

KIC 010141087

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})
010141087-01	OBS	No	0.939714	132.373494	828.5	1.500	14.2	-1.0	1.41	6654	4.11	9462.22
010141087-02	OBS	No	0.939512	131.742676	173.3	2.626	13.7	0.9	1.41	6654	1.99	9464.92
010141087-03	OBS	No	0.941707	131.506367	784.8	3.208	13.5	3.9	1.41	6654	4.20	9435.53
010141087-04	OBS	No	0.938830	131.568286	996.5	2.500	12.3	-1.0	1.41	6654	4.50	9474.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141087-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
010141087-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010141087-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010141087-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

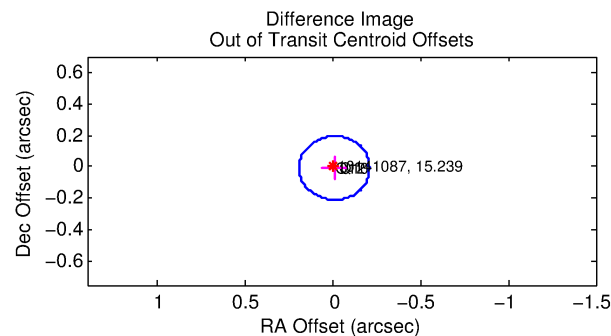
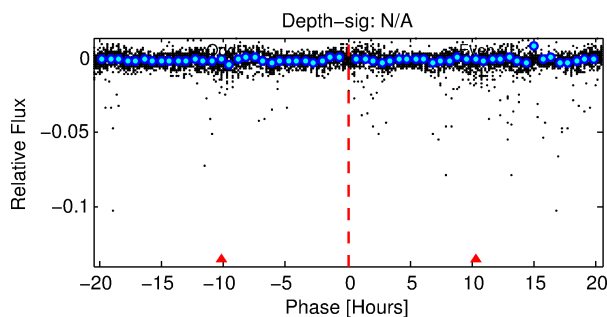
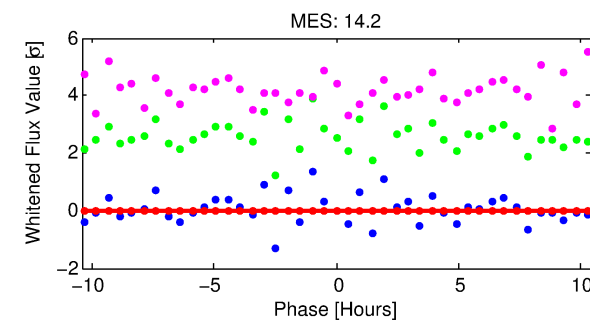
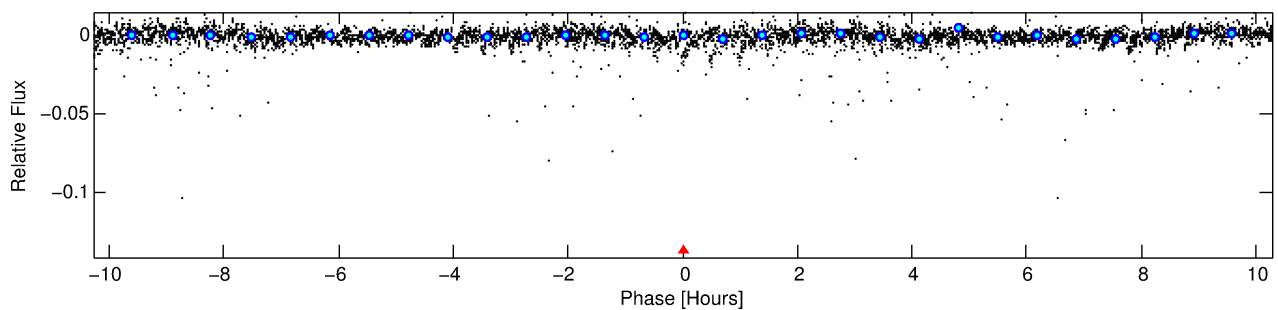
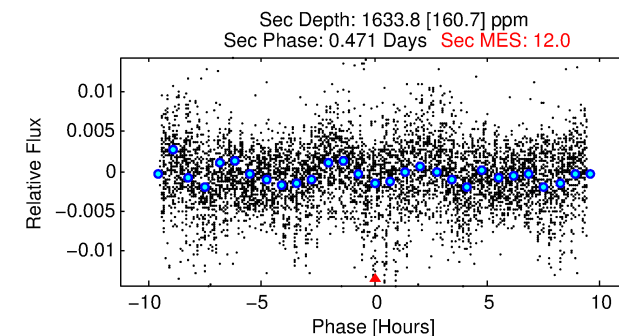
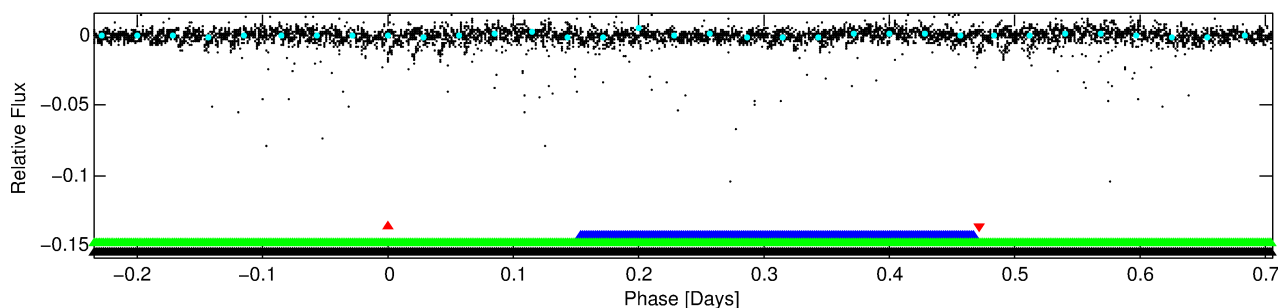
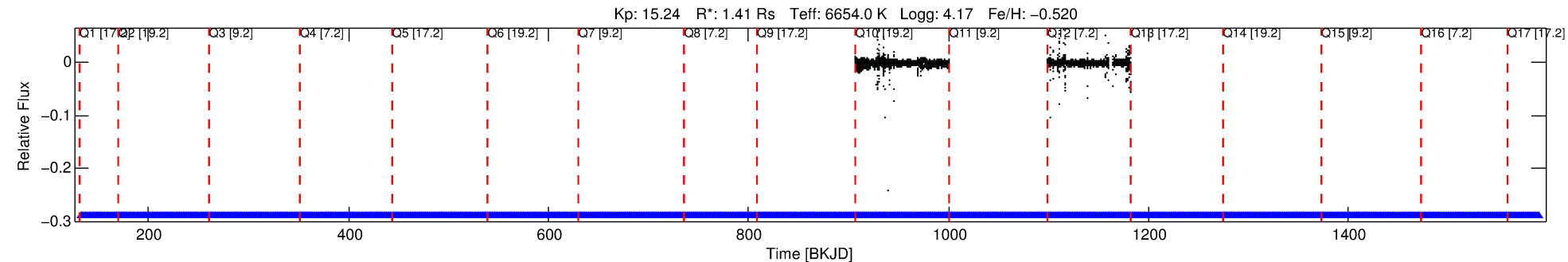
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010141087-01

No Significant Match Found

DV One-Page Summary

KIC: 10141087 Candidate: 1 of 4 Period: 0.940 d



TPS TCE Results:

Period = 0.93971 d
Epoch = 132.3735 BKJD

DV fit results are unavailable

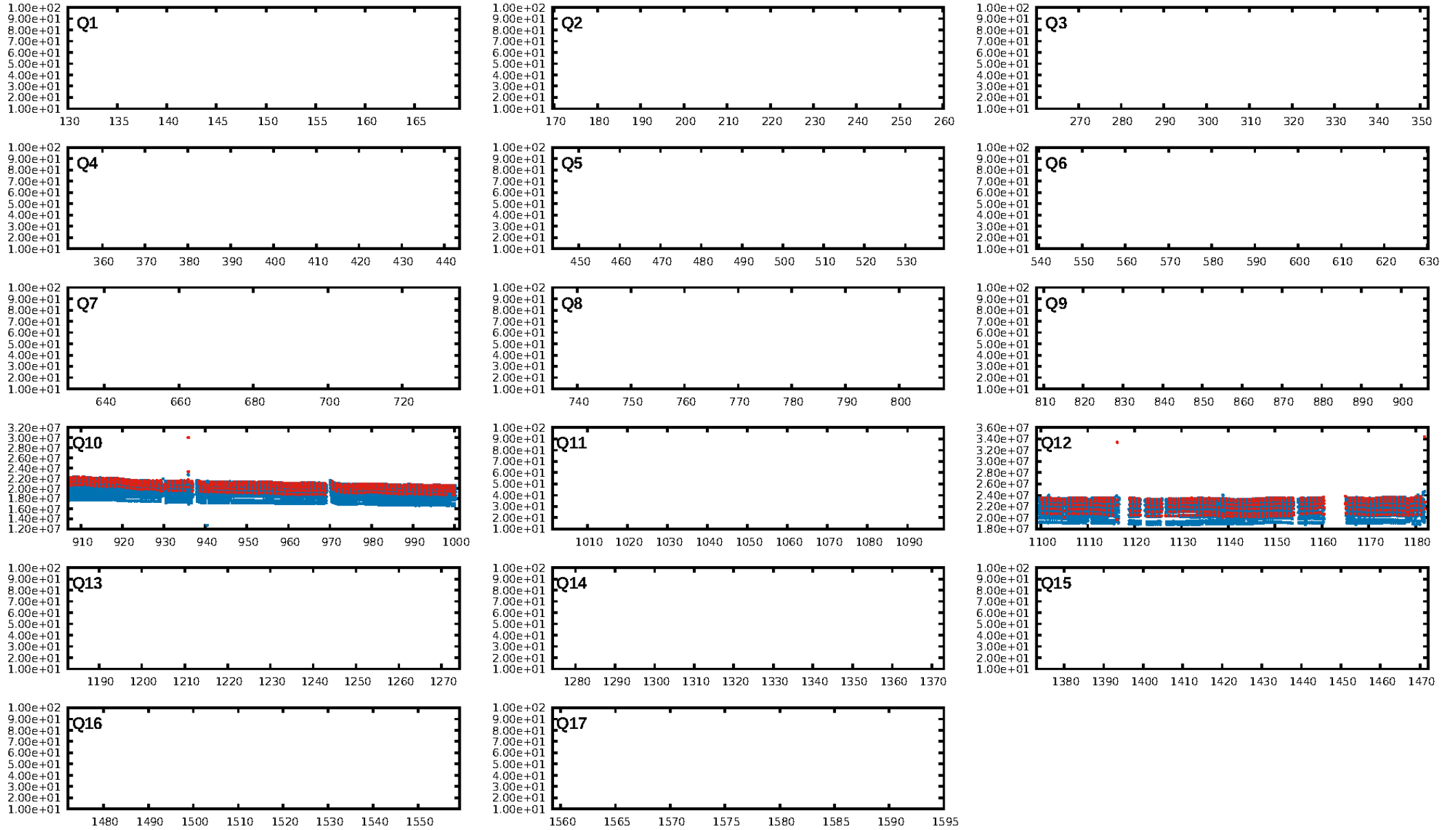
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 1.1% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [175/175]
GhostDiagnostic-chr: -0.2183
Centroid-sig: 0.0%
Centroid-so: 0.113 arcsec [48.91σ]
OotOffset-rm: 0.011 arcsec [0.16σ]
KicOffset-rm: 0.094 arcsec [1.13σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

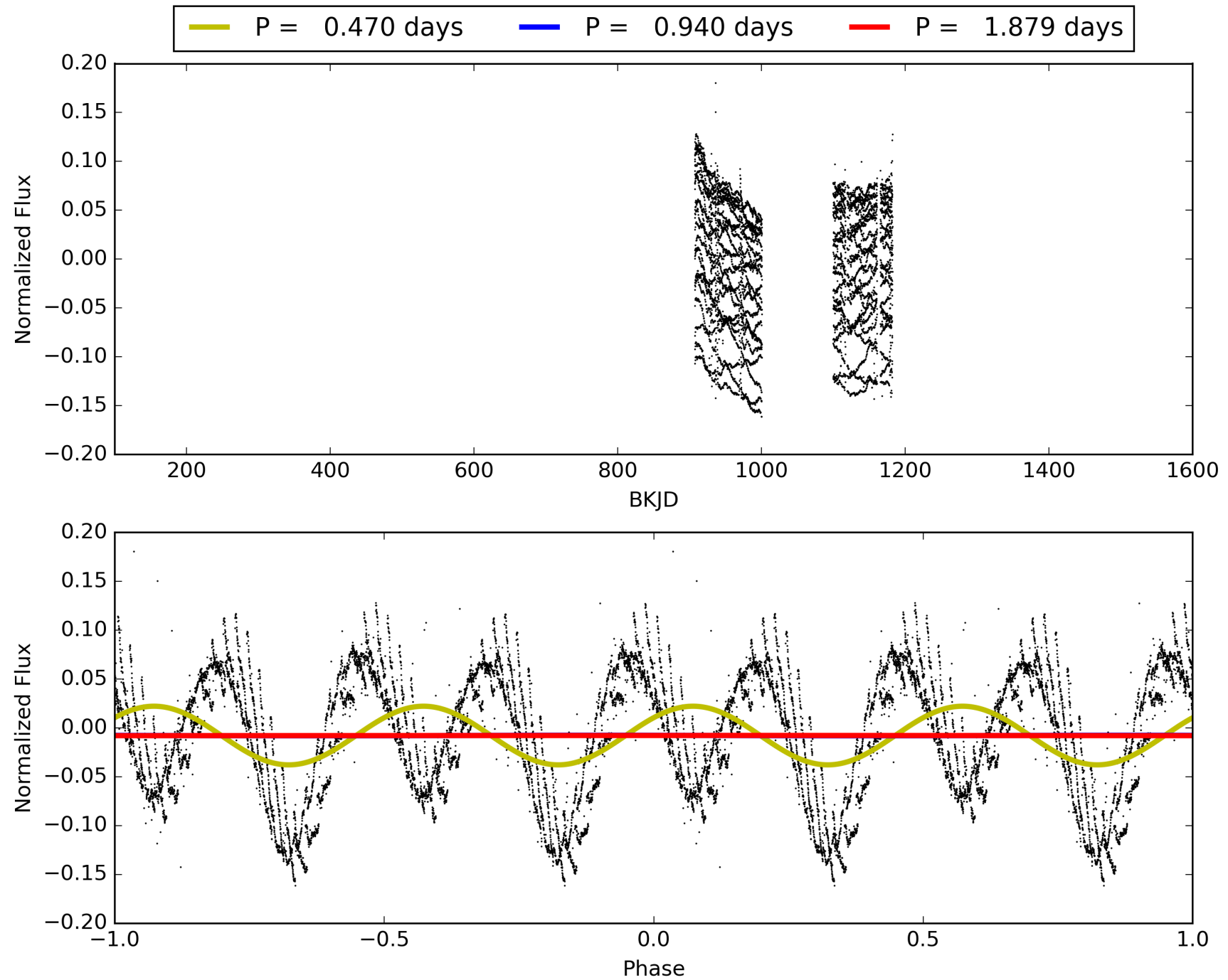
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:35:42 Z

