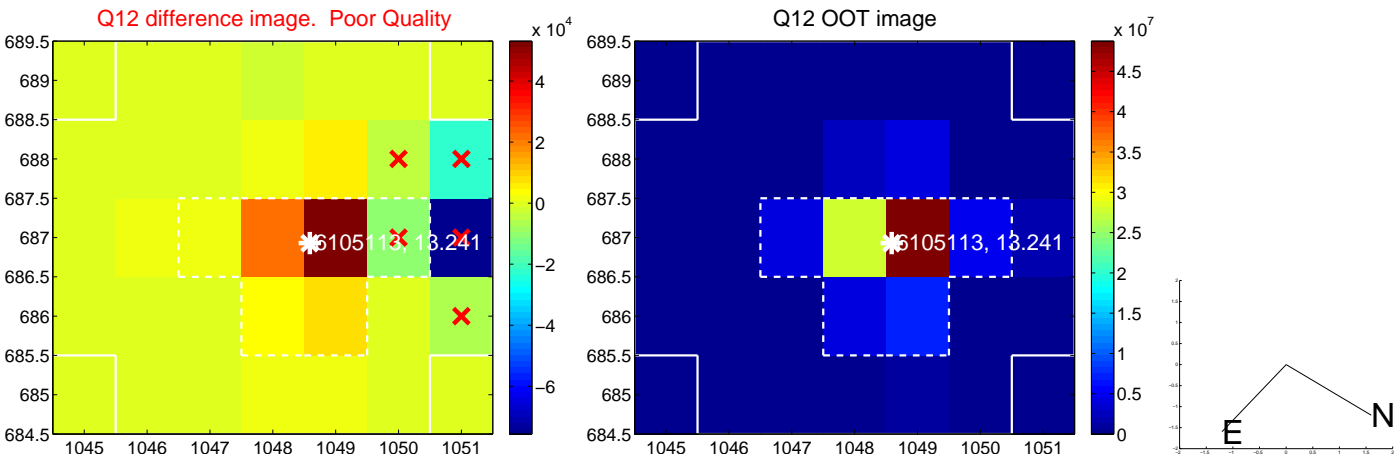
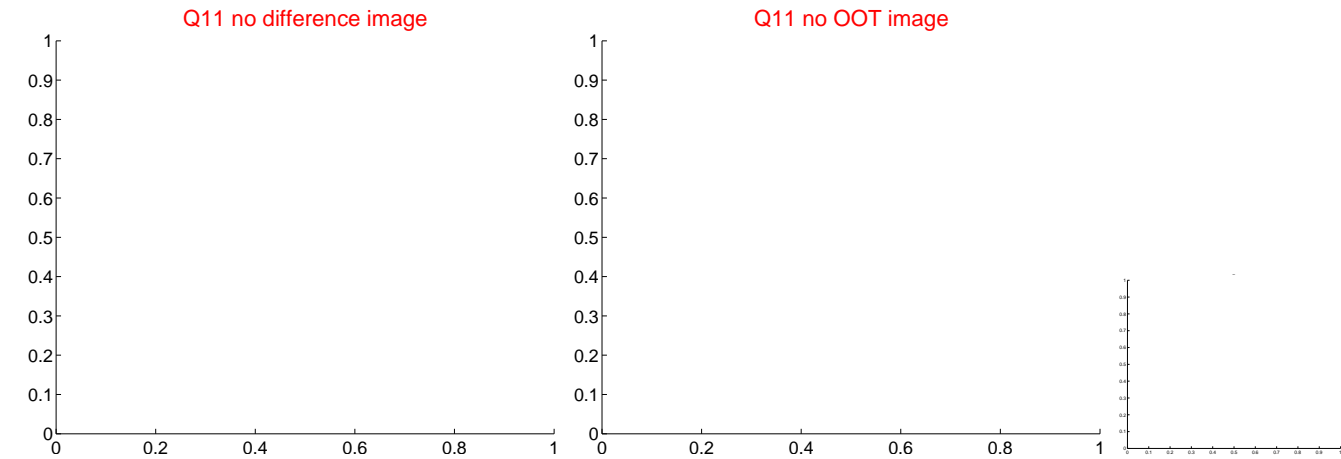
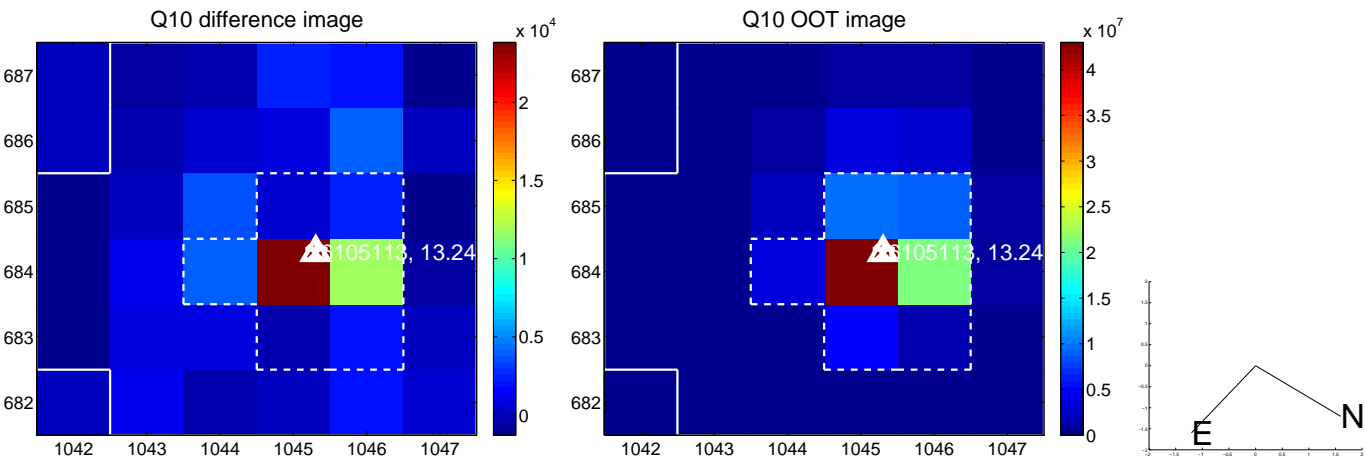
Q8 difference image



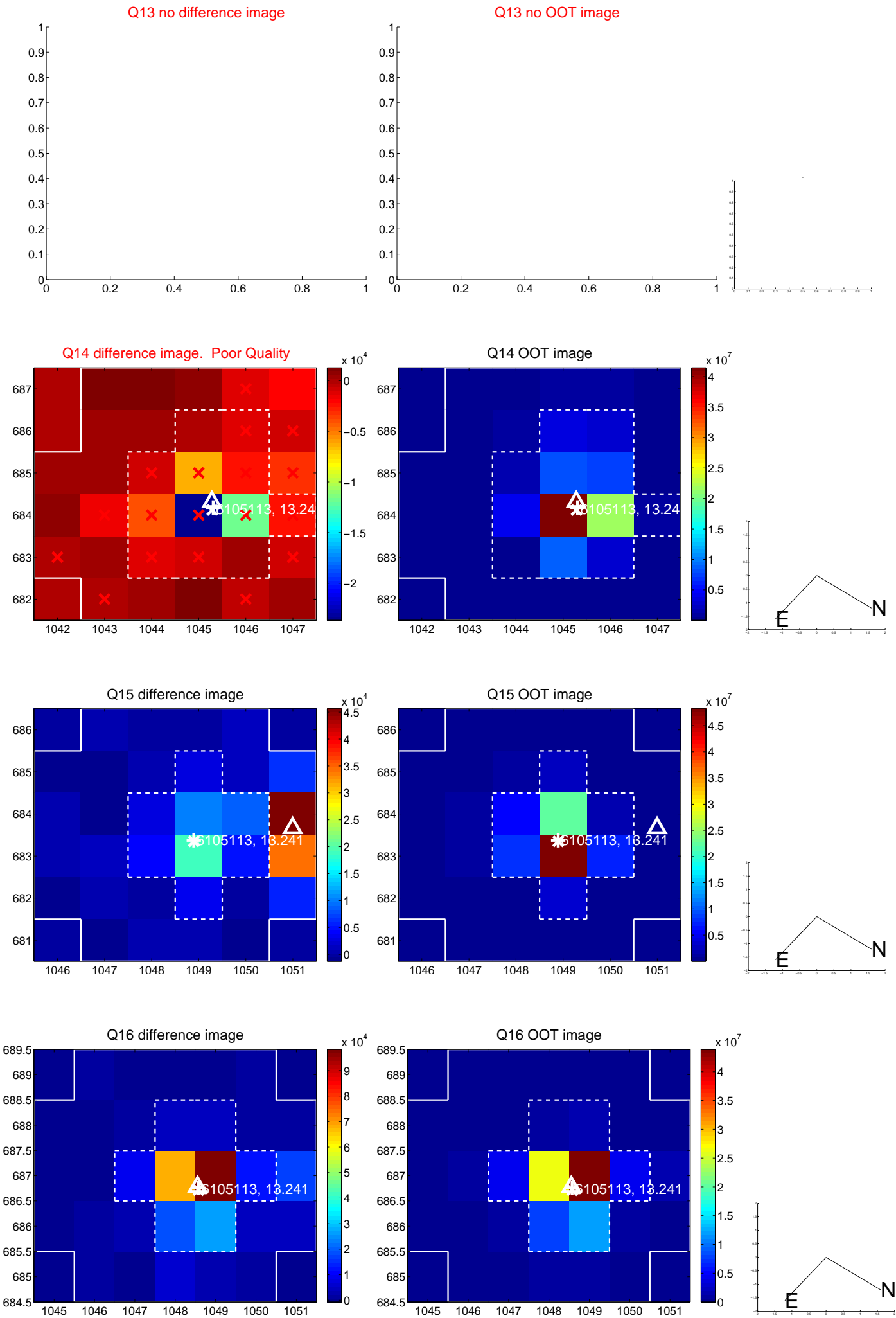
Q8 OOT image



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.



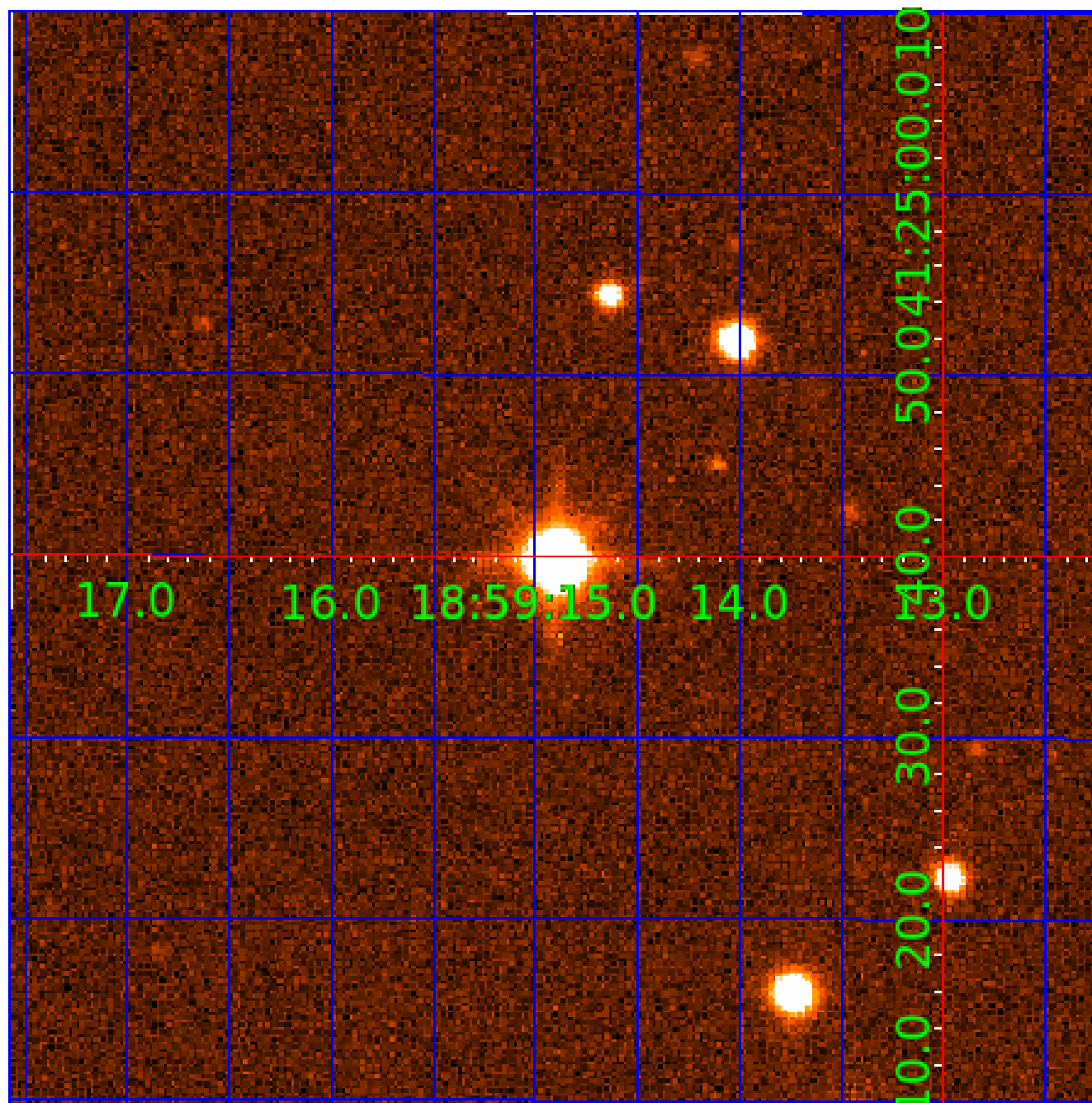
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 006105113

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})
006105113-01	OBS	No	0.879411	132.288983	64.8	1.831	11.2	10.5	4.50	4754	4.46	0.00
006105113-02	OBS	No	0.879413	131.858810	45.8	2.733	9.6	6.2	4.50	4754	3.74	0.00
006105113-03	OBS	No	107.101199	138.456202	1627.6	5.986	8.3	7.3	4.50	4754	36.66	50.04
006105113-04	OBS	No	112.212971	205.646245	1481.9	3.863	8.2	7.8	4.50	4754	17.74	47.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006105113-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006105113-02	OBS	FP	0.00	1	0	1	0	LPP_DV—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET—HALO_GHOST
006105113-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
006105113-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

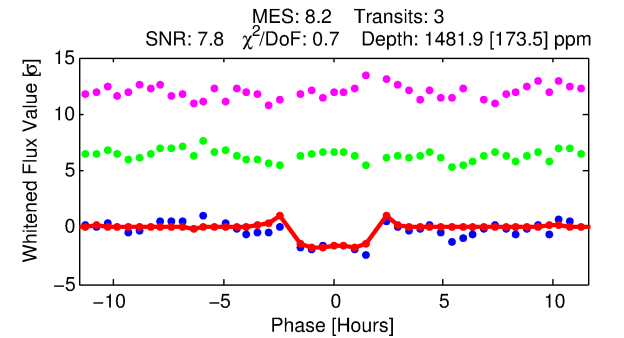
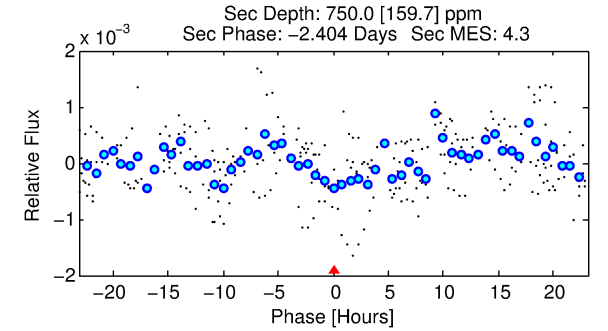
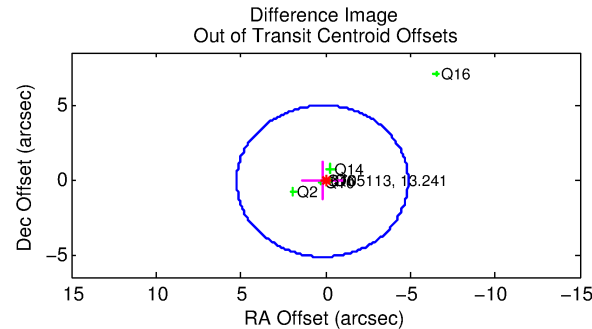
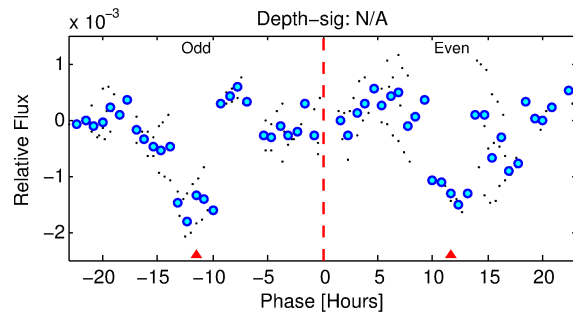
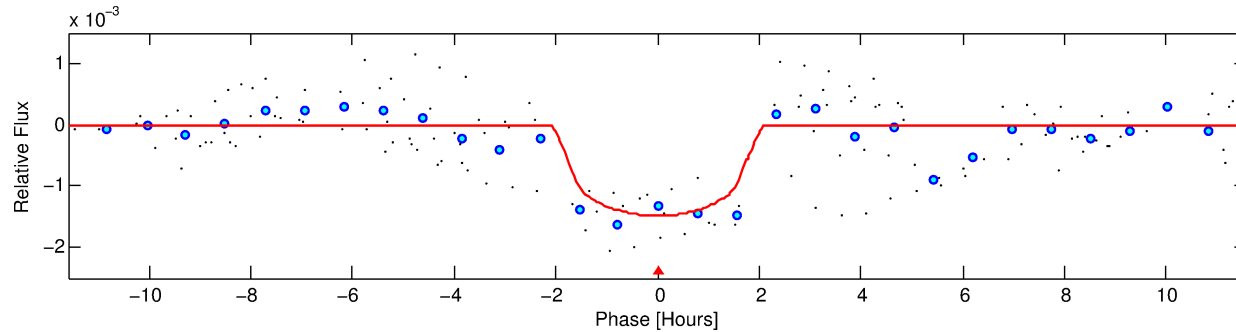
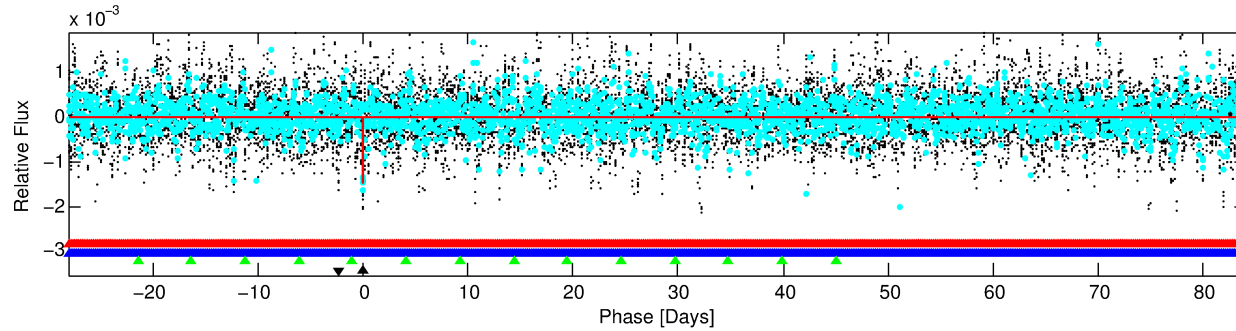
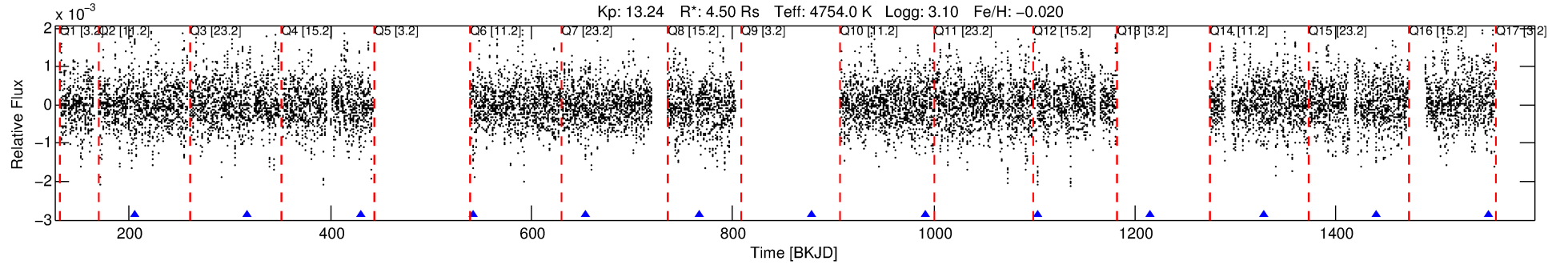
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006105113-04