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

TCE 010141087-01, PDC Light Curves

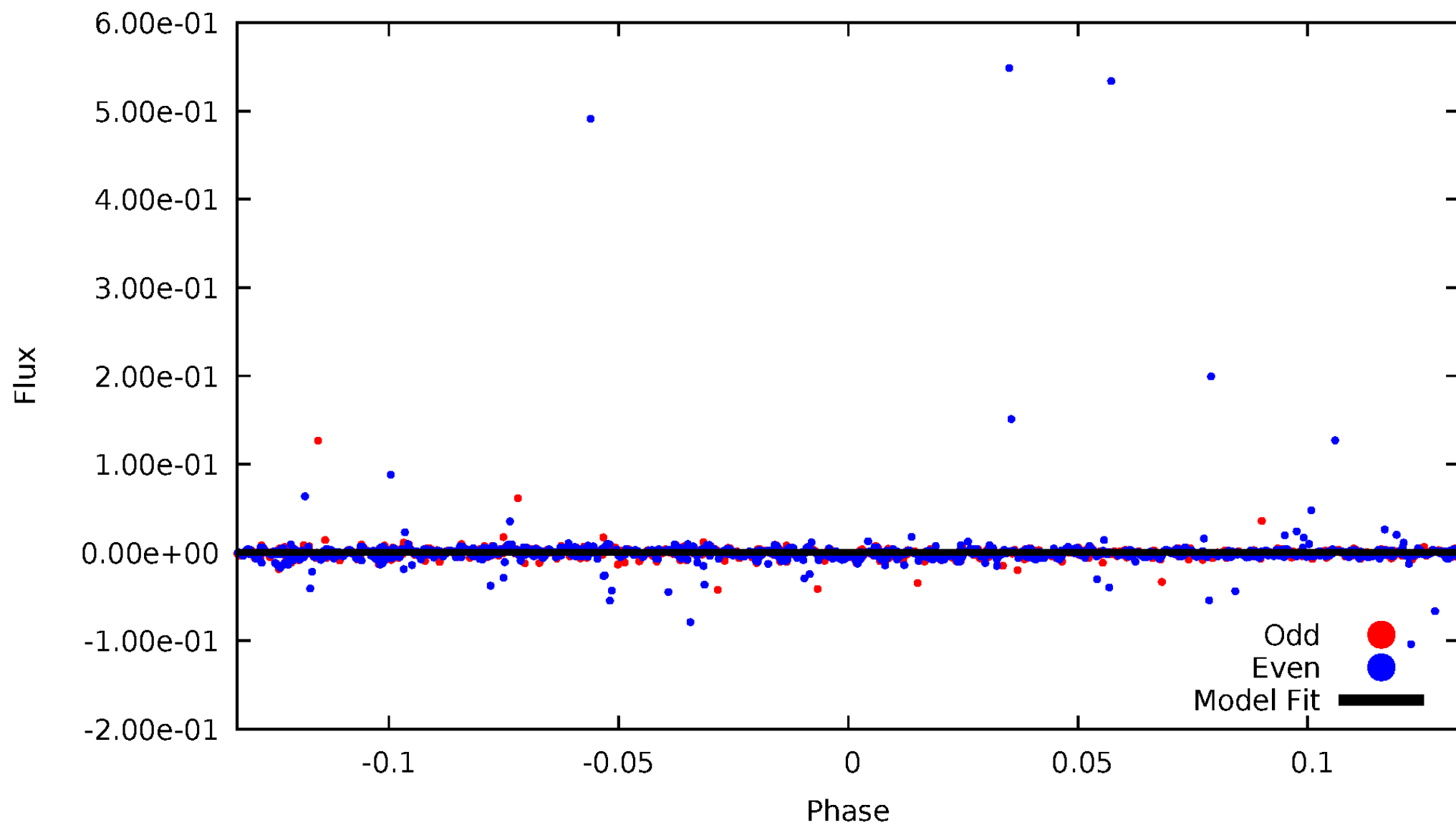


TCE 010141087-01



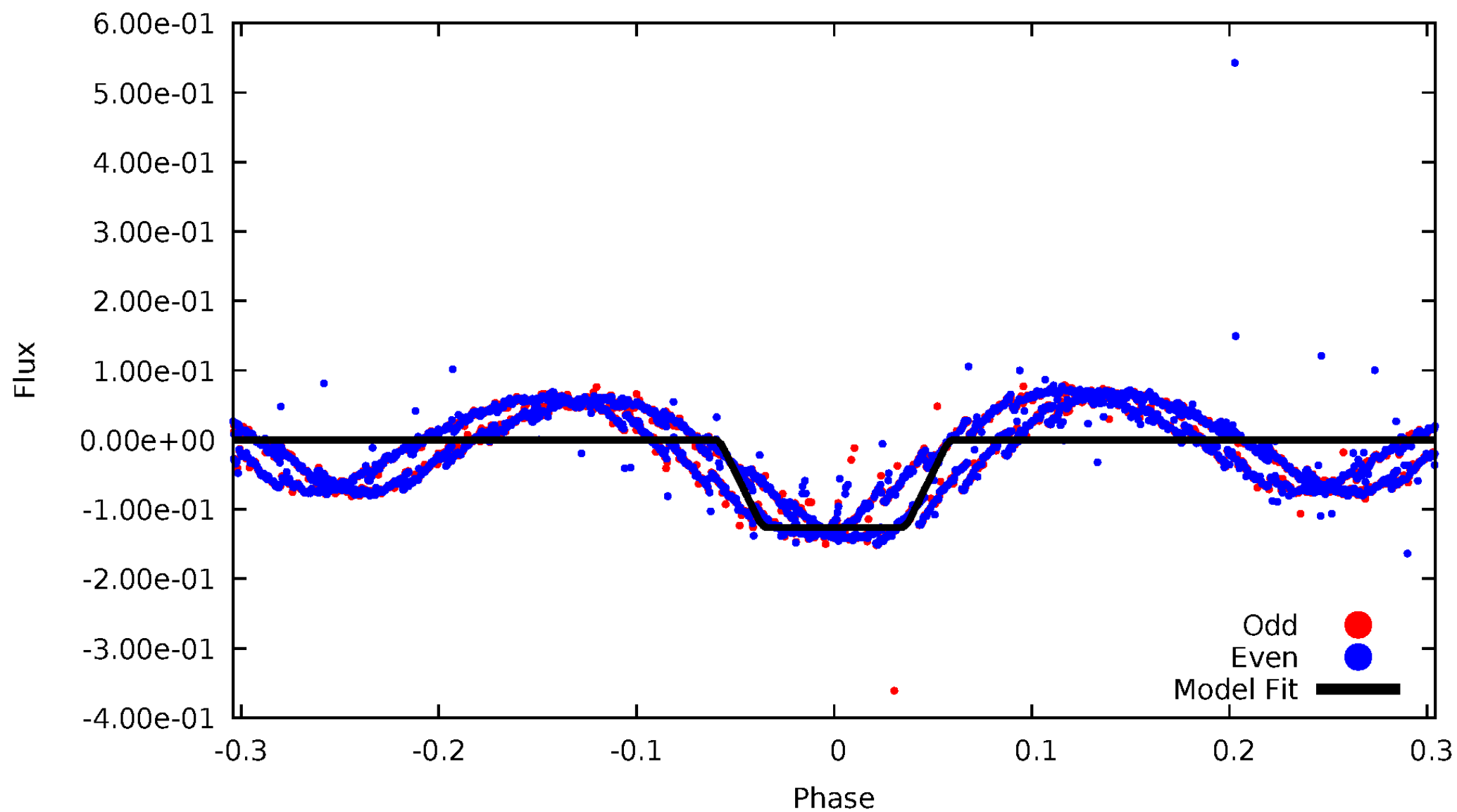
DV Odd/Even

TCE 010141087-01



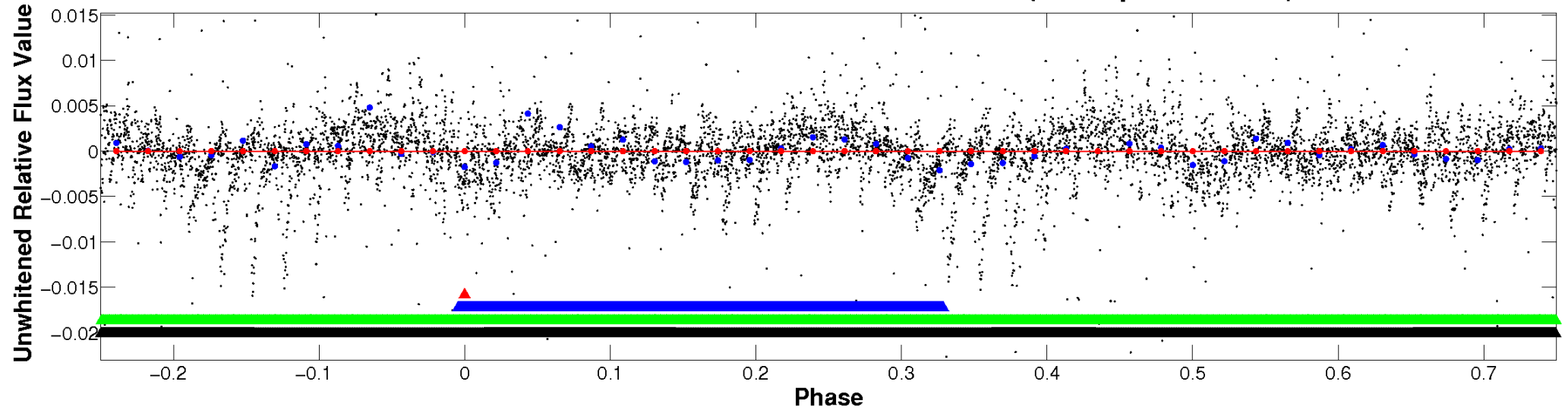
ALT Odd/Even

TCE 010141087-01

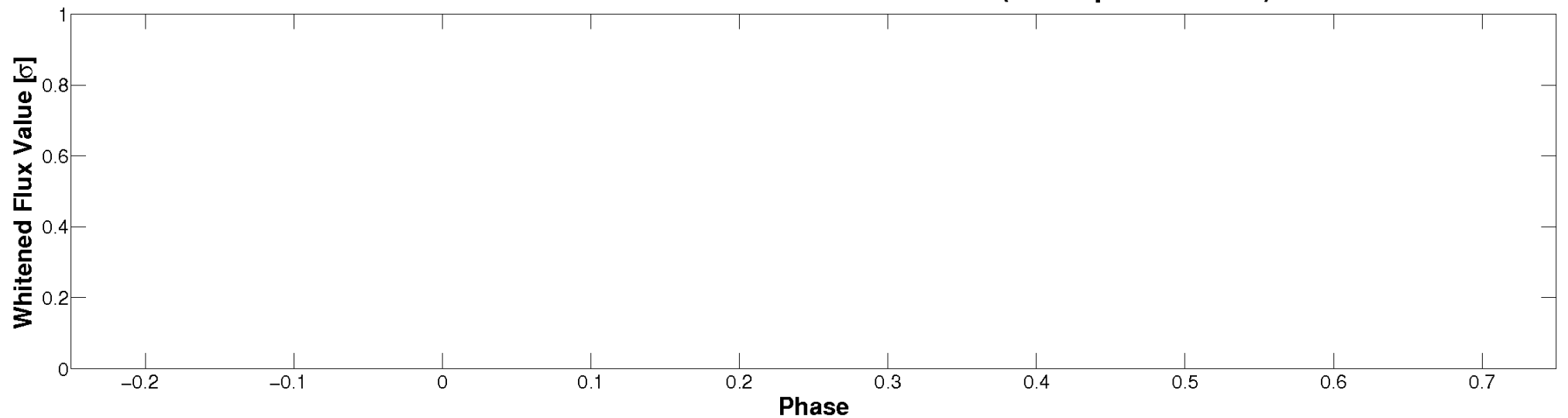


Non-Whitened Vs. Whitened Light Curve

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

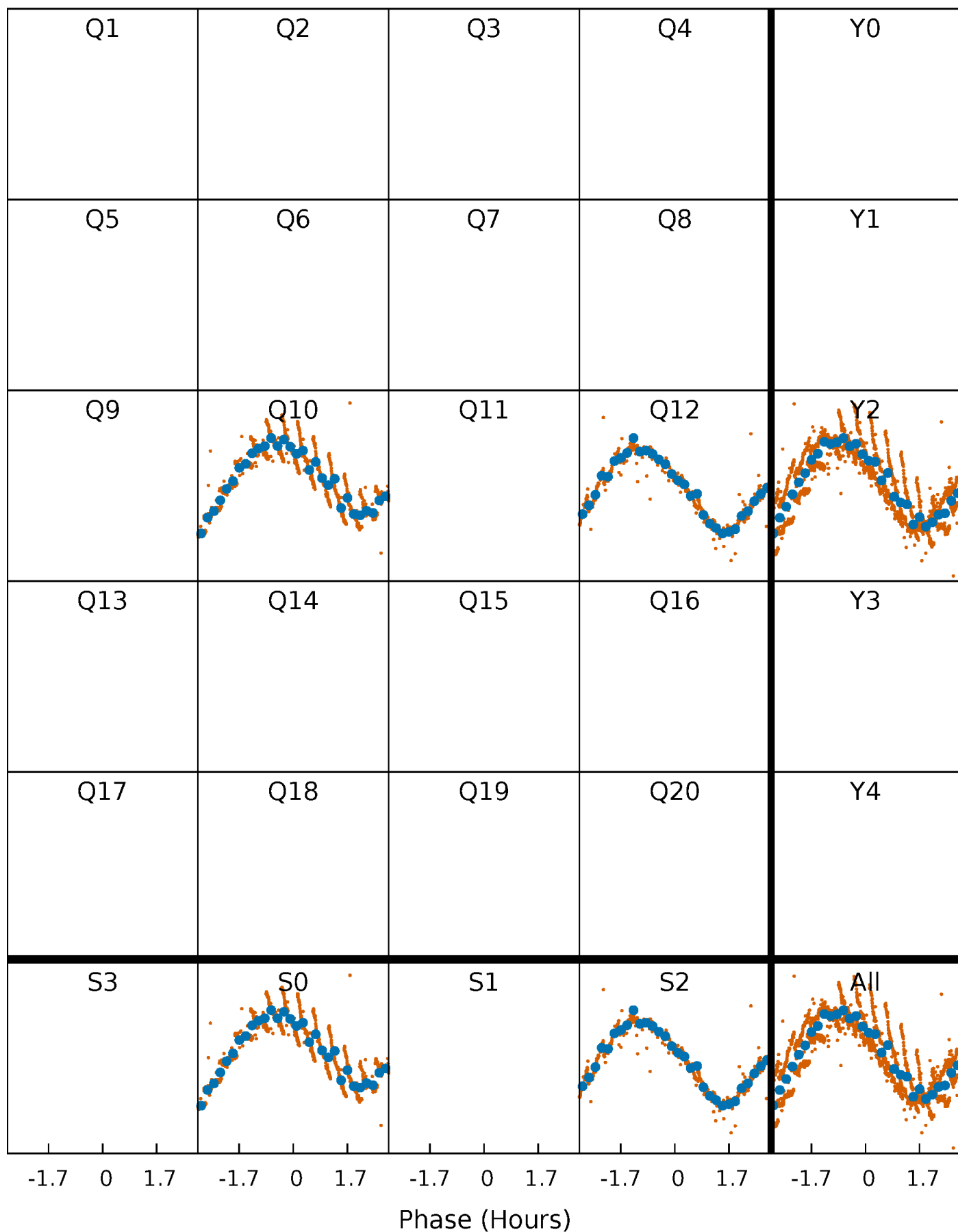


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 010141087-01 P= 0.939714 Days $T_0=132.373494$ (BKJD)