No Significant Match Found

DV One-Page Summary

KIC: 6105113 Candidate: 4 of 4 Period: 112.213 d



DV Fit Results:

Period = 112.21297 [0.00126] d
Epoch = 205.6462 [0.0074] BKJD
Rp/R* = 0.0362 [0.0329]
a/R* = 190.39 [553.95]
b = 0.58 [3.39]
Seff = 47.02 [114.15]
Teq = 668 [405] K
Rp = 17.74 [21.94] Re
a = 0.4436 [0.5786] AU
Ag = 257.95 [783.43] [0.33σ]
Teffp = 4137 [1900] K [1.79σ]

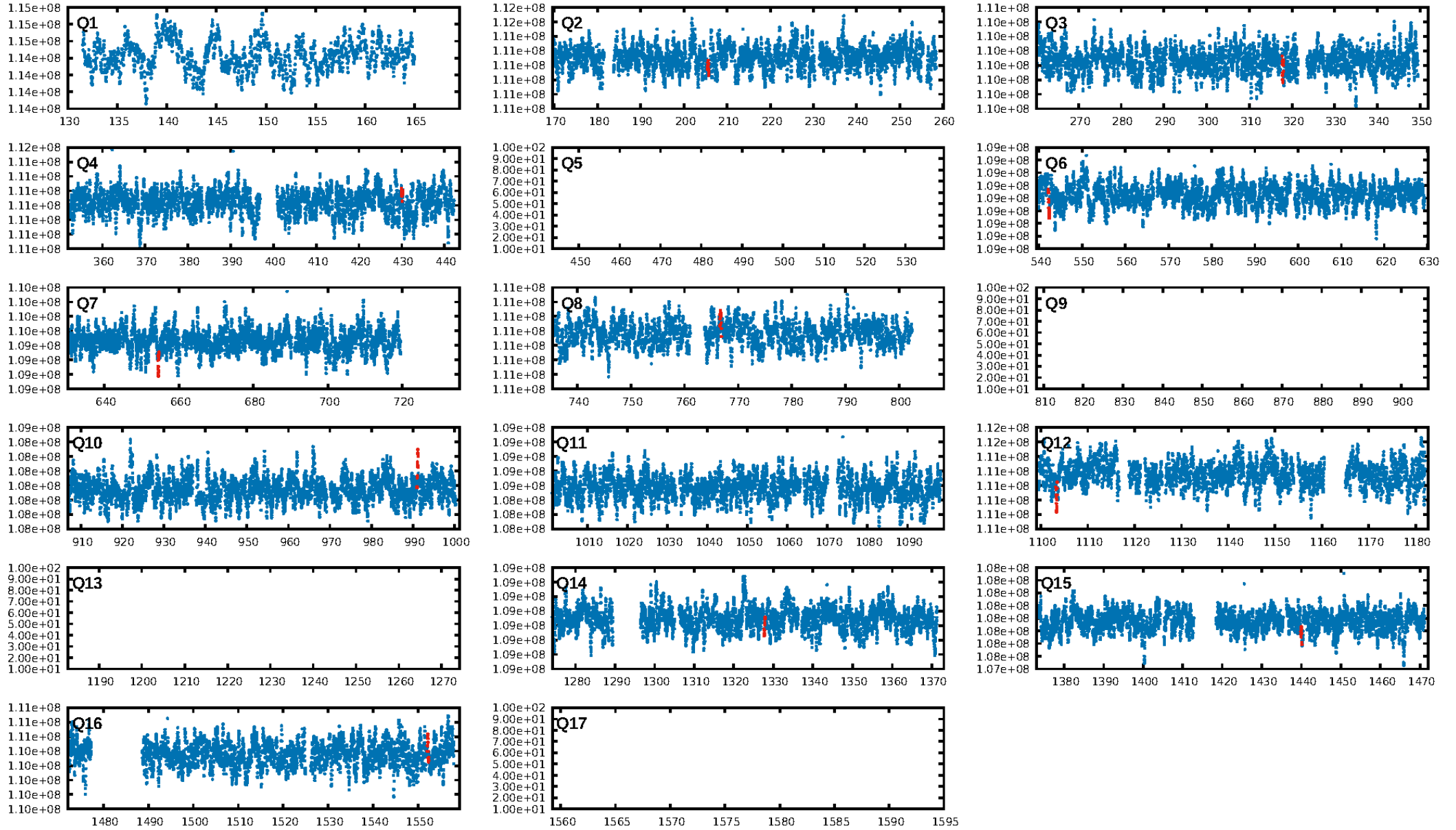
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.22σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 12.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.54e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9989
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.207 arcsec [0.12σ]
Centroid-so: N/A
KicOffset-rm: 0.187 arcsec [0.17σ]
OotOffset-st: 4/1/1/0 [6]
KicOffset-st: 4/1/1/0 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.00 [0/11]

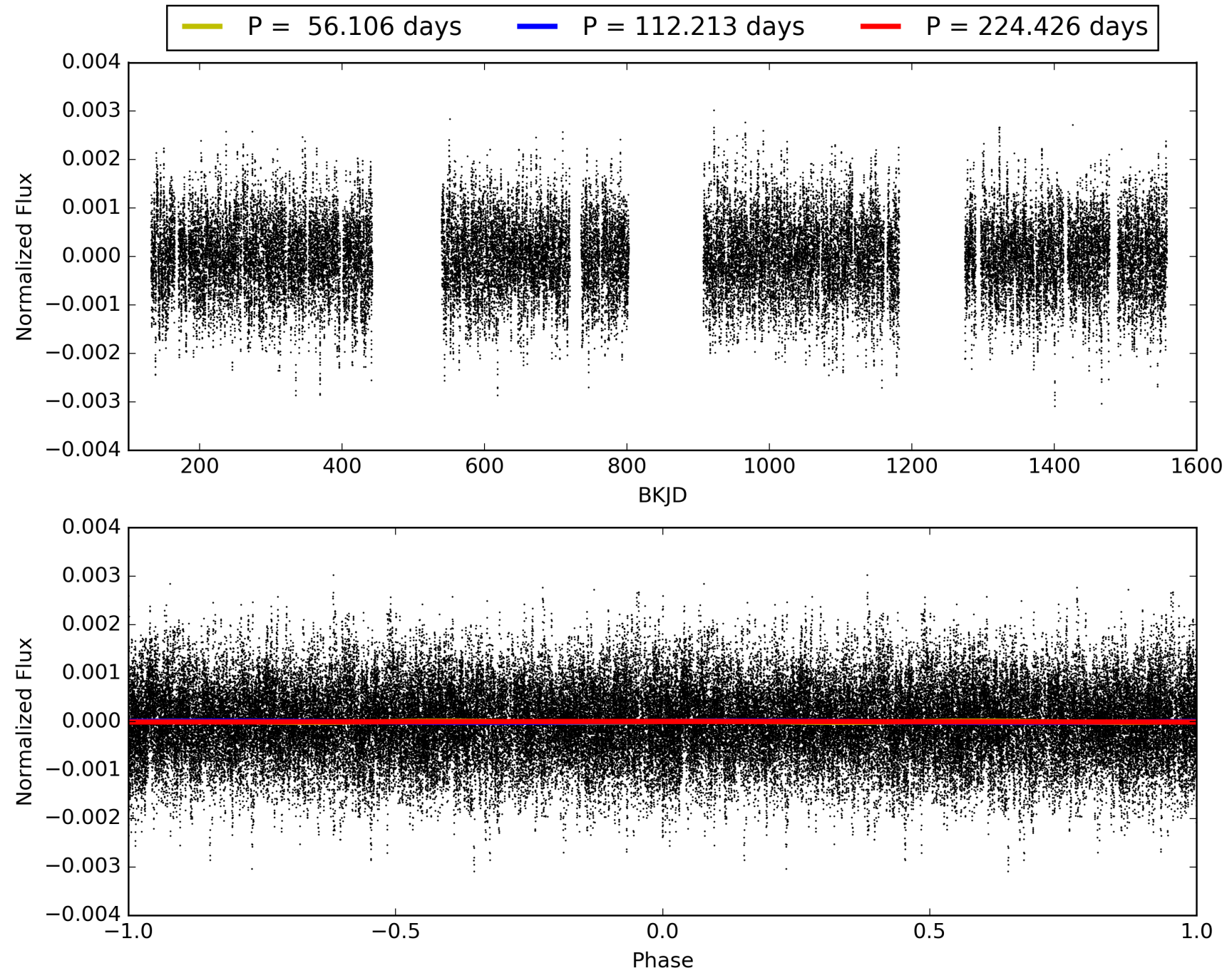
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:48:40 Z

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

TCE 006105113-04, PDC Light Curves

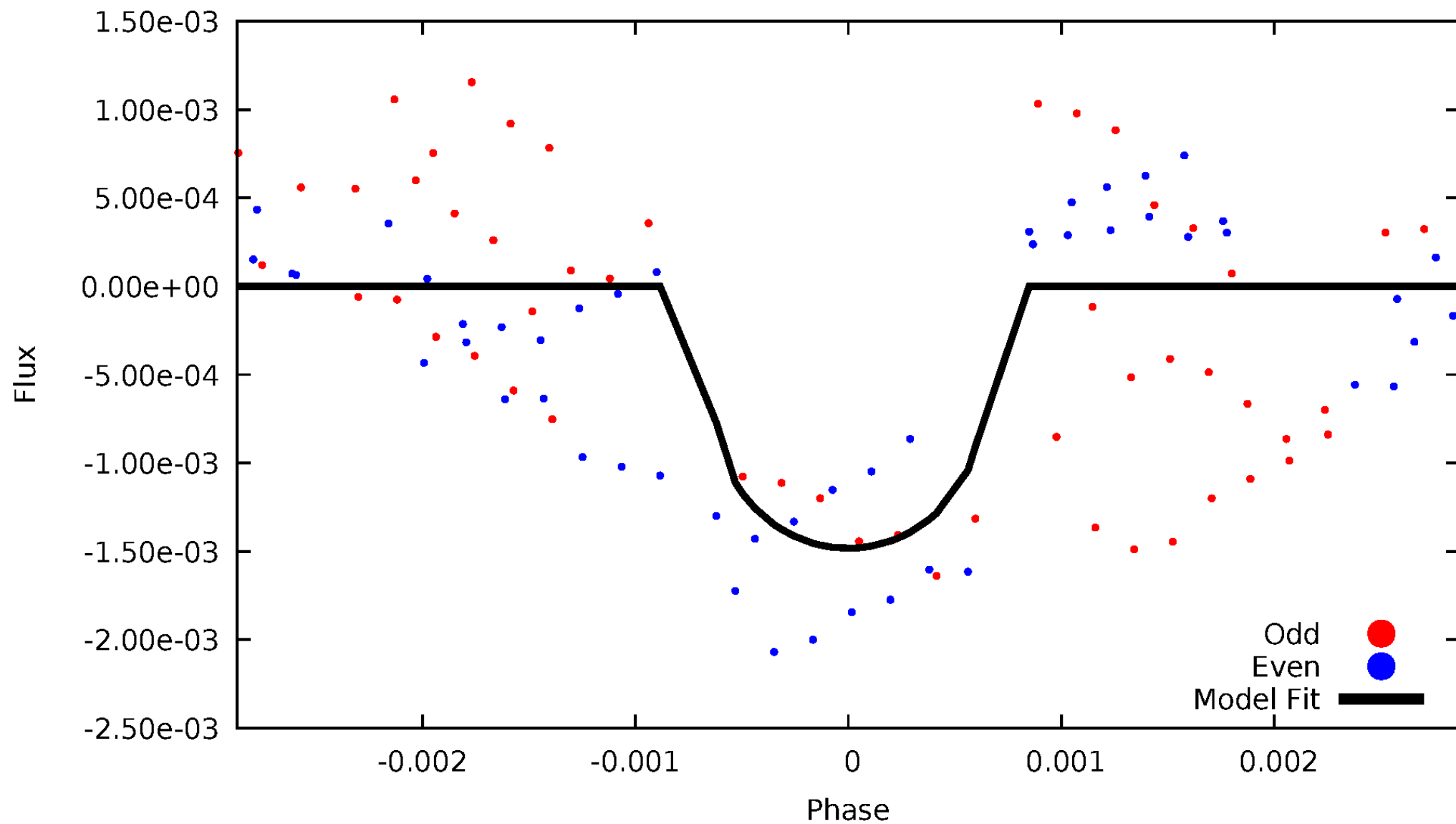


TCE 006105113-04



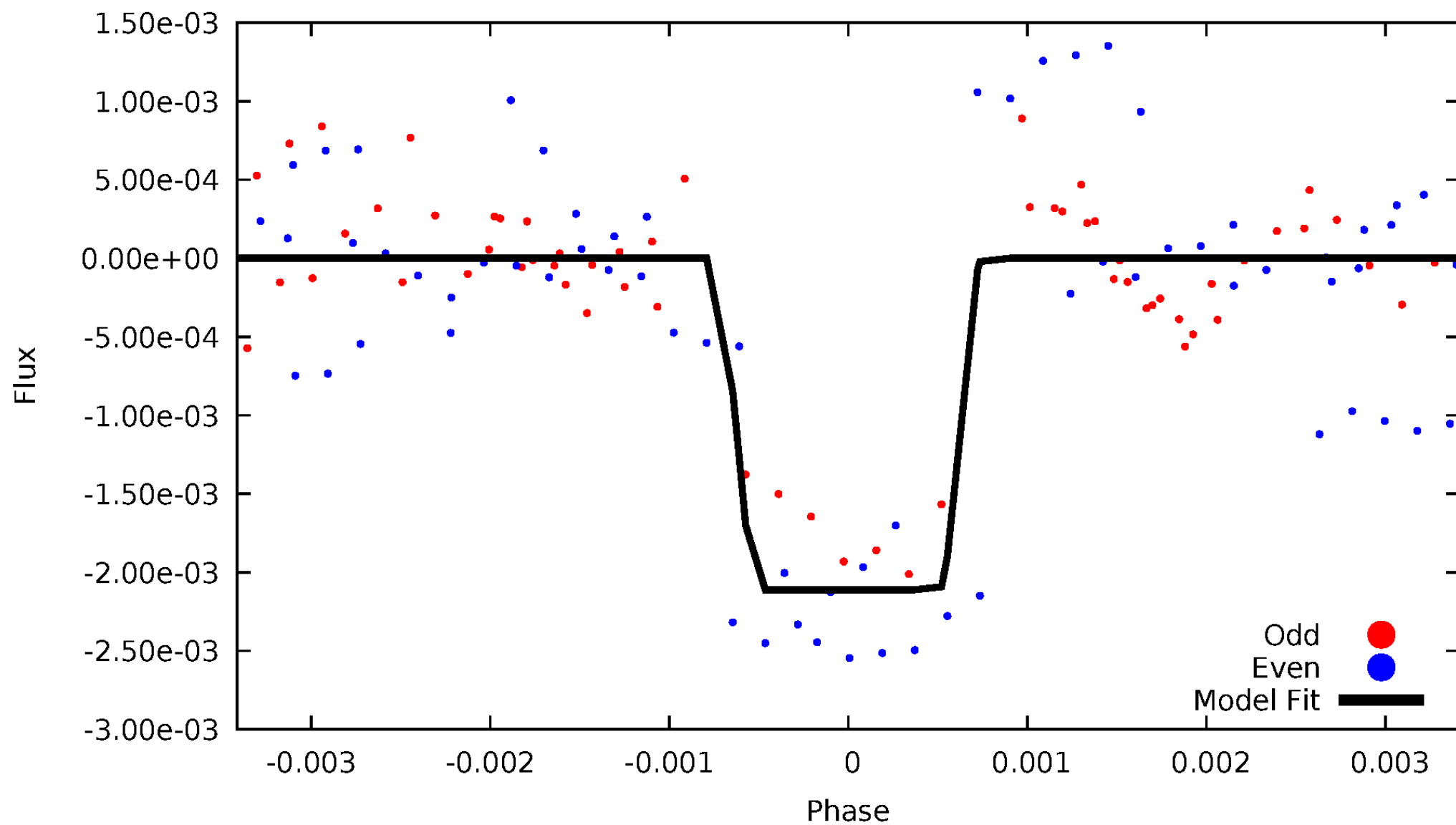
DV Odd/Even

TCE 006105113-04



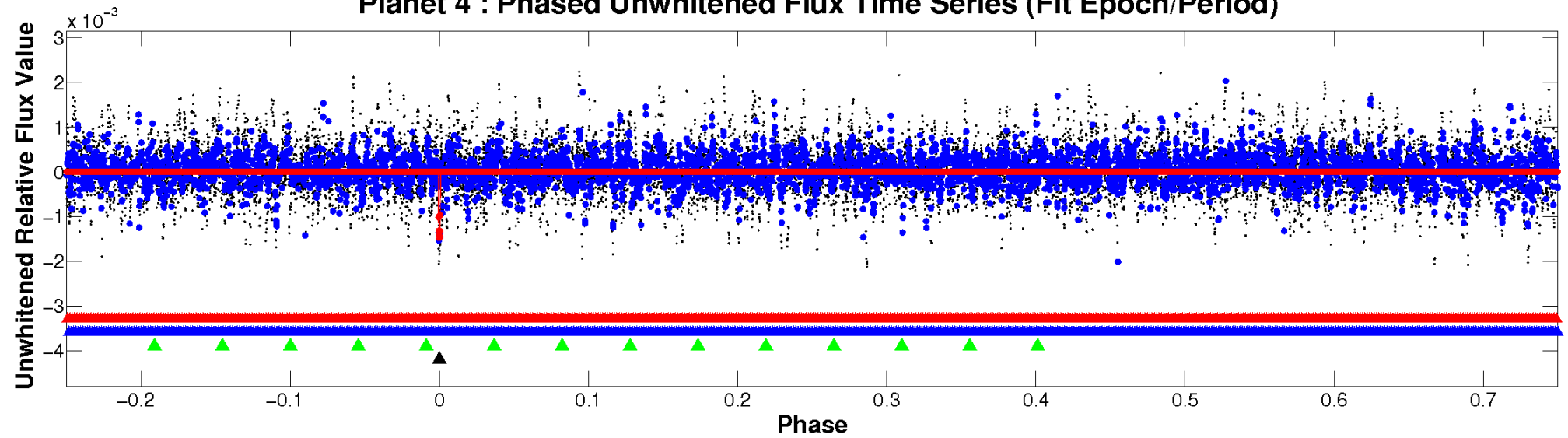
ALT Odd/Even

TCE 006105113-04

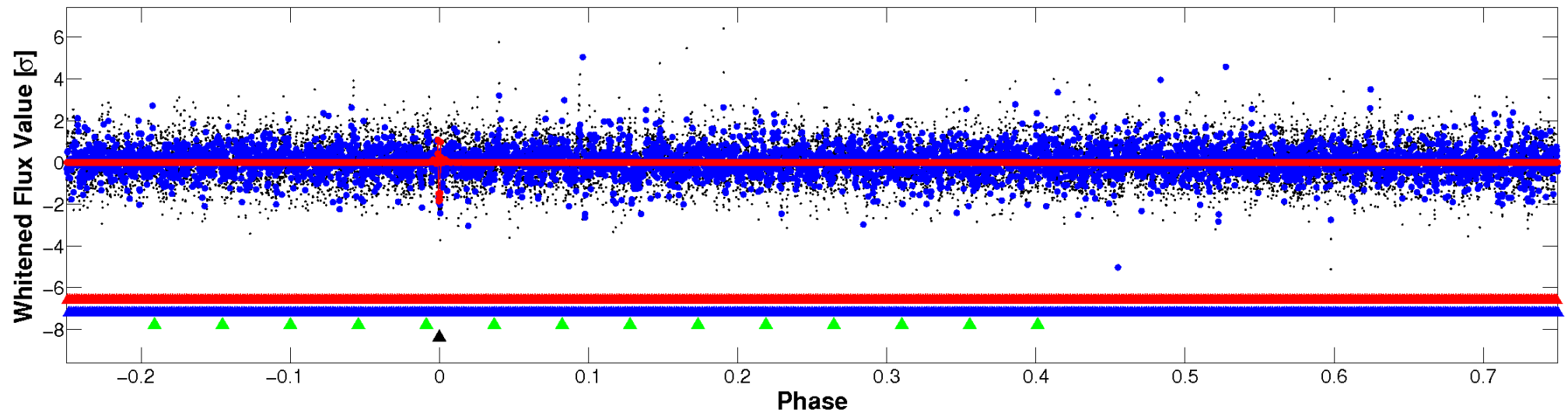