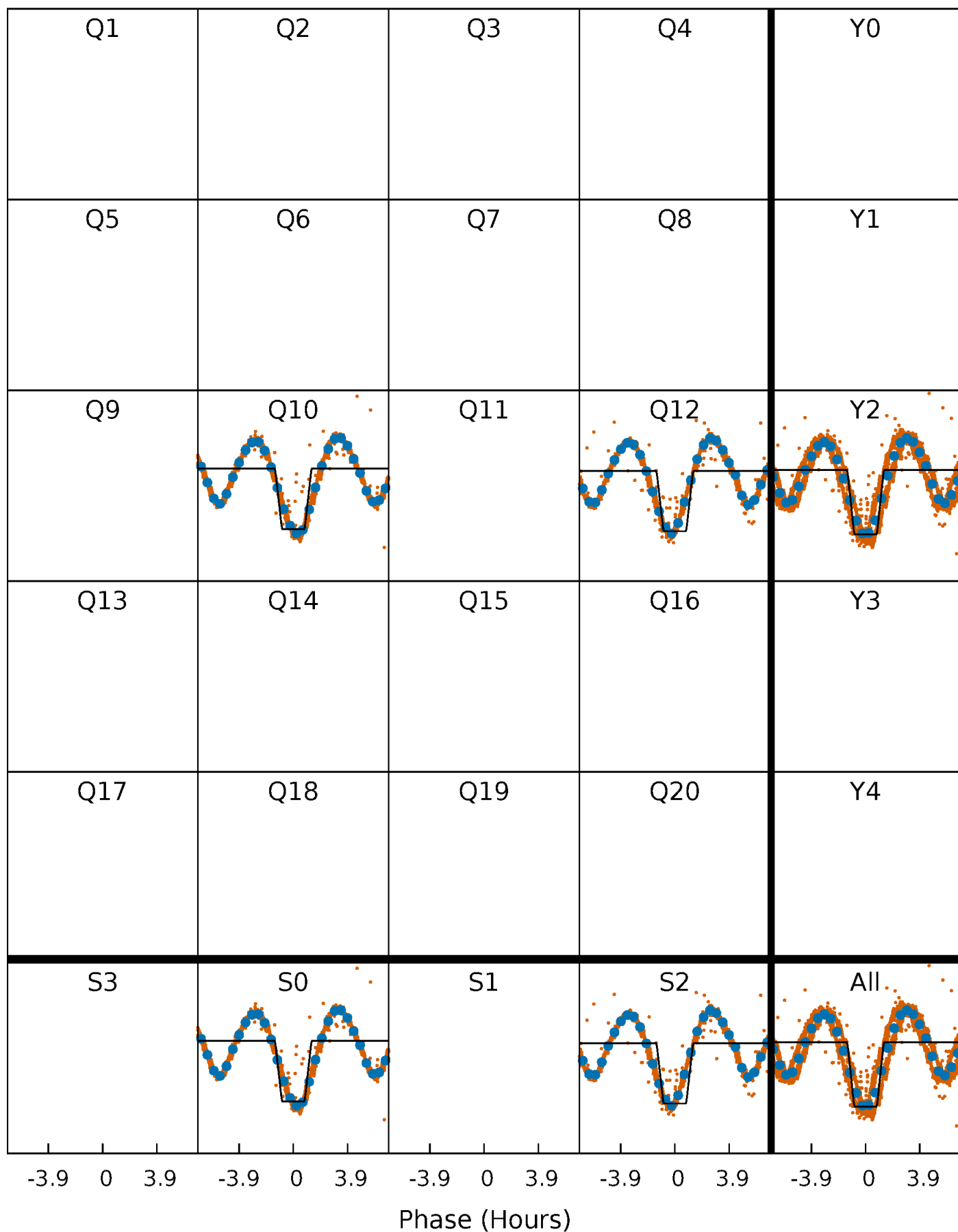
DV Quarter-Phased Transit Curves

TCE 010141087-01 P= 0.939714 Days $T_0=132.373494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

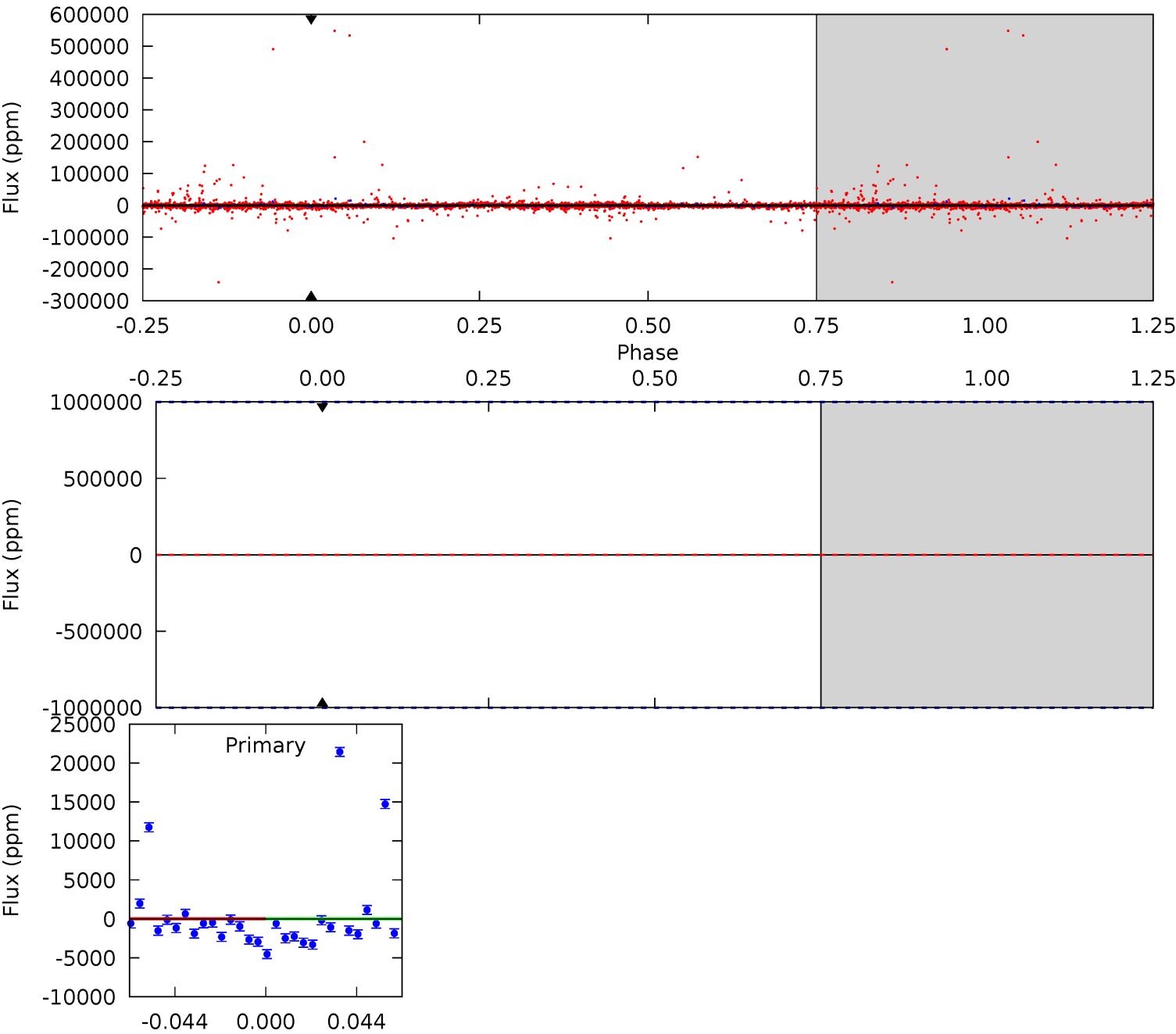
TCE 010141087-01 P= 0.939714 Days $T_0=132.215969$ (BKJD)



DV Model-Shift Uniqueness Test

010141087-01, P = 0.939714 Days, E = 132.373494 Days

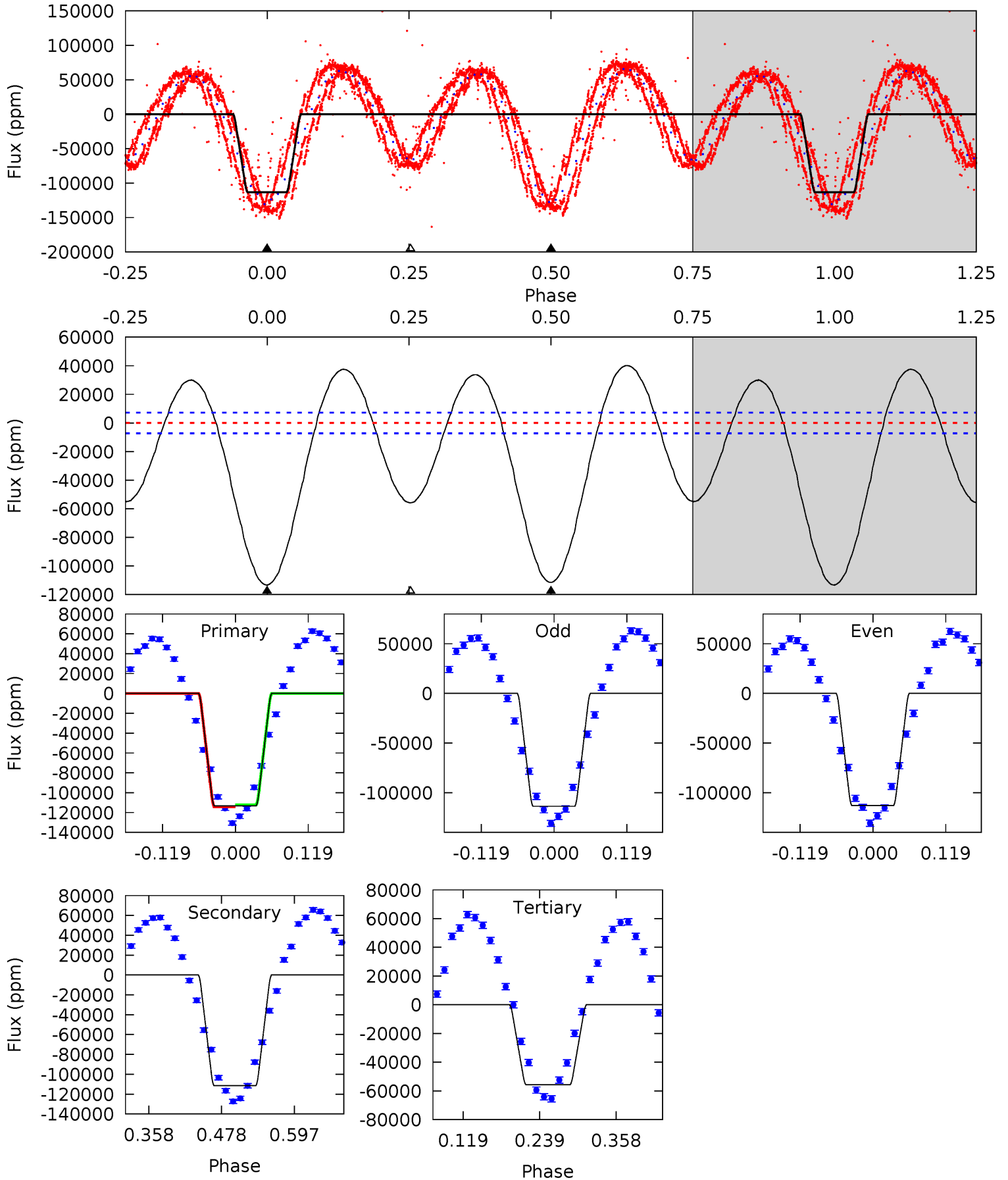
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010141087-01, P = 0.939714 Days, E = 132.215969 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.2	70.1	35.0	0	4.53	1.56	21.0	36.2	71.2	35.0	70.1	0.23	0.99	0.26	0.64



Stellar Parameters For KIC 010141087

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6654^{+190}_{-238}	$4.170^{+0.234}_{-0.175}$	$-0.520^{+0.250}_{-0.300}$	$1.413^{+0.367}_{-0.367}$	$1.076^{+0.163}_{-0.134}$	$0.537^{+0.646}_{-0.260}$
	+3%/-4%	+6%/-4%	+48%/-58%	+26%/-26%	+15%/-12%	+120%/-48%
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 010141087-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.94^{+11.94}_{-8.39}$	3500^{+280}_{-274}	-6353^{+34059}_{-19695}	$-7.165^{+282.402}_{-245.213}$
Alt.	-111528 ± 1592	$54.39^{+16.92}_{-16.30}$	3484^{+264}_{-262}	6582^{+1350}_{-818}	$8.879^{+8.863}_{-3.834}$

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 $A_{obs} \gg 1.0$

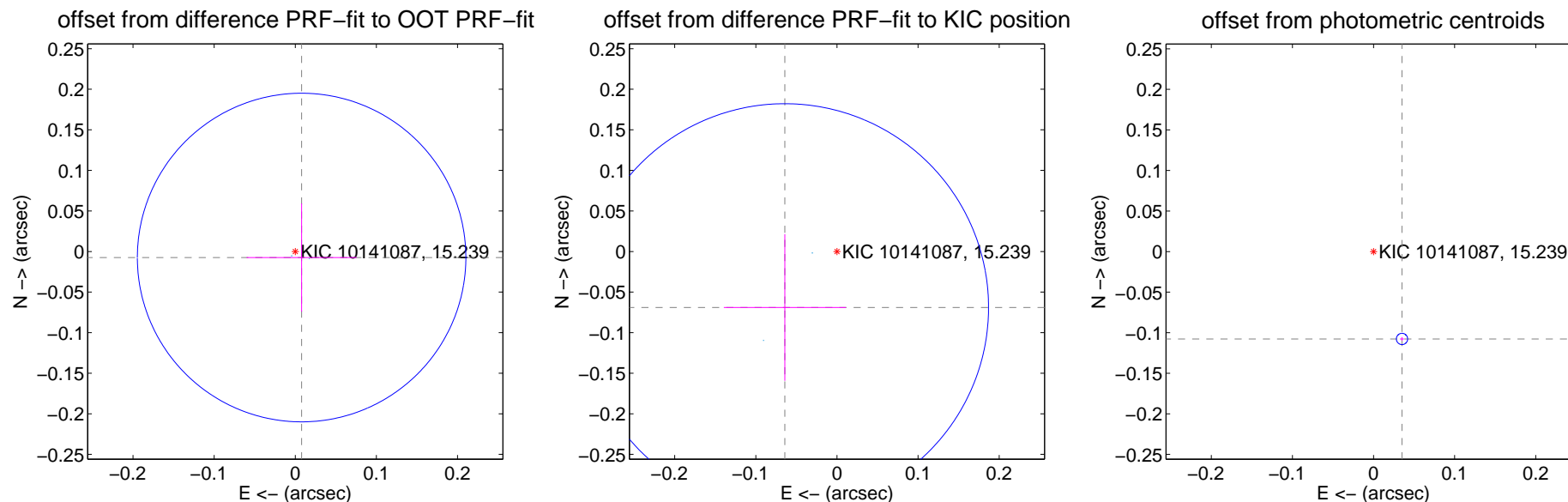
DV Centroid Data

Supplemental centroid analysis for 010141087-01. Kepler magnitude: 15.24. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.011 ± 0.068	0.16	-0.008 ± 0.068	-0.007 ± 0.067
PRF-fit source offset from KIC position	0.094 ± 0.084	1.13	0.064 ± 0.075	-0.069 ± 0.090
photometric centroid source offset	0.11 ± 0.00	48.91	-0.04 ± 0.00	-0.11 ± 0.00