Non-Whitened Vs. Whitened Light Curve

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

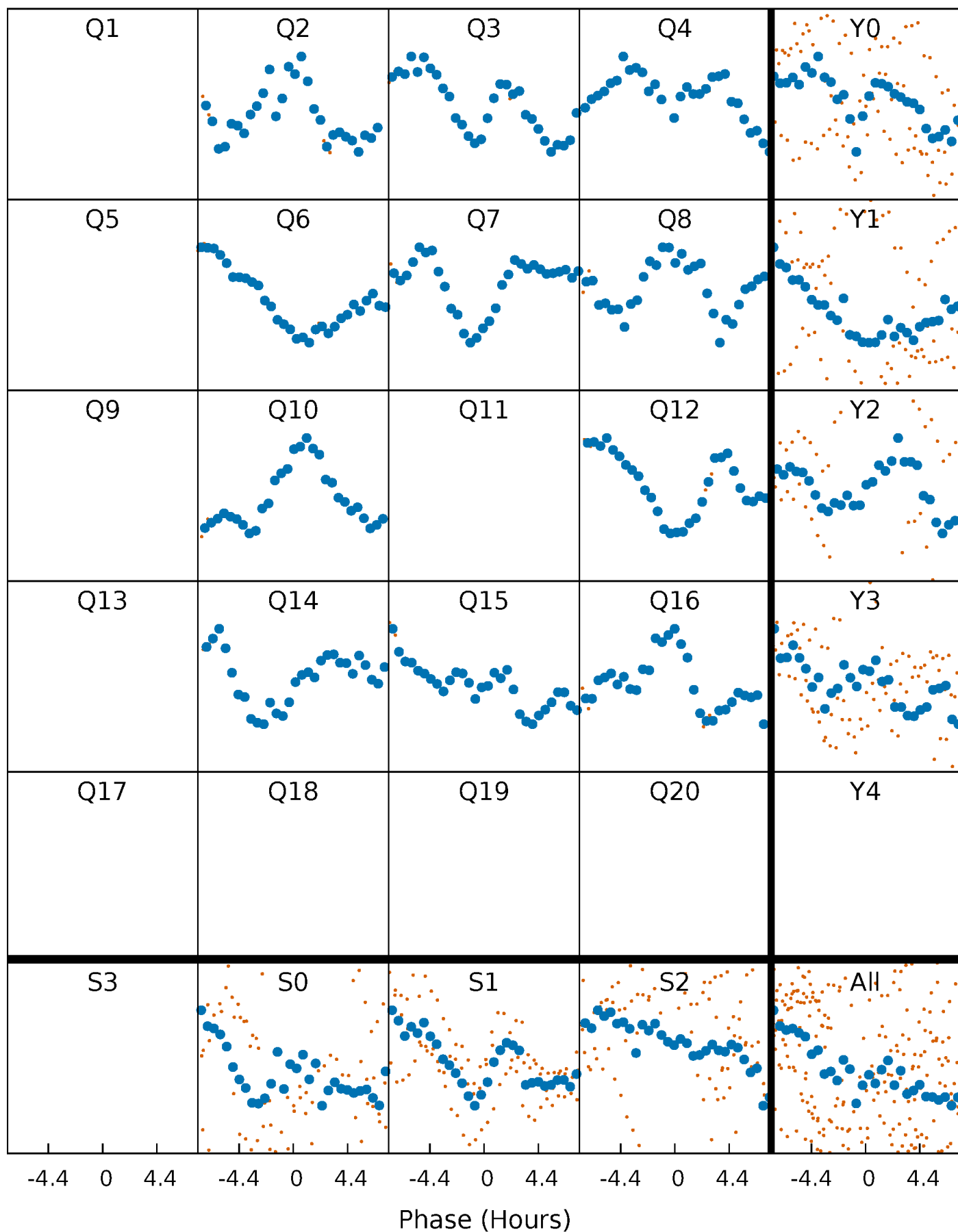


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



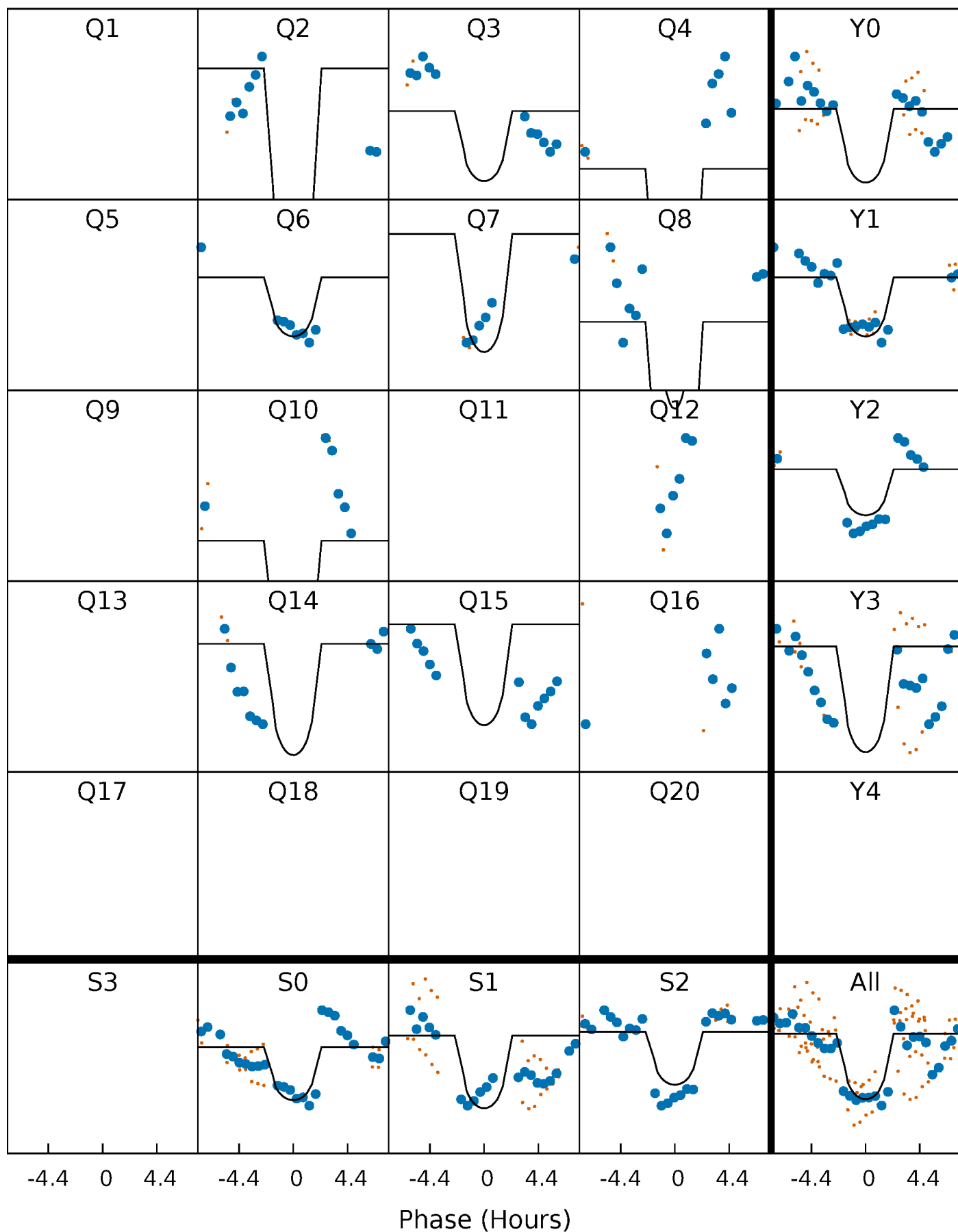
PDC Quarter-Phased Transit Curves

TCE 006105113-04 P=112.212970 Days $T_0=205.646245$ (BKJD)