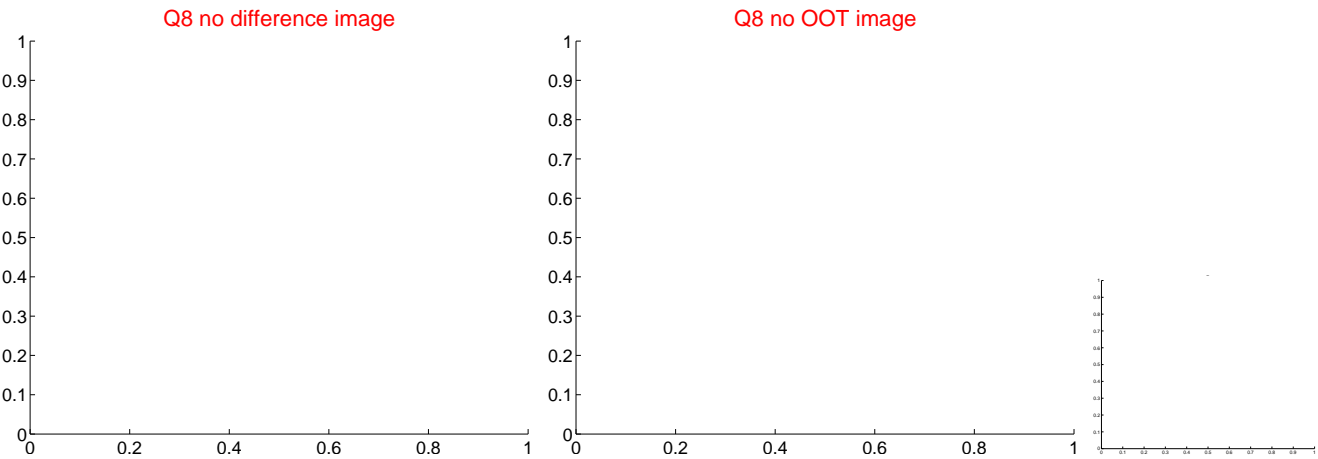
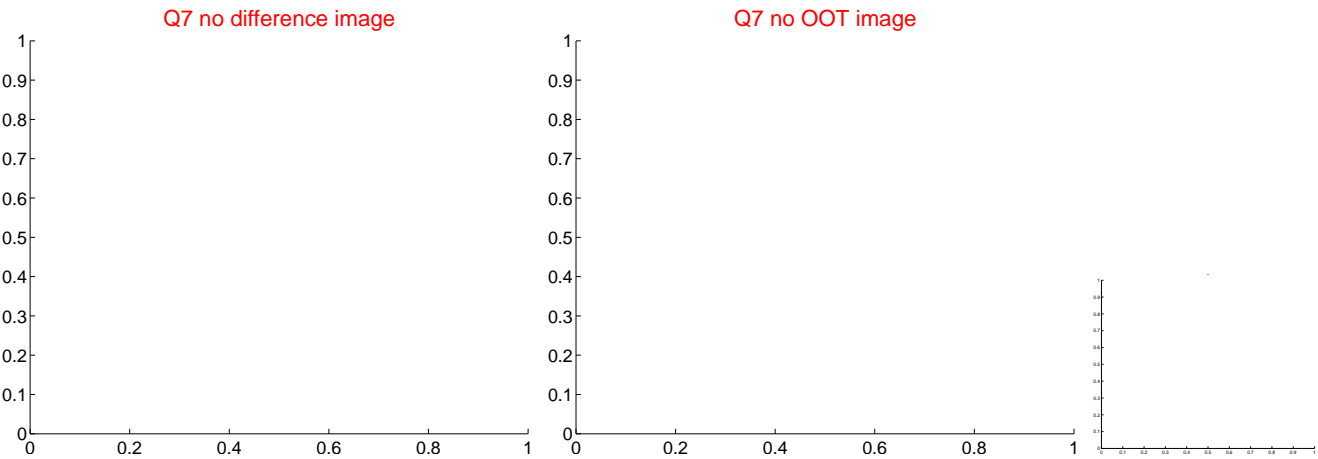
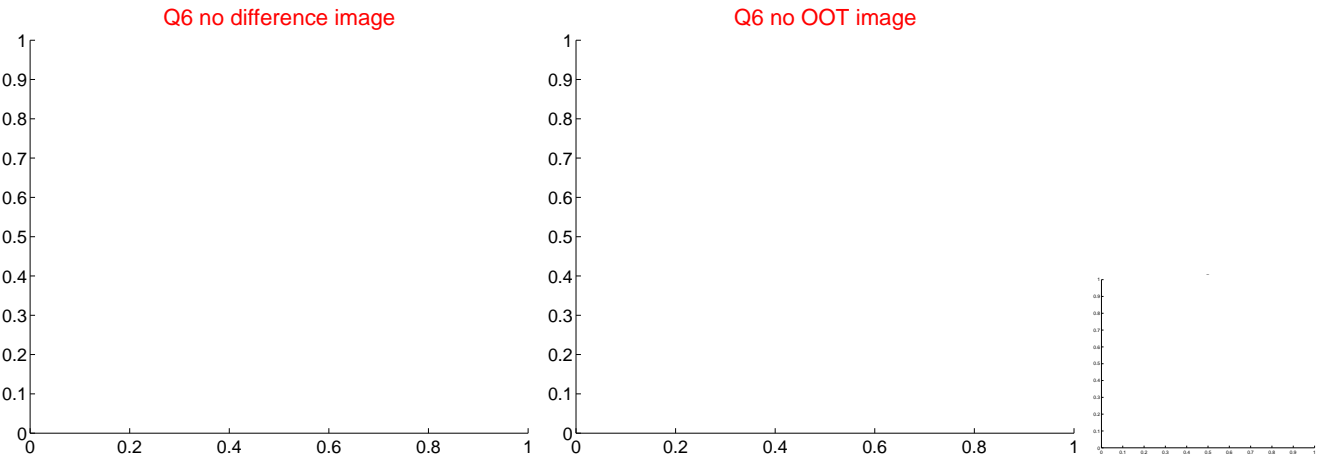
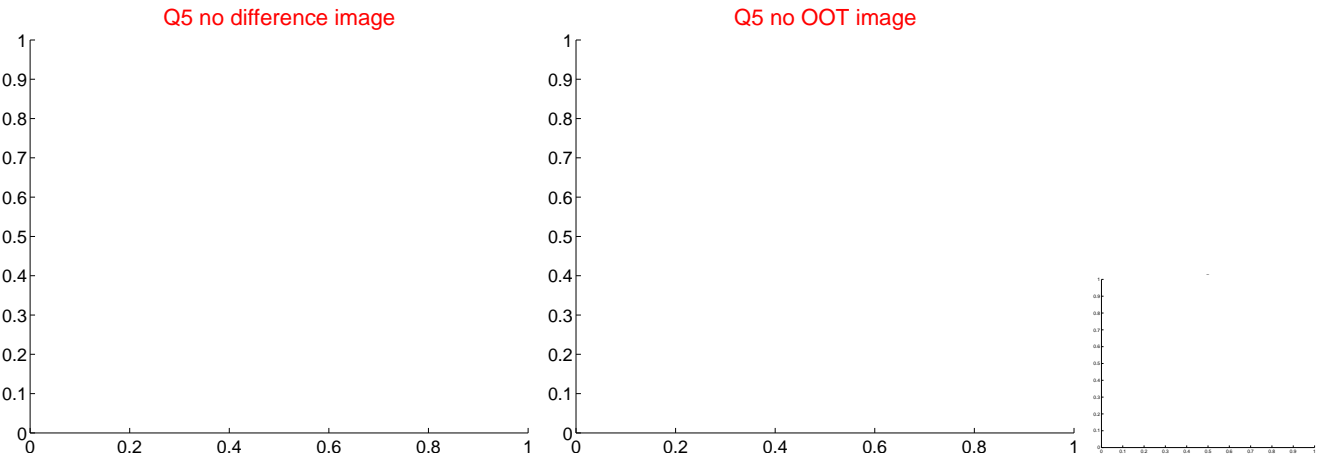


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

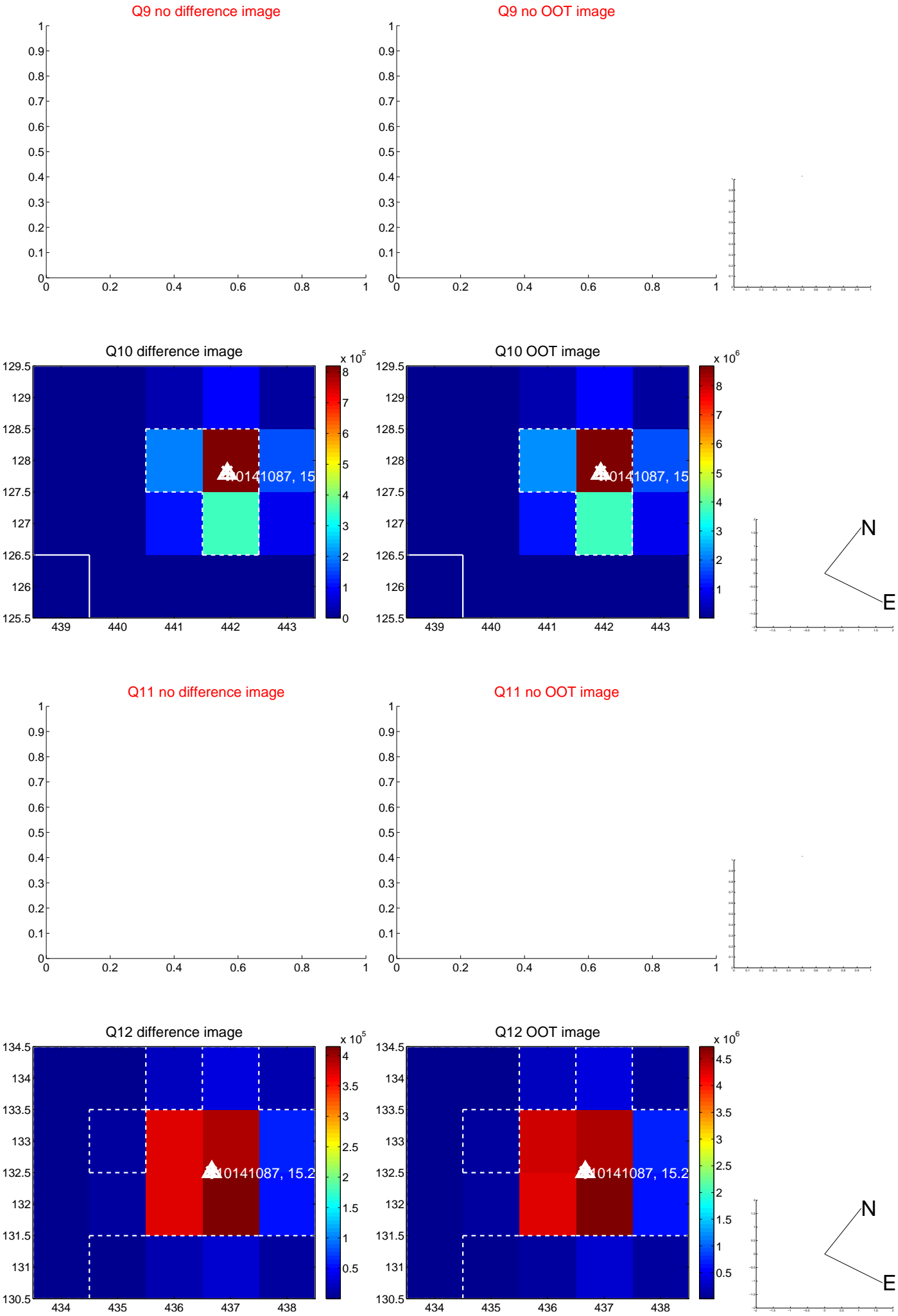
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



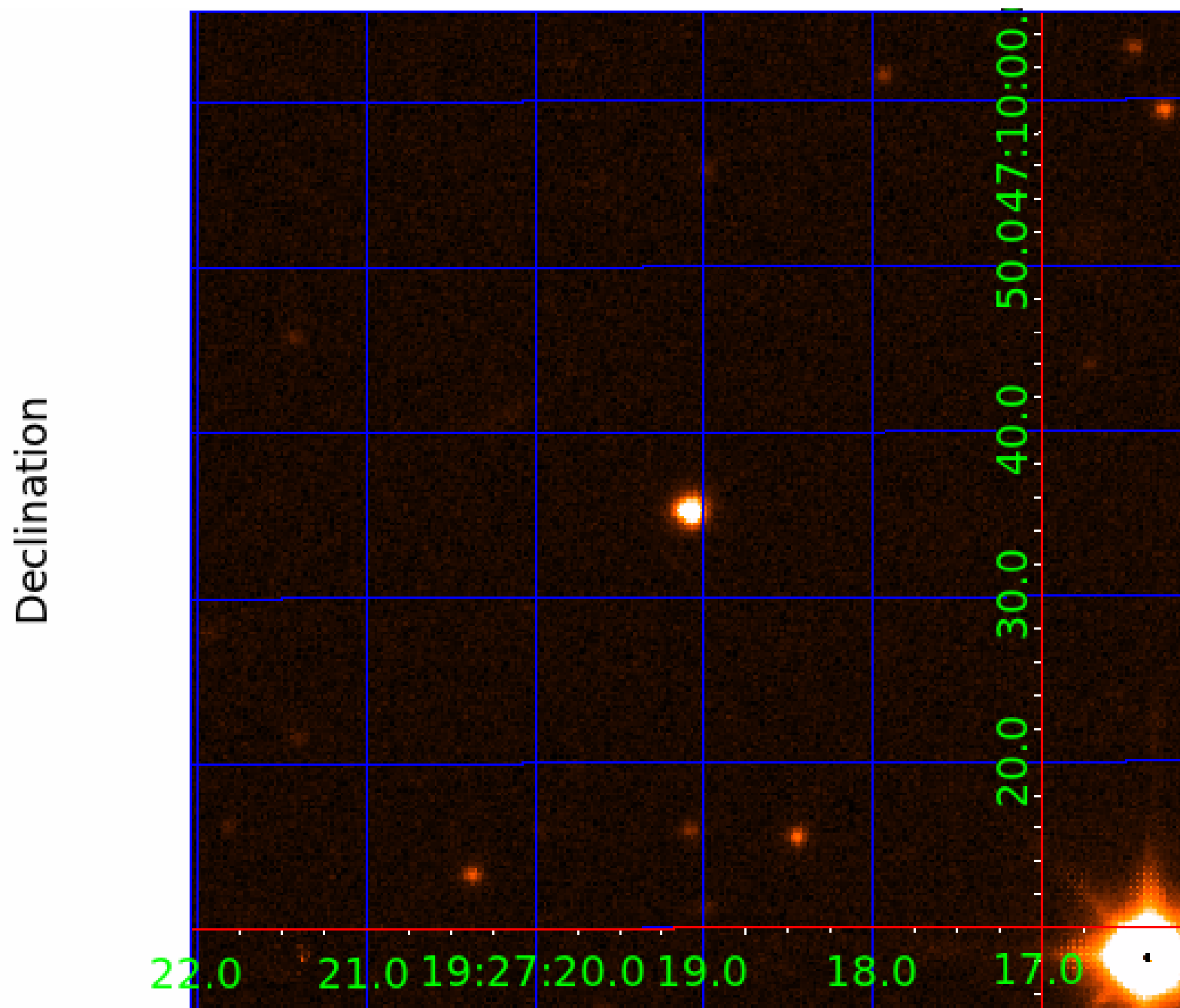
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010141087

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})
010141087-01	OBS	No	0.939714	132.373494	828.5	1.500	14.2	-1.0	1.41	6654	4.11	9462.22
010141087-02	OBS	No	0.939512	131.742676	173.3	2.626	13.7	0.9	1.41	6654	1.99	9464.92
010141087-03	OBS	No	0.941707	131.506367	784.8	3.208	13.5	3.9	1.41	6654	4.20	9435.53
010141087-04	OBS	No	0.938830	131.568286	996.5	2.500	12.3	-1.0	1.41	6654	4.50	9474.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141087-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
010141087-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010141087-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010141087-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

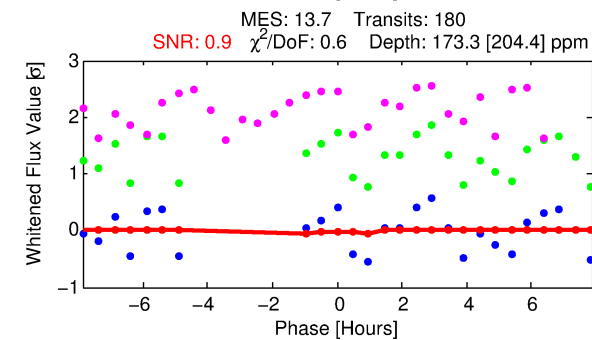
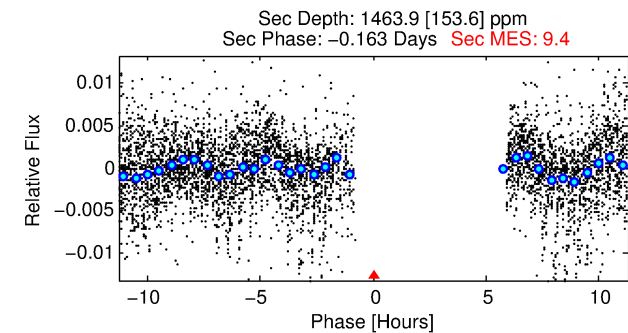
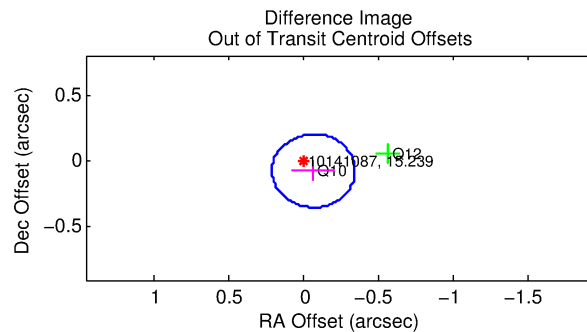
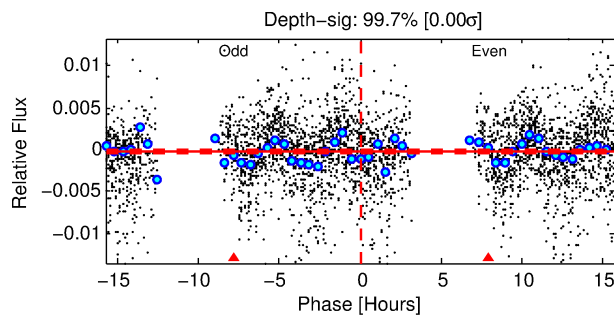
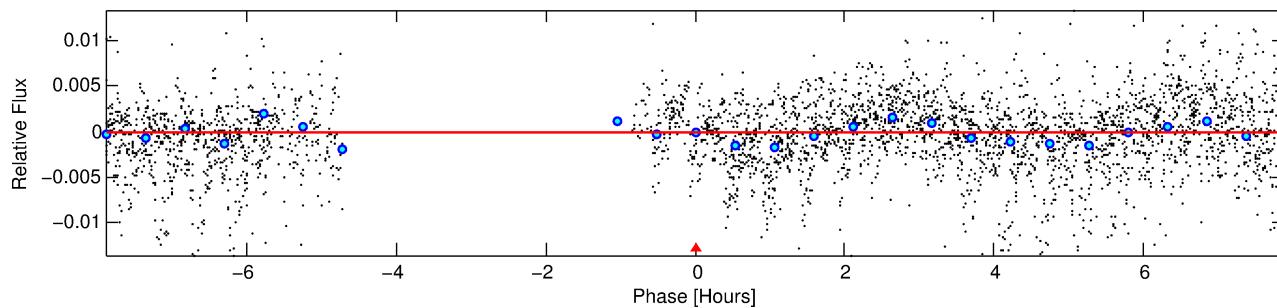
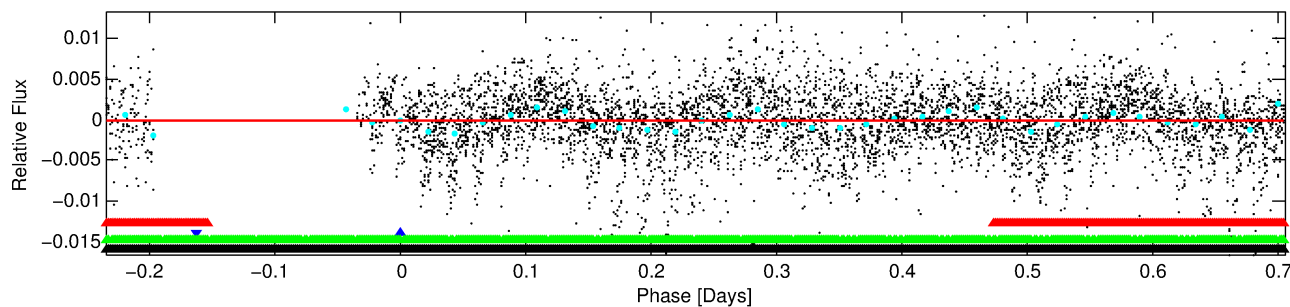
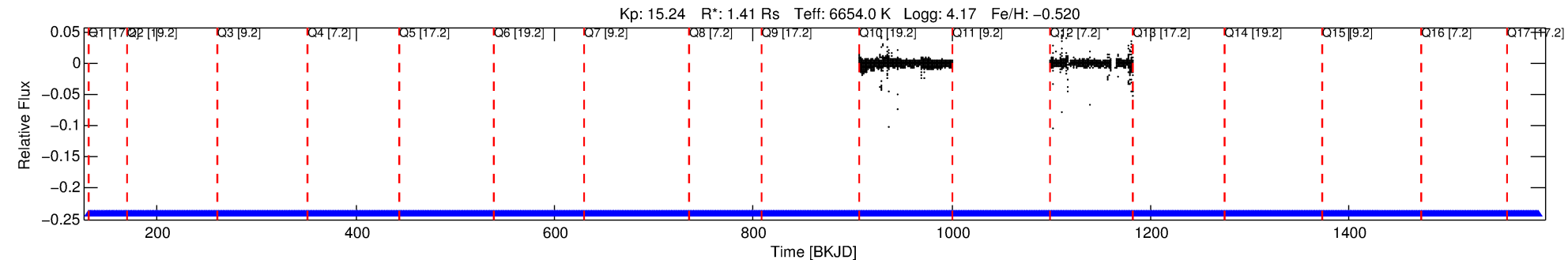
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010141087-02

No Significant Match Found

DV One-Page Summary

KIC: 10141087 Candidate: 2 of 4 Period: 0.940 d



DV Fit Results:

Period = 0.93951 [0.00007] d
Epoch = 131.7427 [0.0312] BKJD
Rp/R* = 0.0129 [0.0444]
a/R* = 2.16 [33.06]
b = 0.70 [14.20]
Seff = 9464.93 [4009.81]
Teq = 2515 [266] K
Rp = 1.99 [6.87] Re
a = 0.0192 [0.0048] AU
Ag = 75.08 [516.96] [0.14σ]
Teffp = 11447 [19674] K [0.45σ]

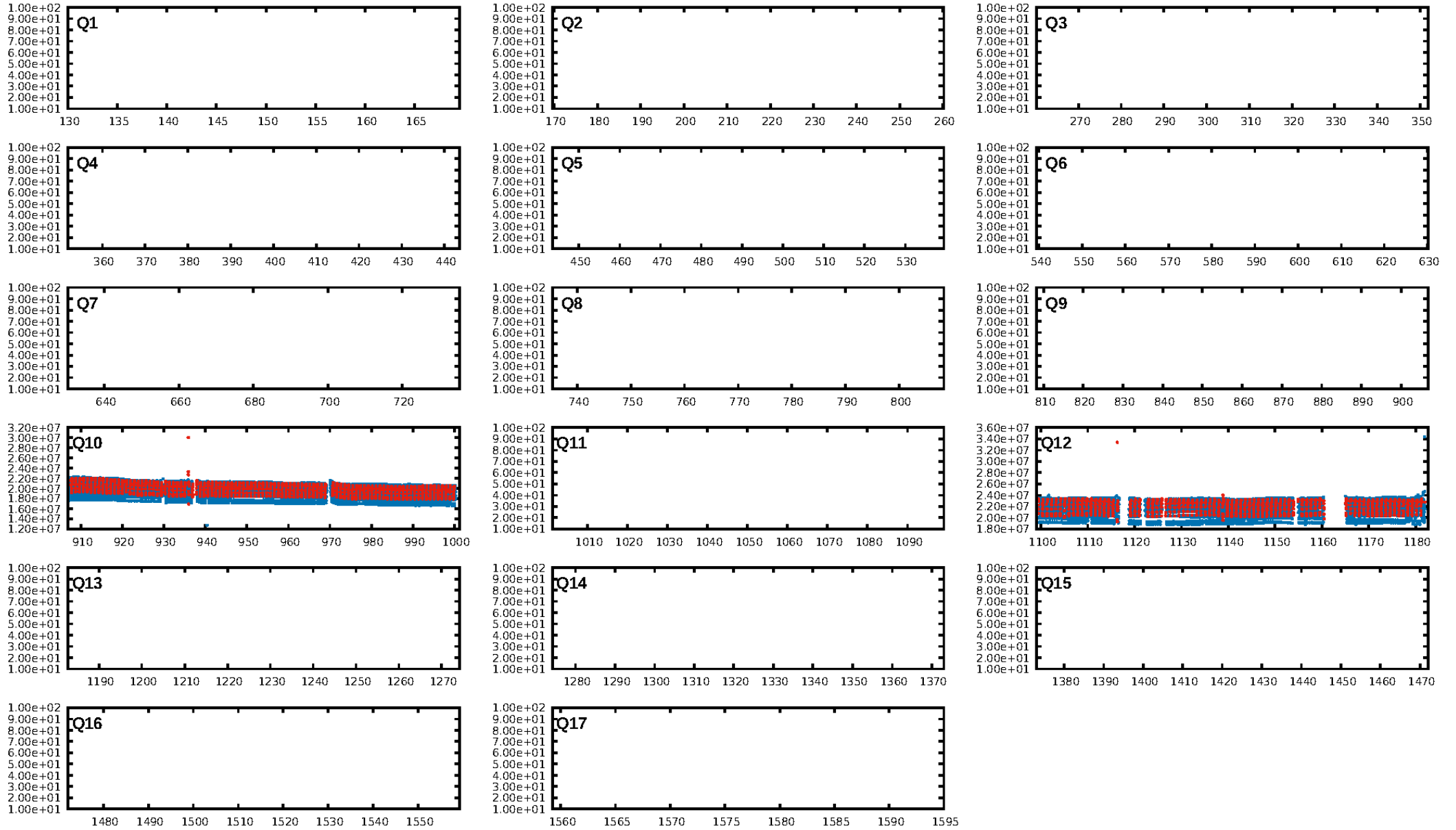
DV Diagnostic Results:

ShortPeriod-sig: 0.4% [0.00σ]
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [180/180]
GhostDiagnostic-chr: 0.766
Centroid-sig: 0.9%
Centroid-so: 2.277 arcsec [1.90σ]
OotOffset-rm: 0.103 arcsec [1.11σ]
KicOffset-rm: 0.183 arcsec [1.15σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