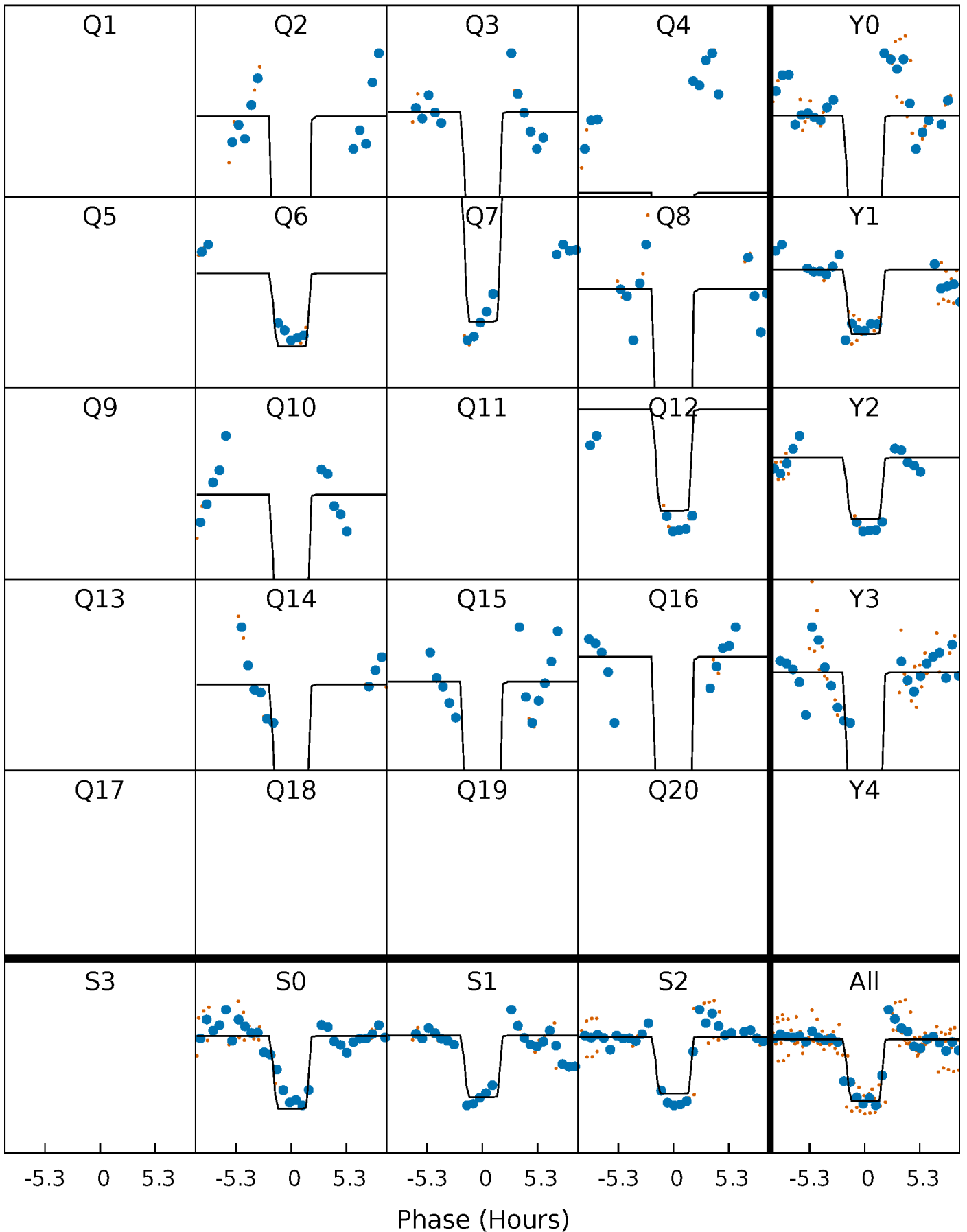
DV Quarter-Phased Transit Curves

TCE 006105113-04 P=112.212970 Days $T_0=205.646245$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

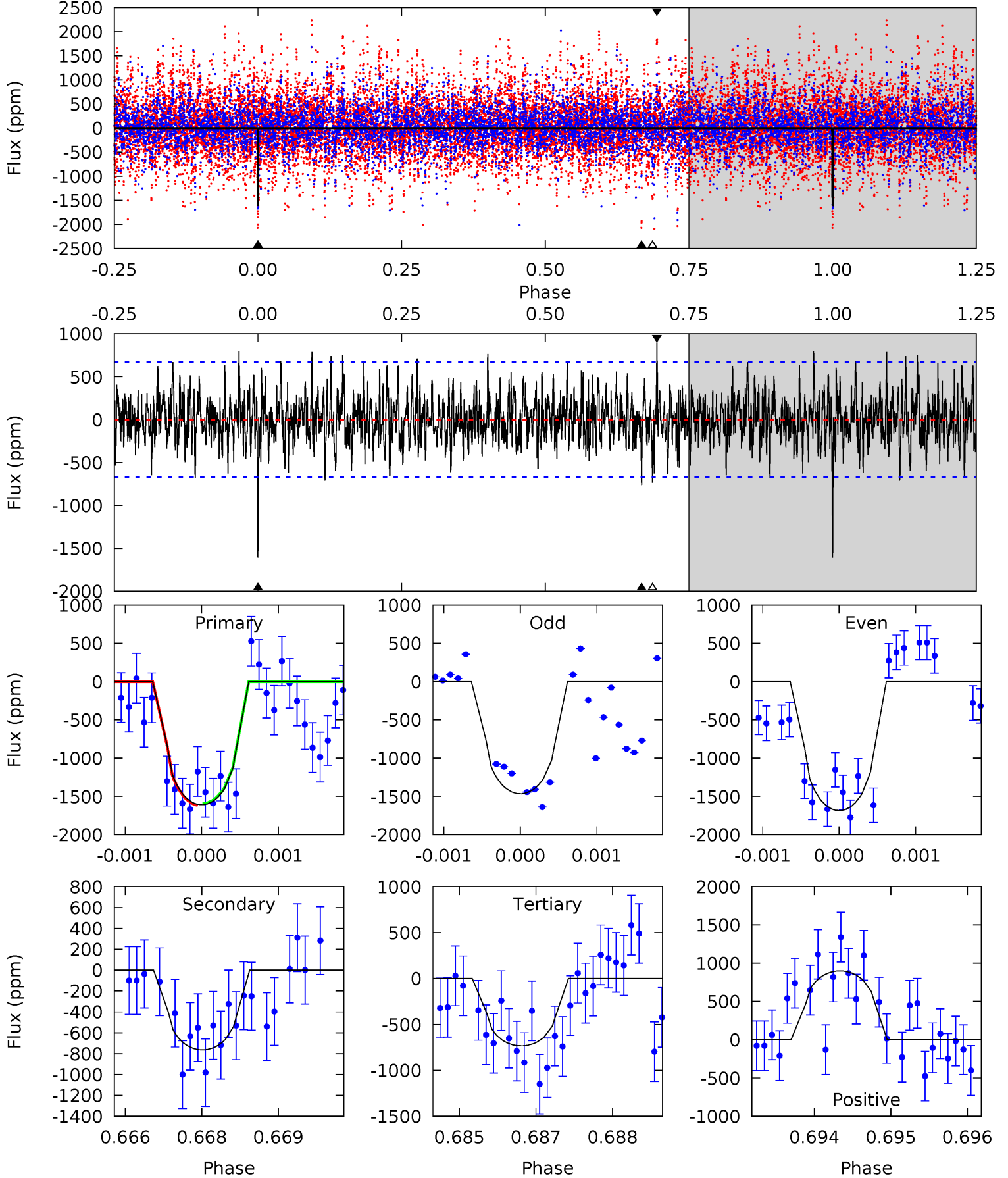
TCE 006105113-04 P=112.207368 Days $T_0=205.671591$ (BKJD)



DV Model-Shift Uniqueness Test

006105113-04, P = 112.212970 Days, E = 93.433275 Days

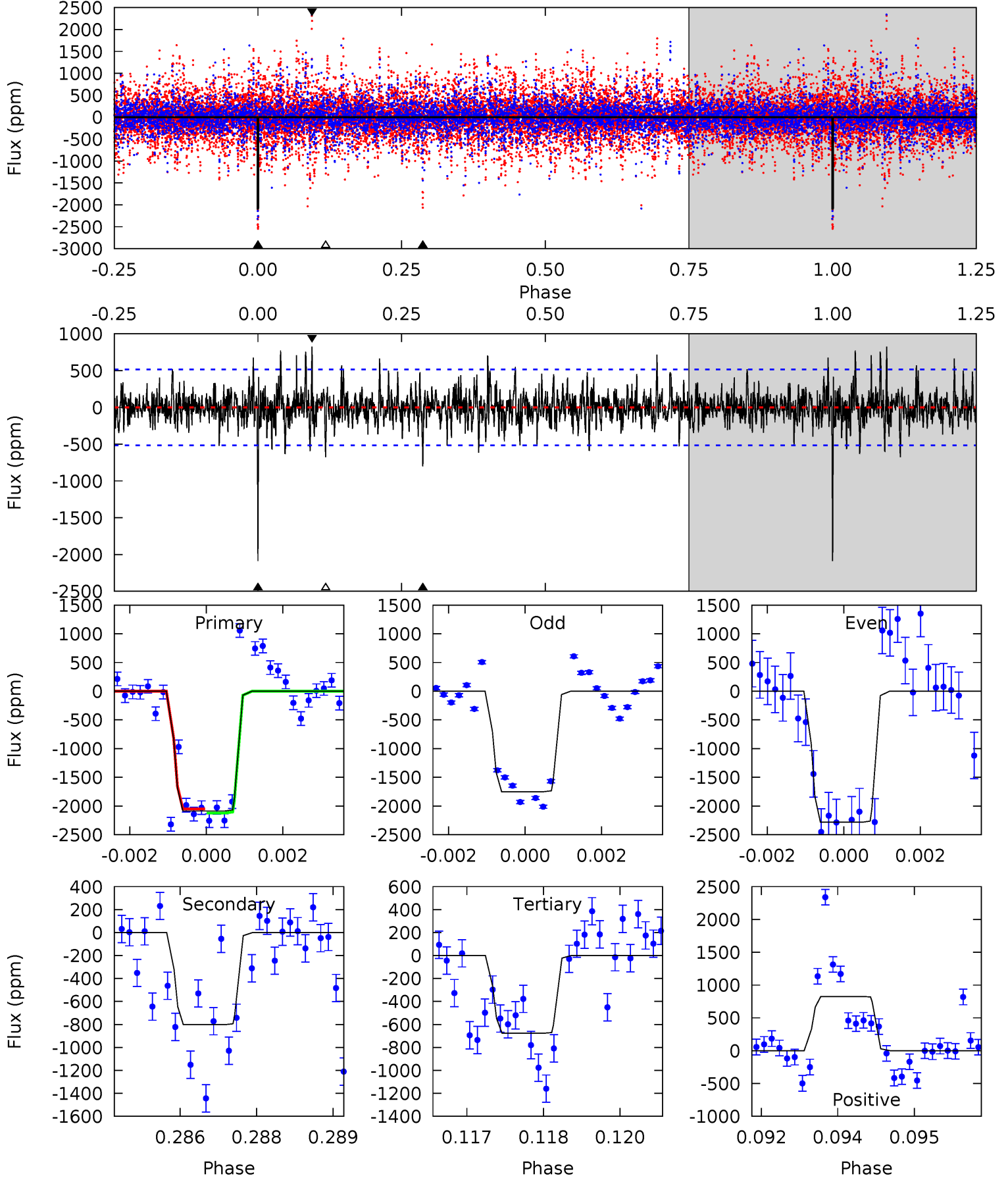
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	6.15	5.90	7.24	5.39	3.20	1.86	7.05	5.71	0.24	-1.09	0.86	1.09	0.36	0.09



Alt Model-Shift Uniqueness Test

006105113-04, P = 112.207368 Days, E = 93.464223 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	8.36	7.06	8.62	5.38	3.17	1.73	14.7	13.1	1.30	-0.26	2.65	0.96	0.28	0.37



Stellar Parameters For KIC 006105113

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4754^{+113}_{-178}	$3.098^{+1.536}_{-0.384}$	$-0.020^{+0.250}_{-0.400}$	$4.496^{+3.082}_{-3.767}$	$0.924^{+0.239}_{-0.292}$	$0.014^{+3.467}_{-0.011}$
	+2%/-4%	+50%/-12%	+1250%/-2000%	+69%/-84%	+26%/-32%	+24211%/-74%
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 006105113-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-764 ± 124	$17.24^{+17.39}_{-12.03}$	883^{+182}_{-235}	3995^{+1790}_{-634}	249^{+2618}_{-180}
Alt.	-802 ± 96	$19.71^{+21.38}_{-12.93}$	904^{+166}_{-246}	3834^{+1498}_{-586}	217^{+1582}_{-168}