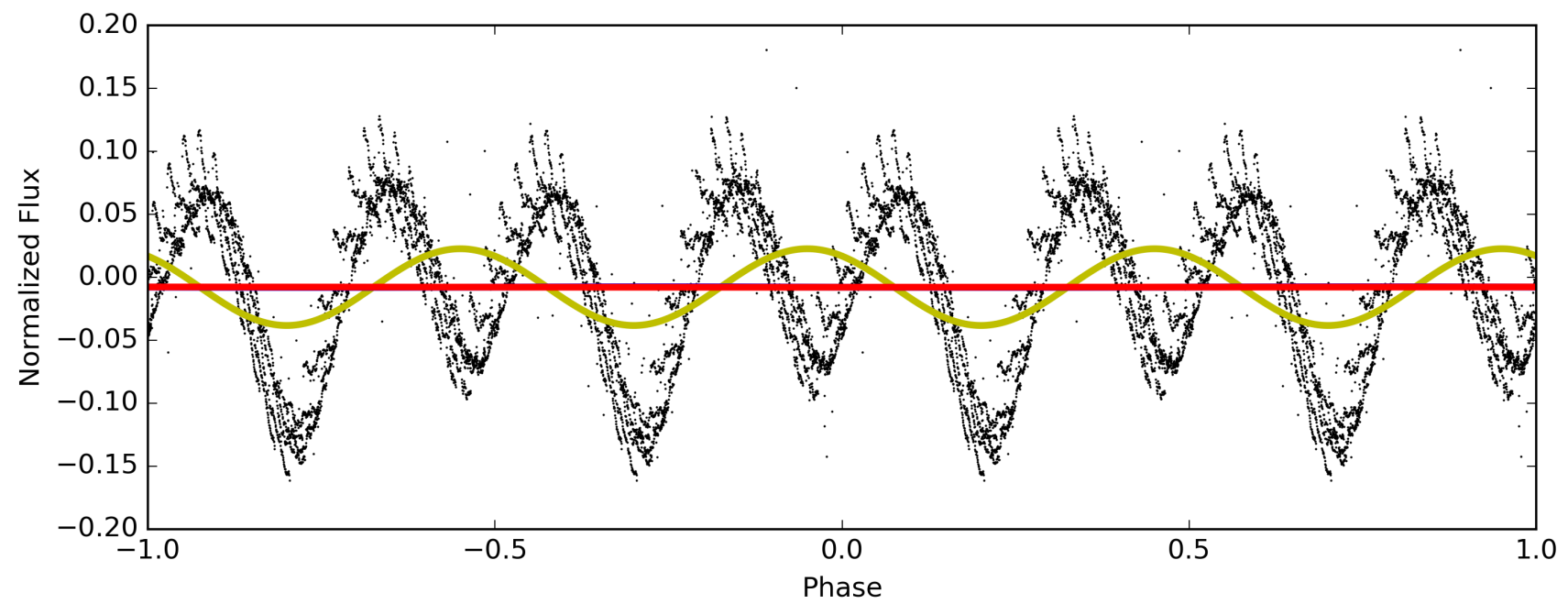
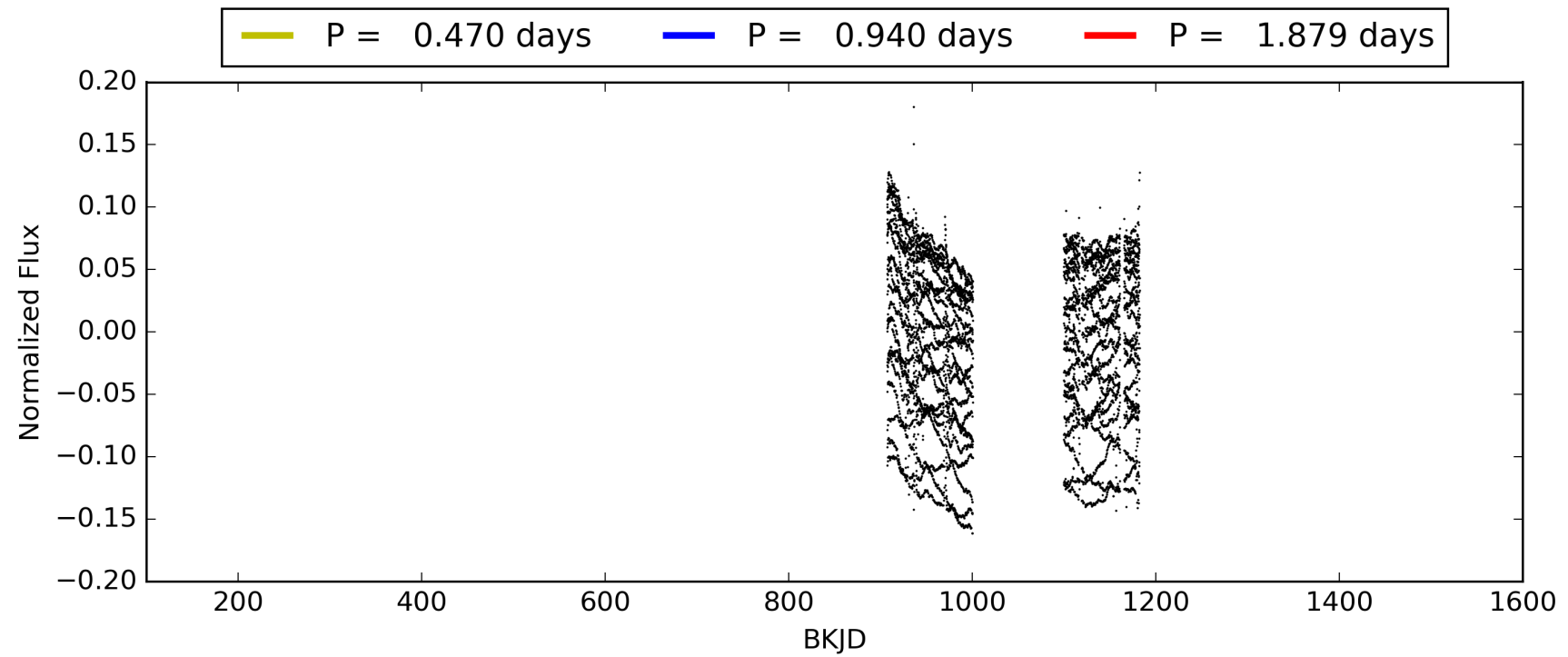
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010141087-02, PDC Light Curves