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 $A_{obs} \gg 1.0$

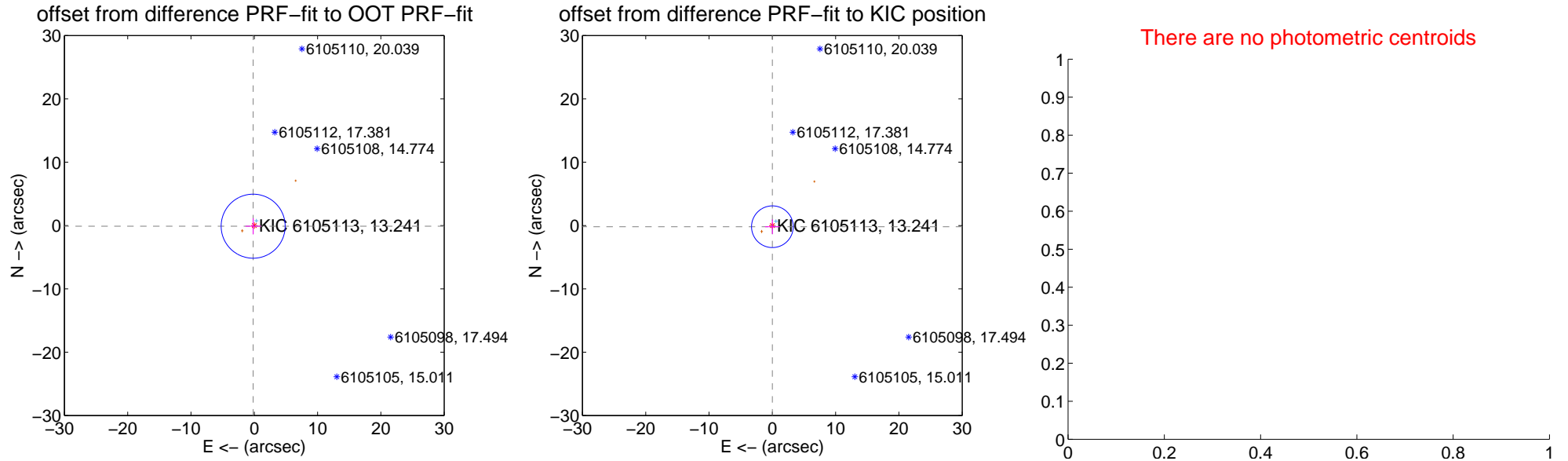
DV Centroid Data

Supplemental centroid analysis for 006105113-04. Kepler magnitude: 13.24. Transit SNR 7.82

There are 3 quarters with good PRF difference image offsets

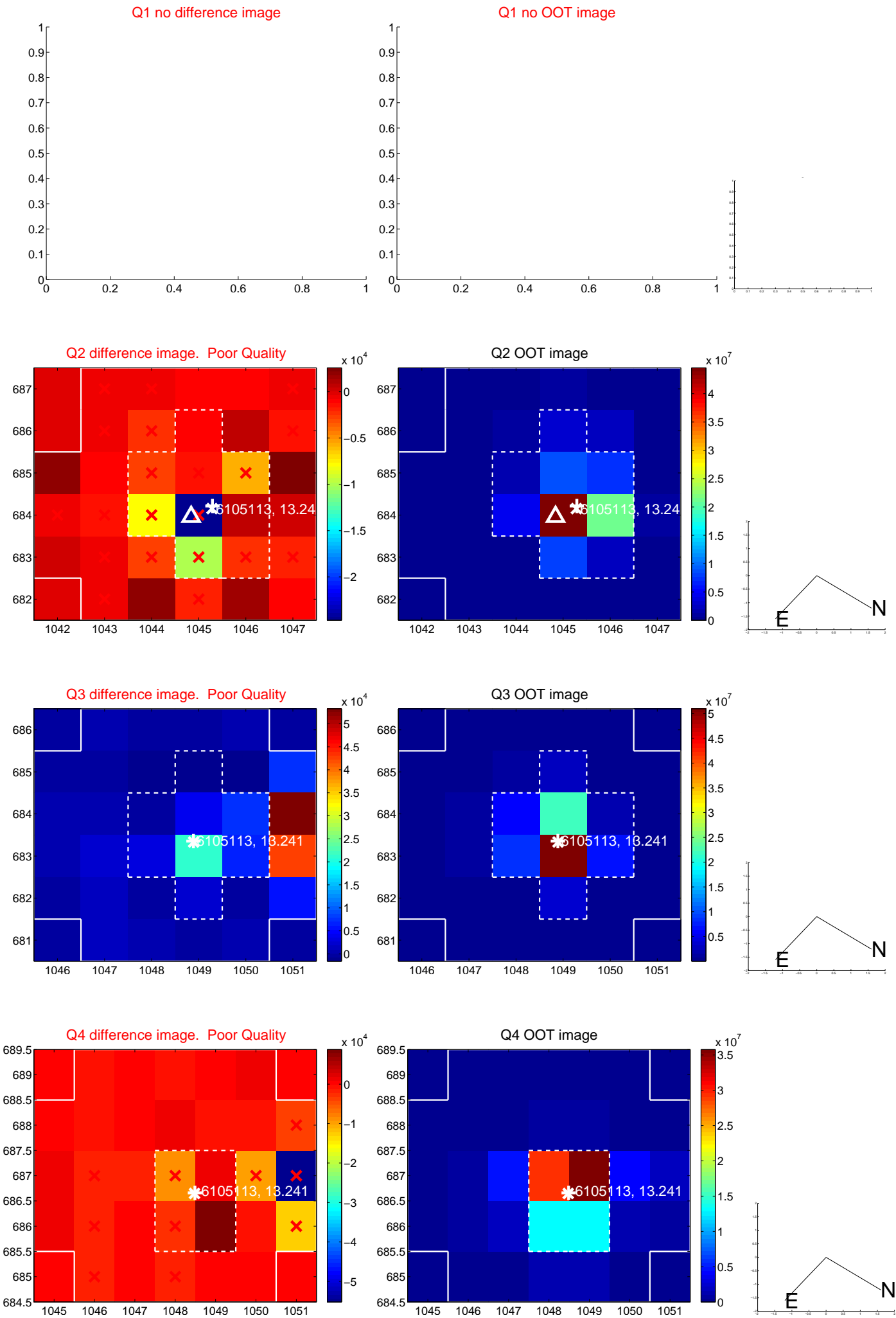
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.207 ± 1.685	0.12	0.178 ± 1.218	-0.106 ± 1.259
PRF-fit source offset from KIC position	0.187 ± 1.097	0.17	-0.010 ± 1.155	-0.187 ± 1.159
photometric centroid source offset	—	—	—	—

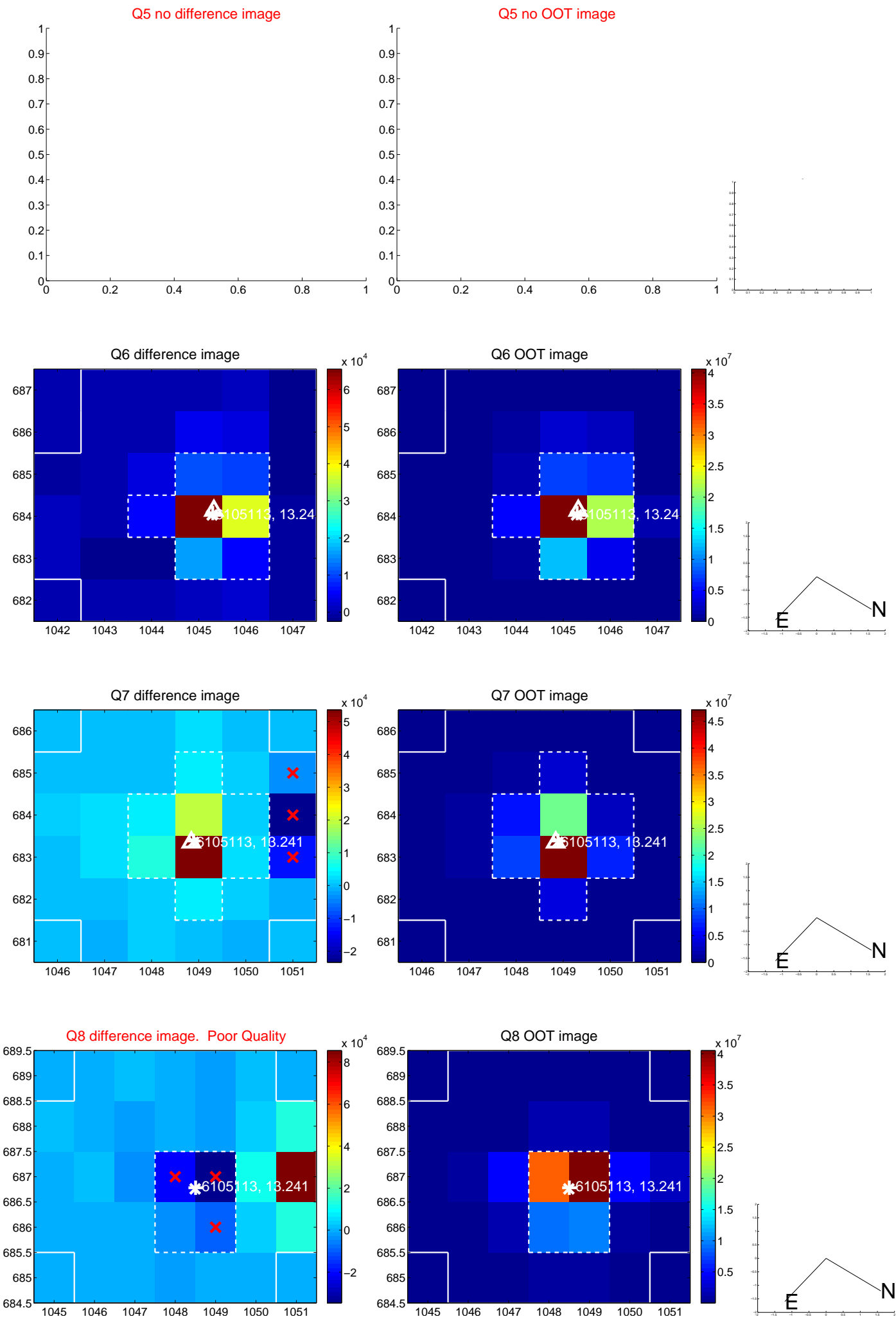


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

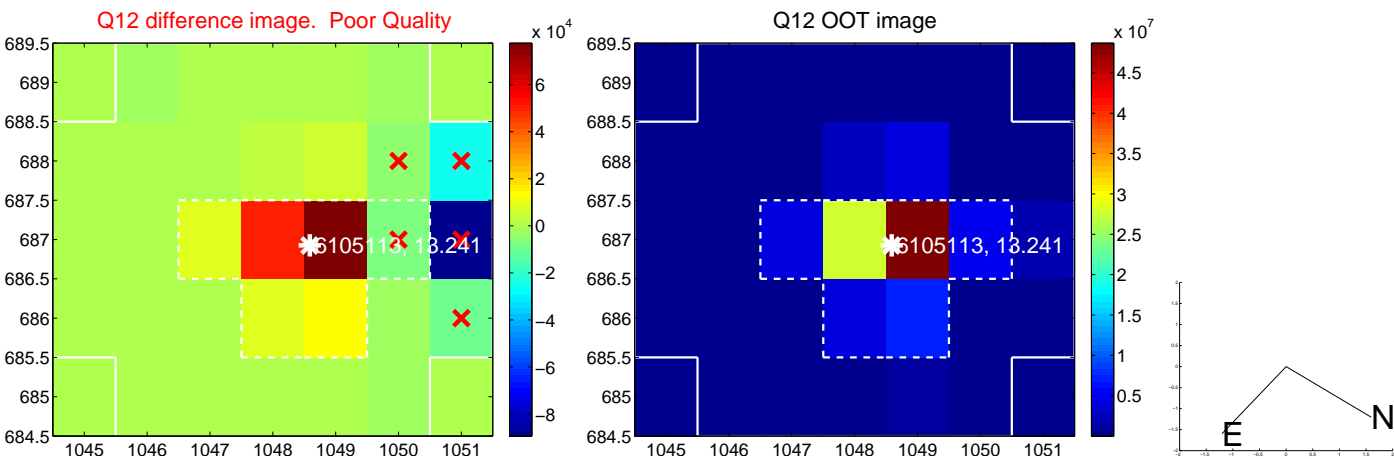
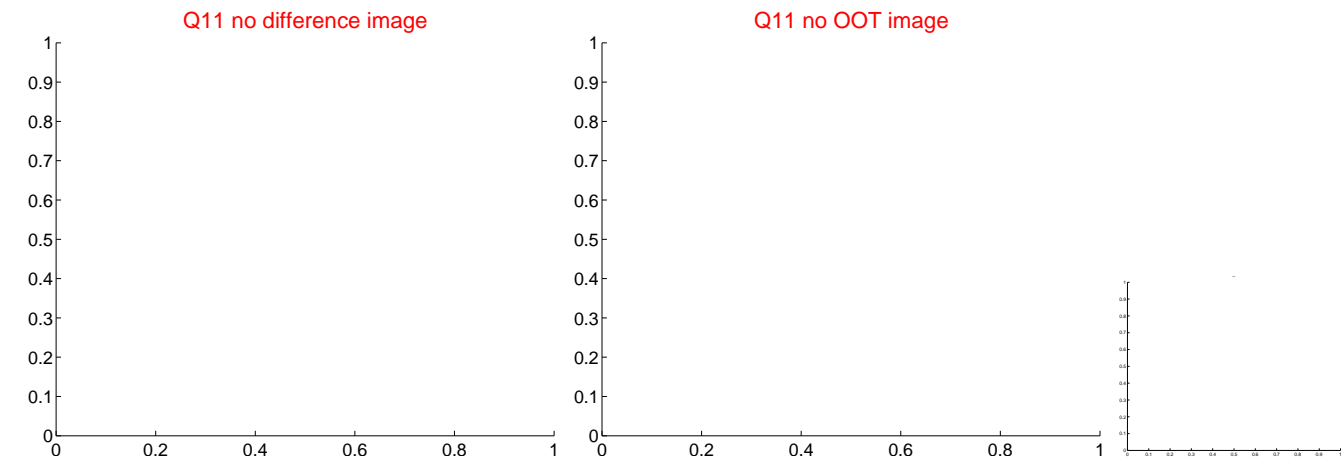
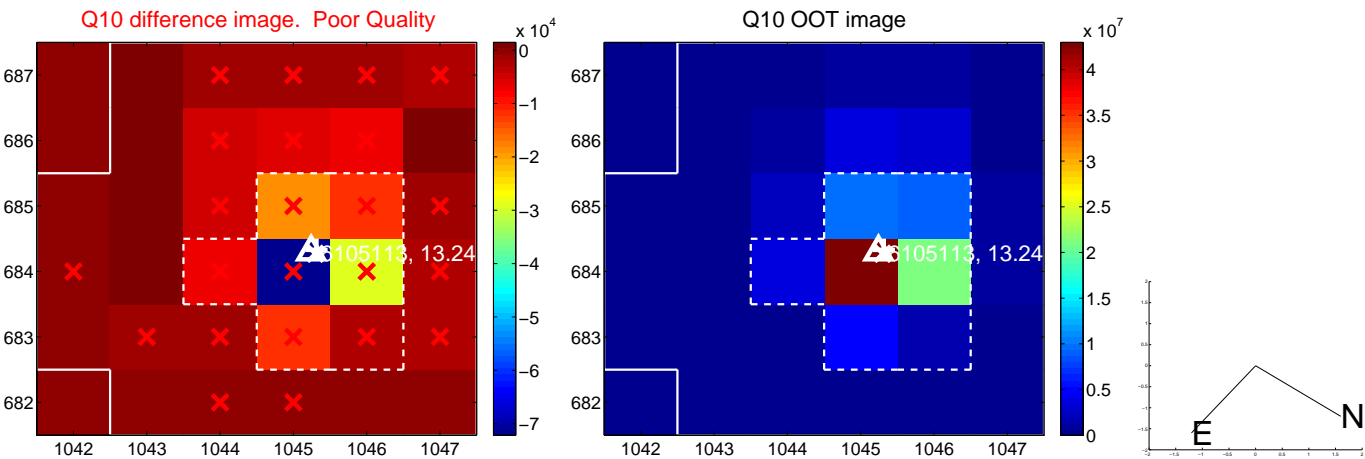
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



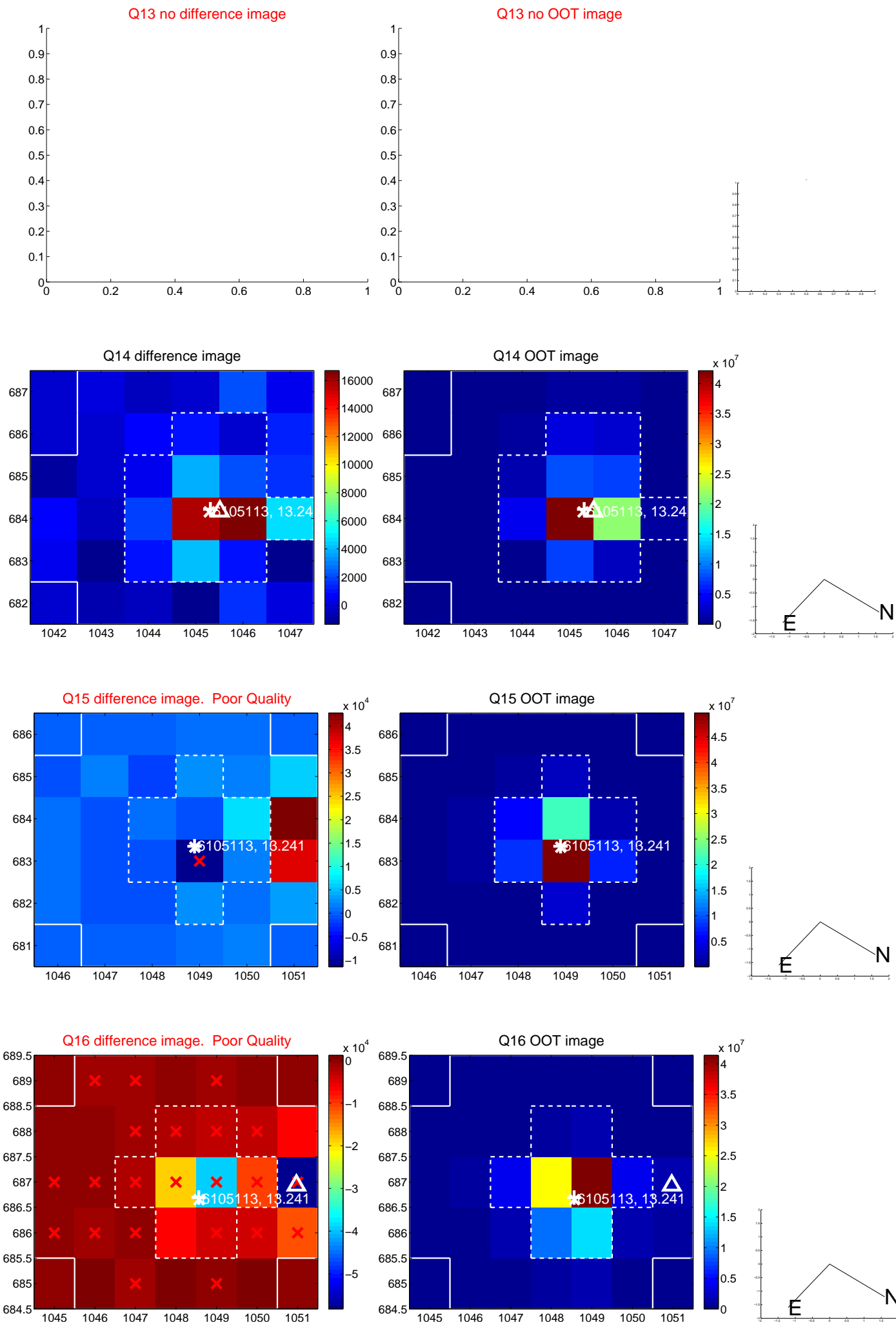
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