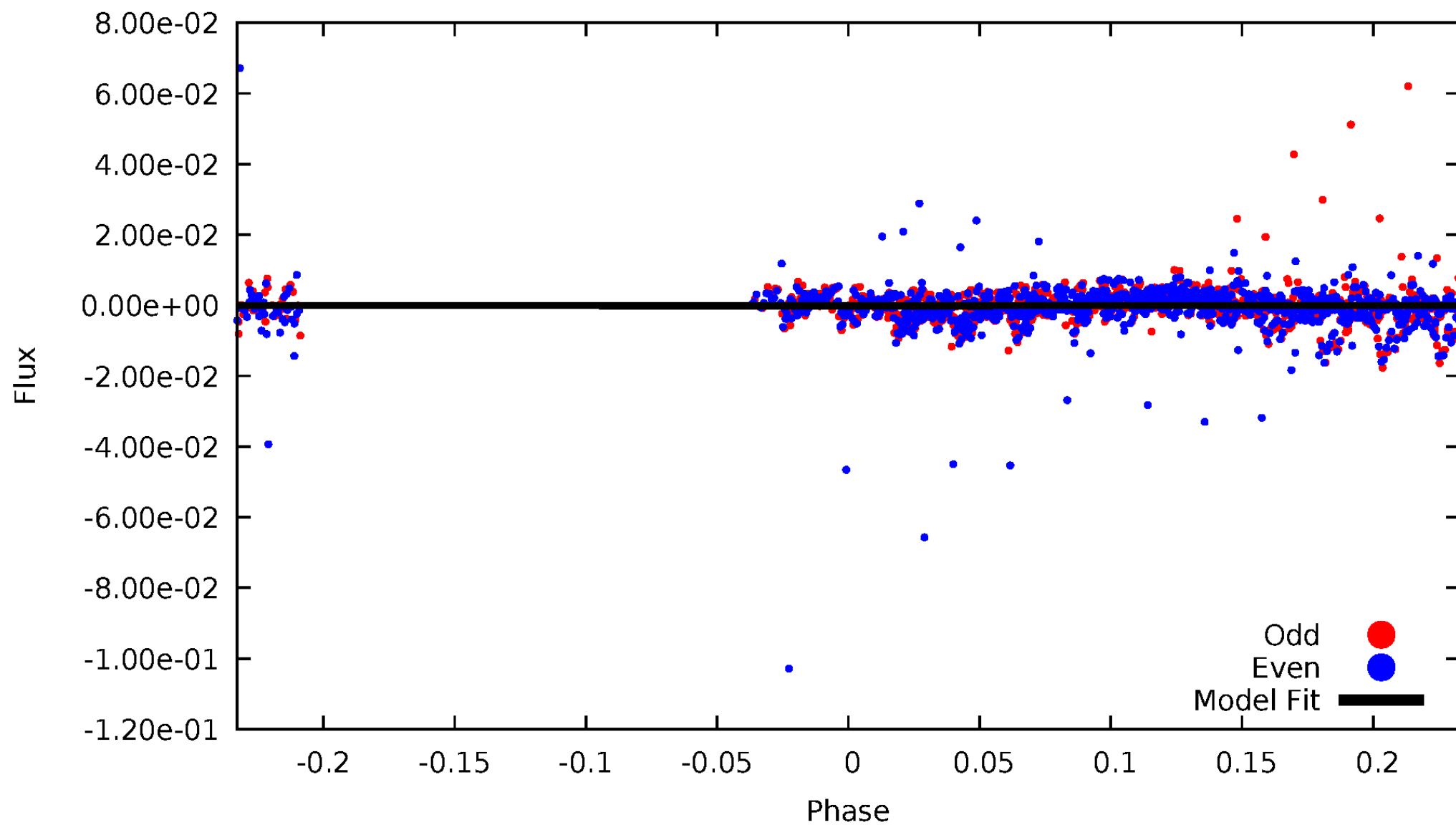


TCE 010141087-02



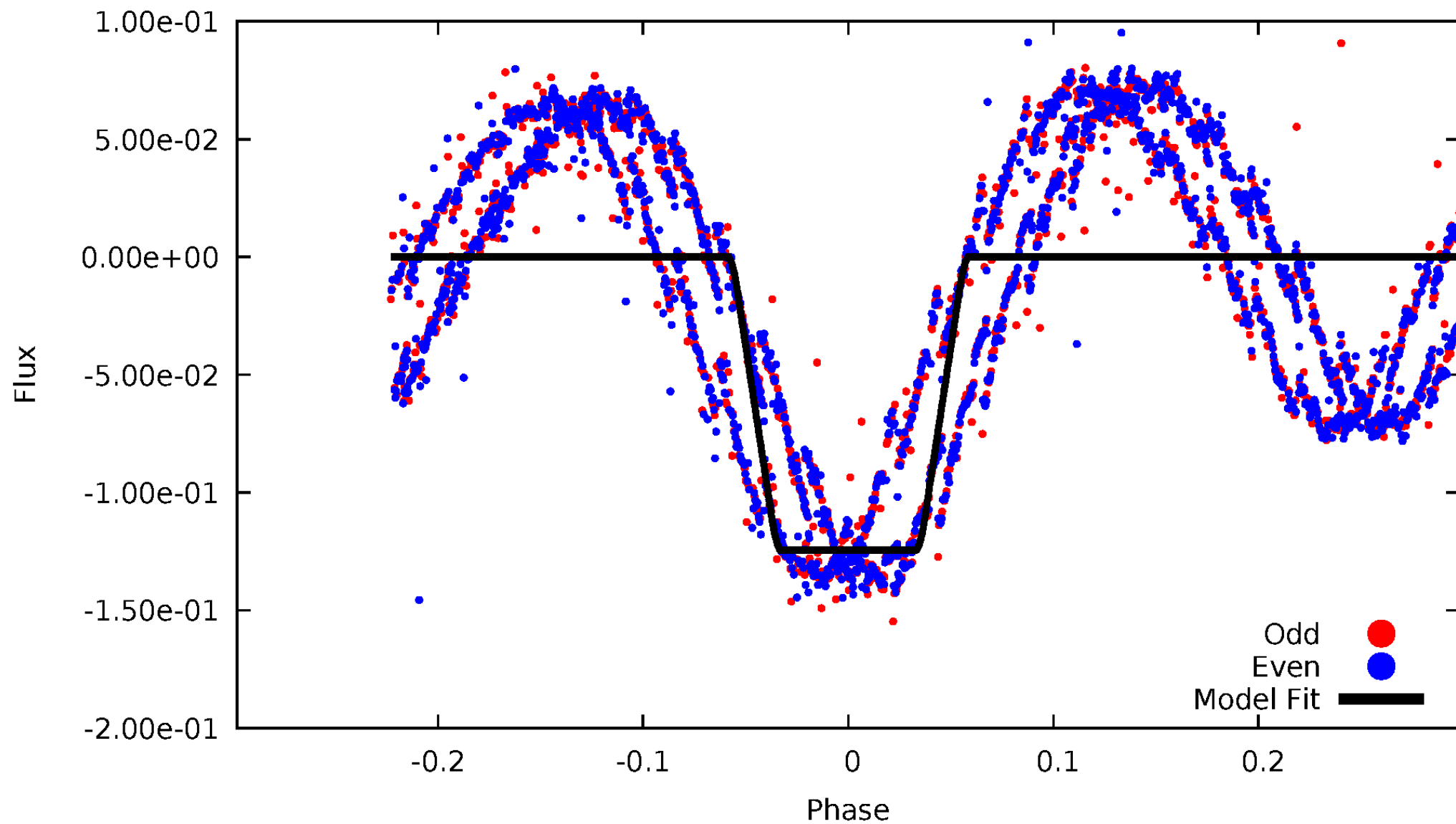
DV Odd/Even

TCE 010141087-02



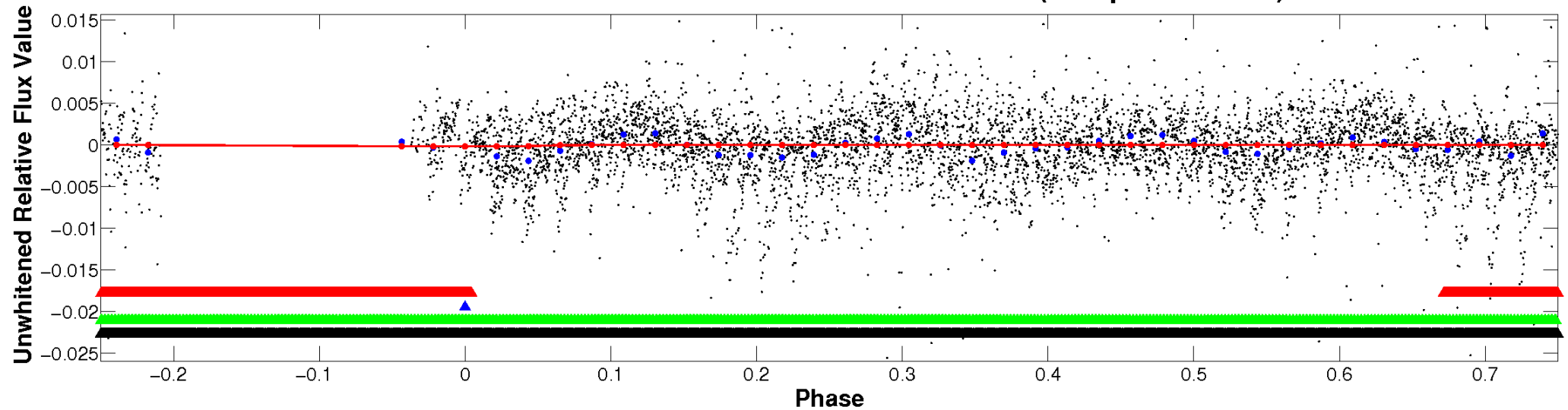
ALT Odd/Even

TCE 010141087-02

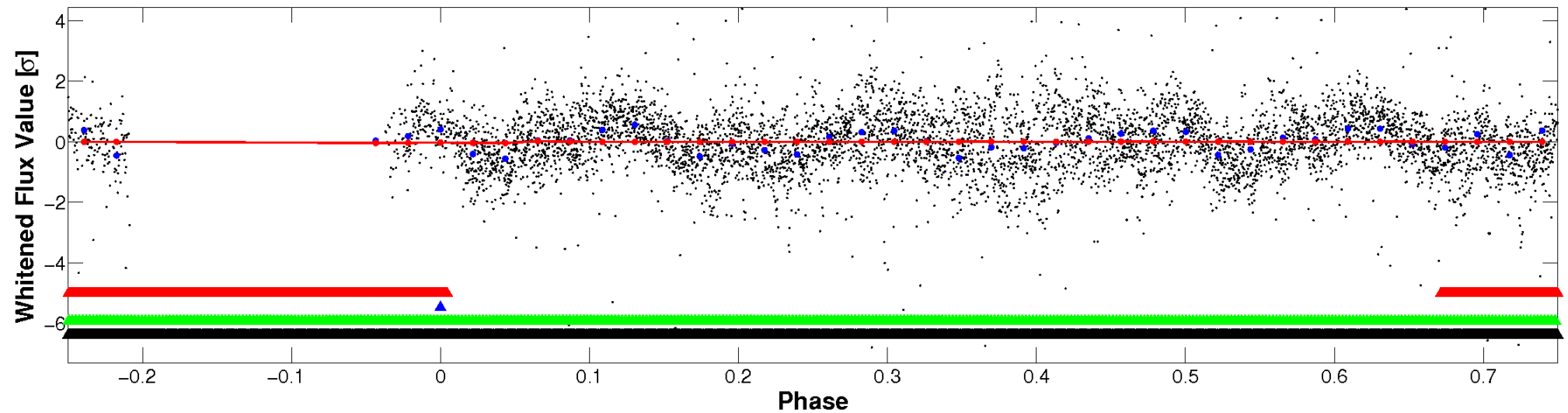


Non-Whitened Vs. Whitened Light Curve

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

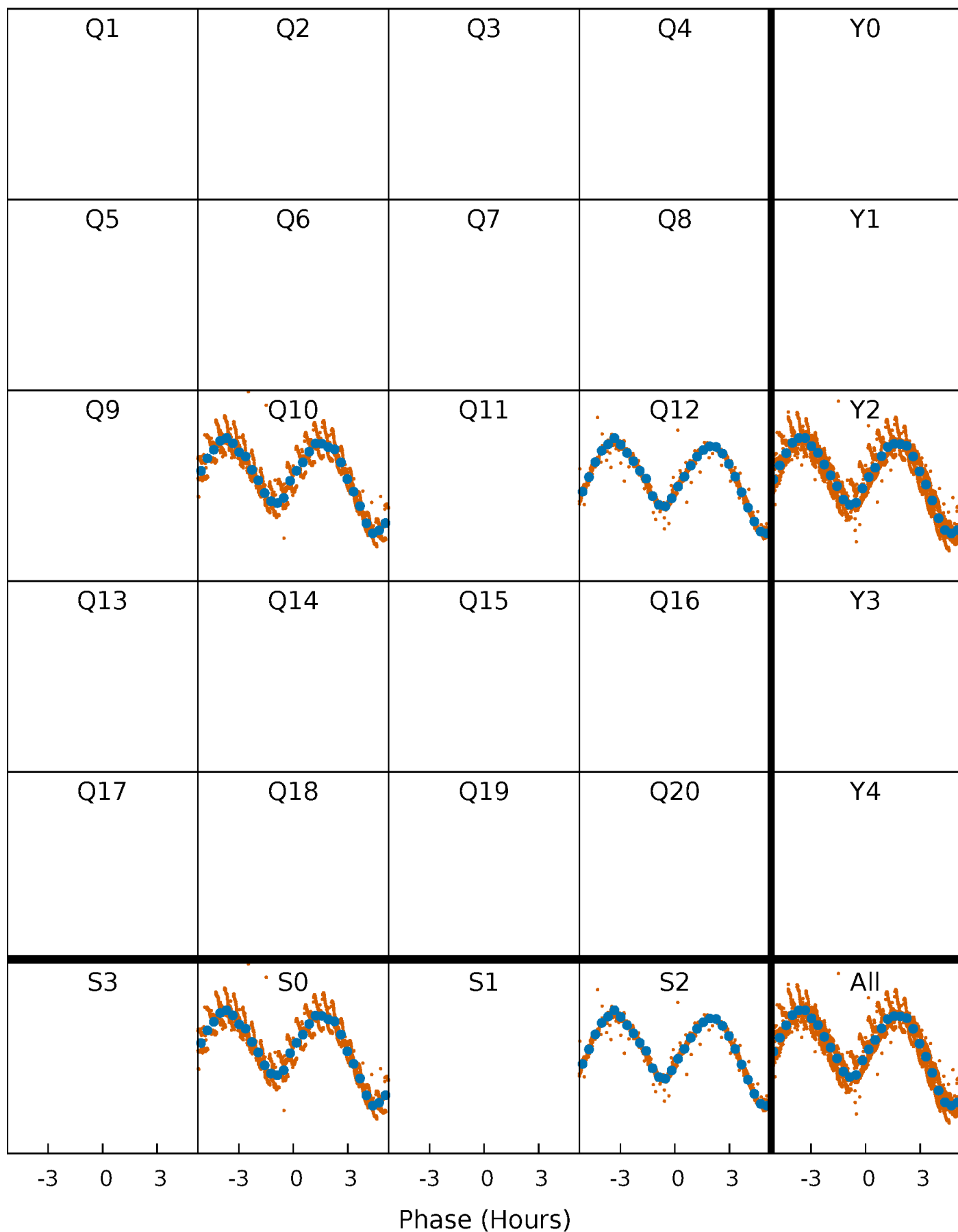


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 010141087-02 P= 0.939512 Days $T_0=131.742676$ (BKJD)



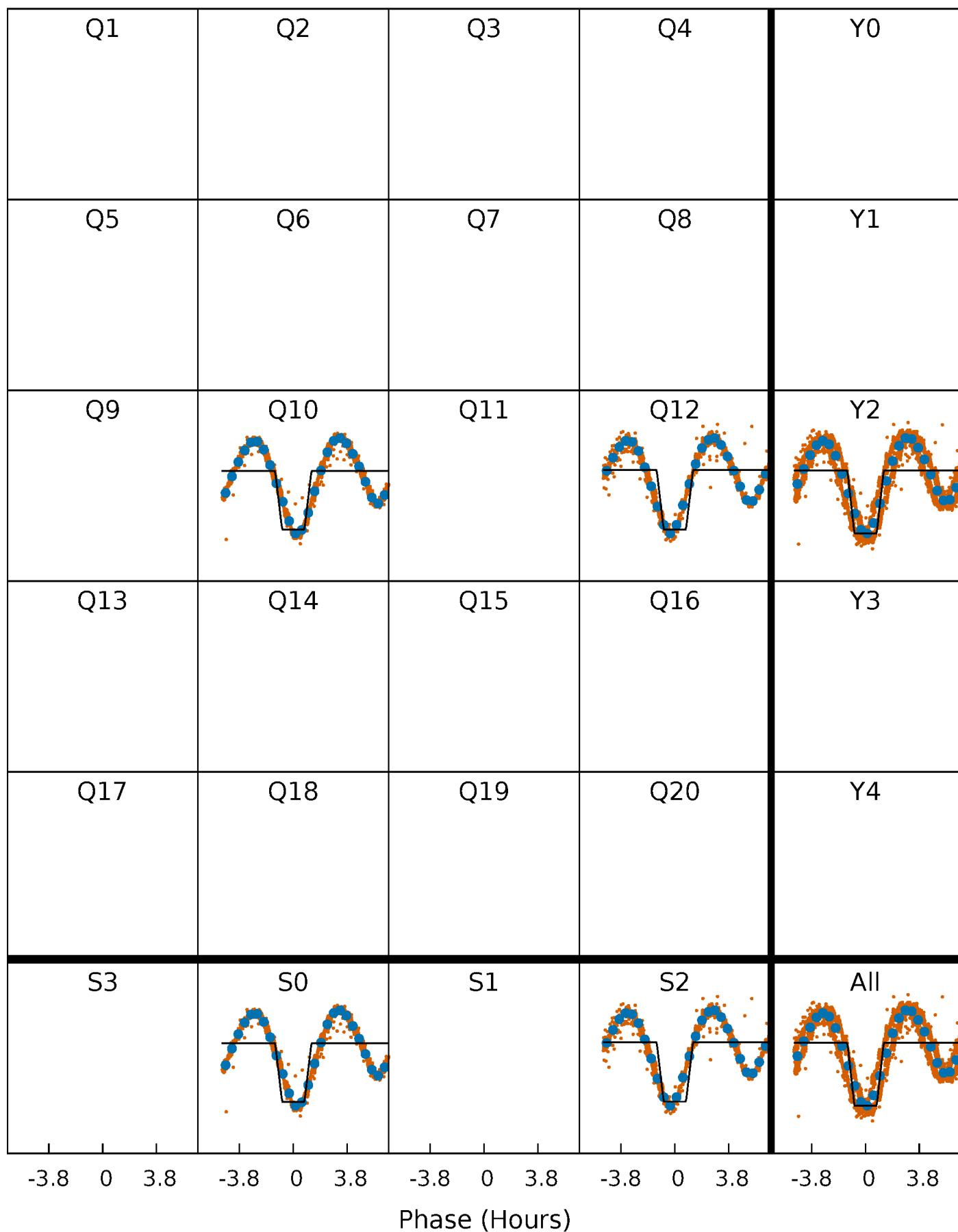
DV Quarter-Phased Transit Curves

TCE 010141087-02 $P = 0.939512$ Days $T_0 = 131.742676$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

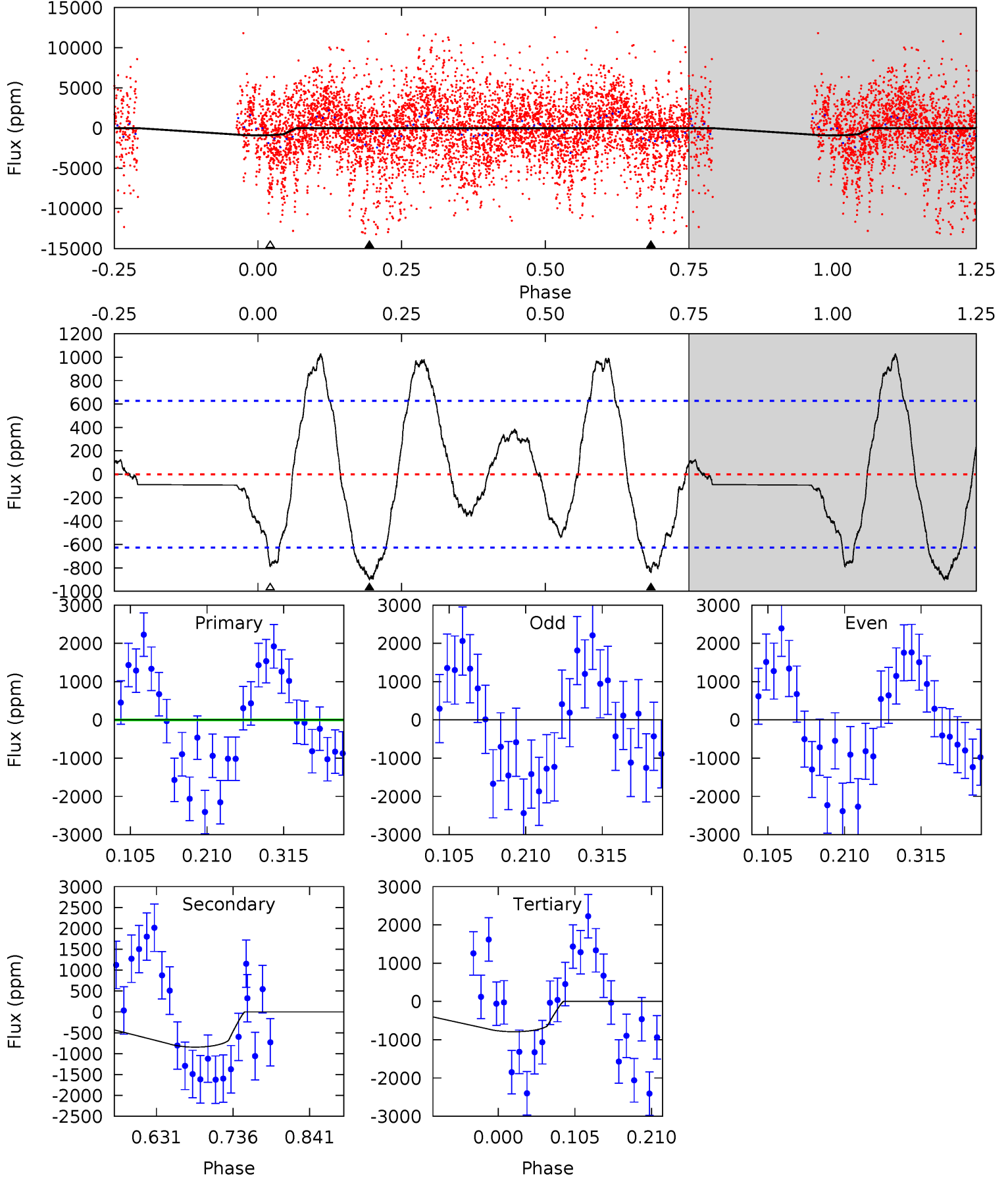
TCE 010141087-02 $P = 0.939722$ Days $T_0 = 131.738614$ (BKJD)



DV Model-Shift Uniqueness Test

010141087-02, P = 0.939512 Days, E = 131.742676 Days

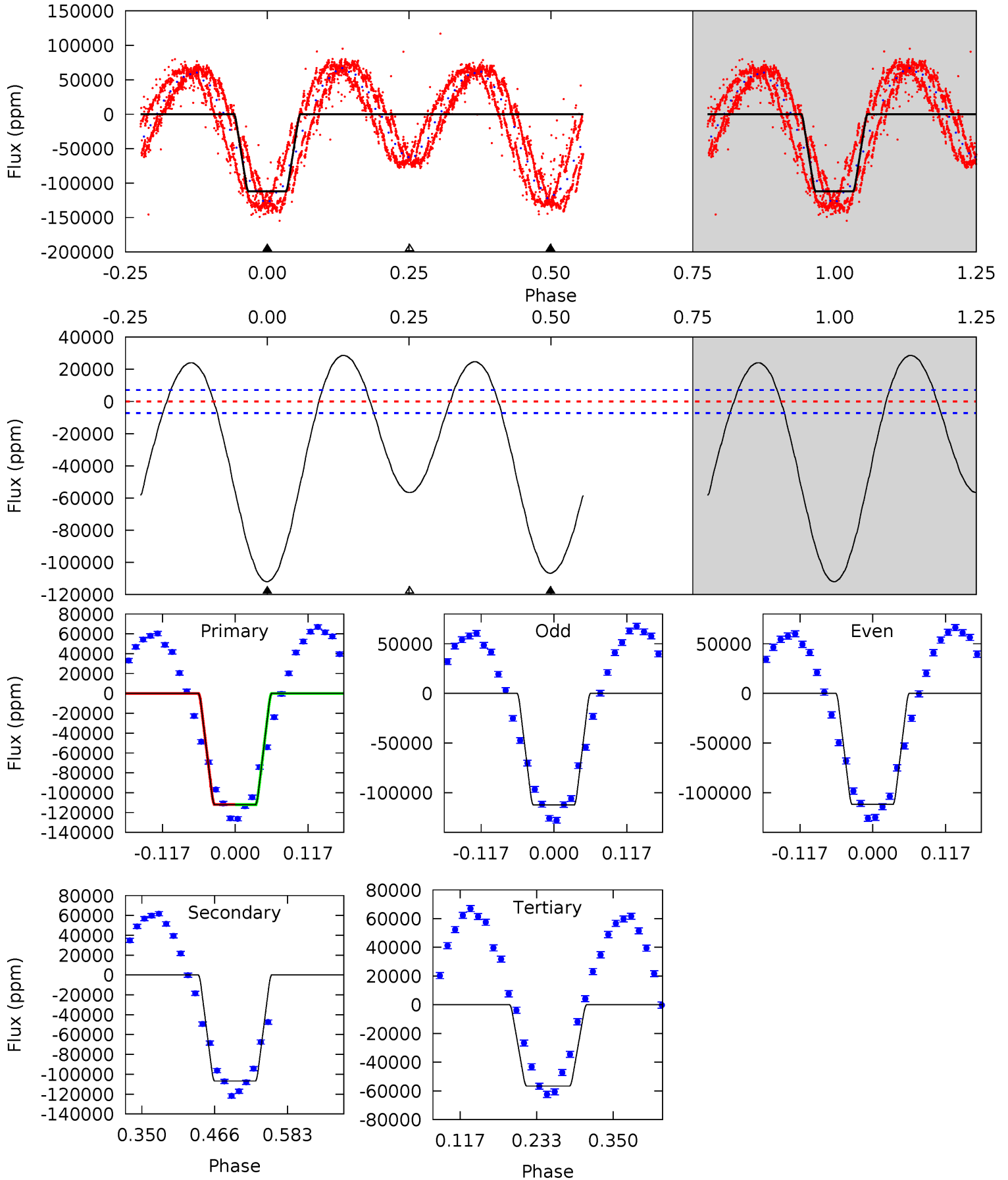
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.52	6.12	5.74	0	4.55	1.62	3.55	0.77	6.52	0.38	6.12	0.13	2.81	0.53	2.07



Alt Model-Shift Uniqueness Test

010141087-02, P = 0.939722 Days, E = 131.738614 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.7	67.4	35.7	0	4.53	1.57	18.6	35.0	70.7	31.7	67.4	0.14	1.01	0.20	0.06



Stellar Parameters For KIC 010141087

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6654^{+190}_{-238}	$4.170^{+0.234}_{-0.175}$	$-0.520^{+0.250}_{-0.300}$	$1.413^{+0.367}_{-0.367}$	$1.076^{+0.163}_{-0.134}$	$0.537^{+0.646}_{-0.260}$
	+3%/-4%	+6%/-4%	+48%/-58%	+26%/-26%	+15%/-12%	+120%/-48%
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 010141087-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-843 ± 138	$5.35^{+5.79}_{-3.75}$	3488^{+263}_{-283}	5910^{+7209}_{-1667}	$5.915^{+63.163}_{-4.510}$
Alt.	-106769 ± 1584	$53.68^{+11.73}_{-9.78}$	3500^{+263}_{-286}	6517^{+543}_{-476}	$8.400^{+4.168}_{-2.512}$

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 $A_{obs} \gg 1.0$

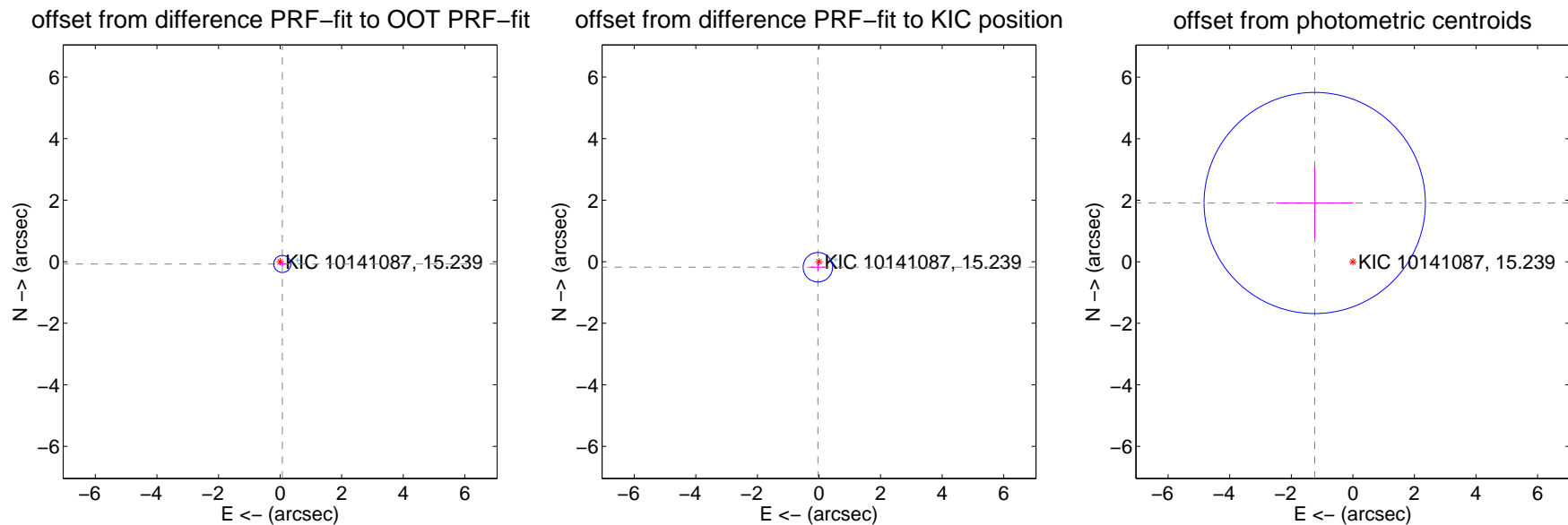
DV Centroid Data

Supplemental centroid analysis for 010141087-02. Kepler magnitude: 15.24. Transit SNR 0.95

There are 1 quarters with good PRF difference image offsets

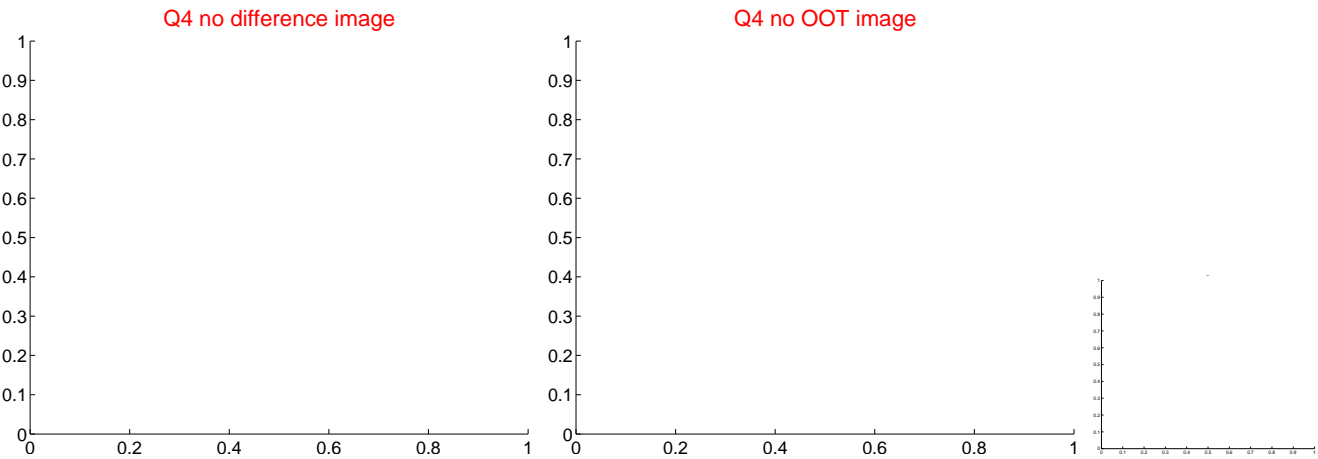
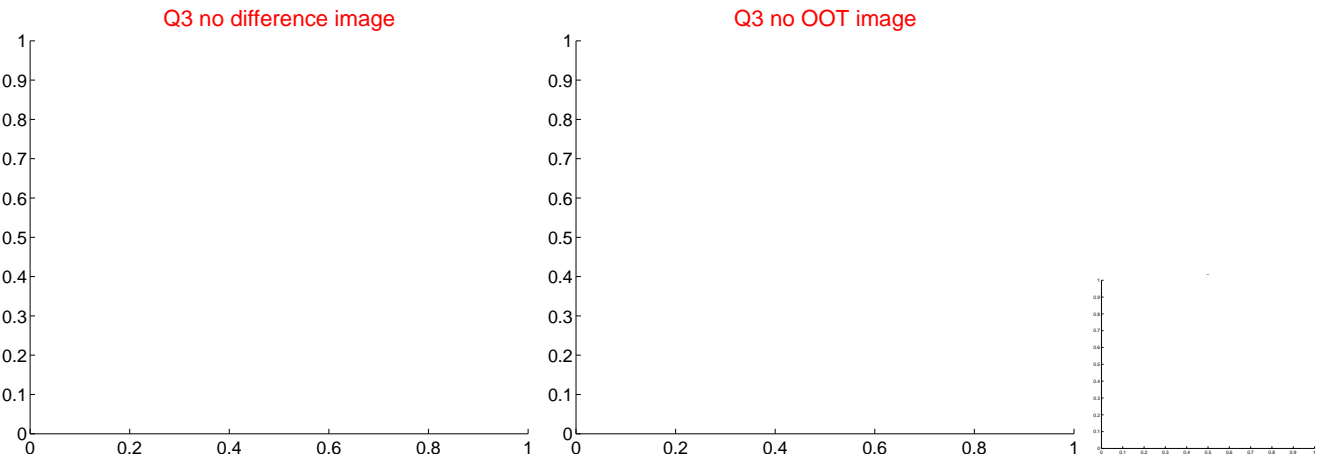
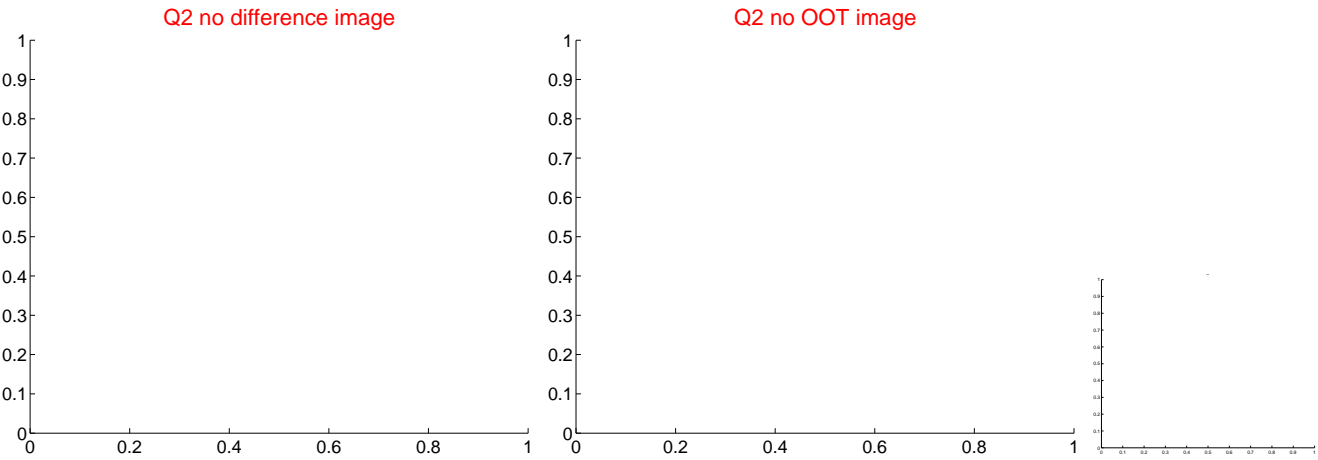
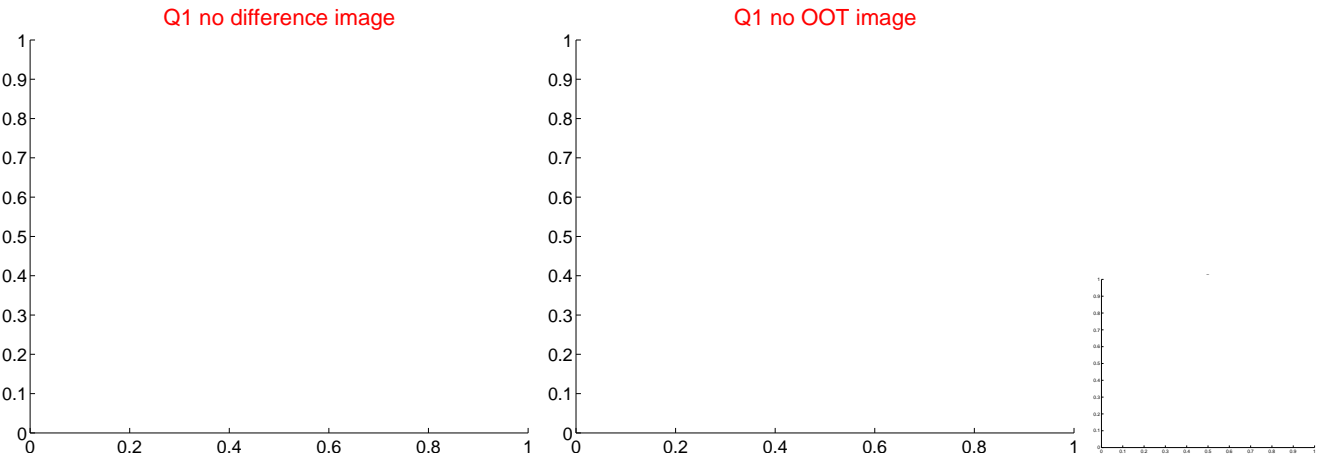
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.103 ± 0.092	1.11	-0.071 ± 0.141	-0.074 ± 0.074
PRF-fit source offset from KIC position	0.183 ± 0.159	1.15	0.036 ± 0.244	-0.179 ± 0.121
photometric centroid source offset	2.28 ± 1.20	1.90	1.24 ± 1.26	1.91 ± 1.17

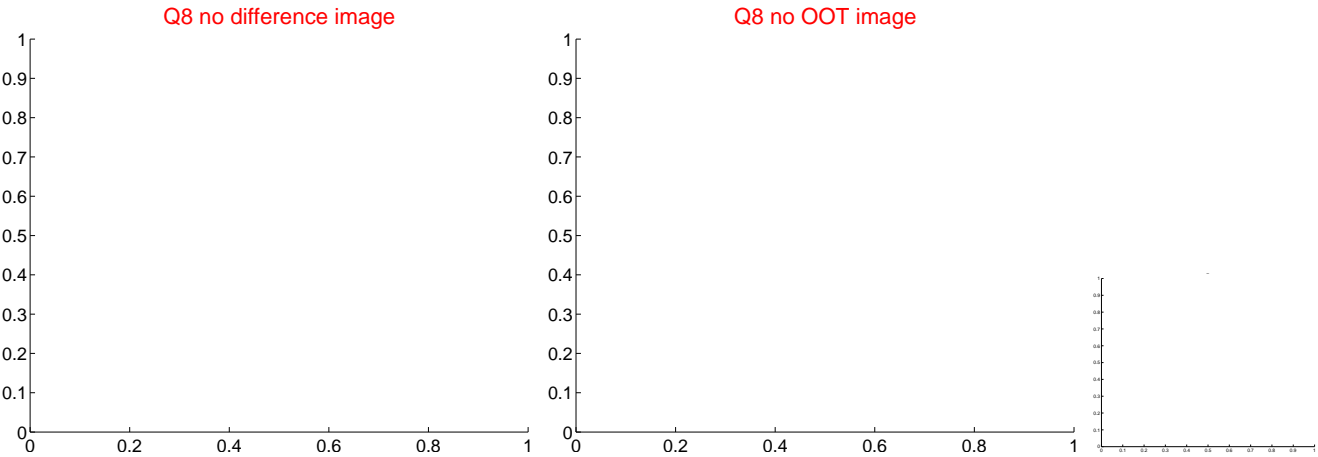
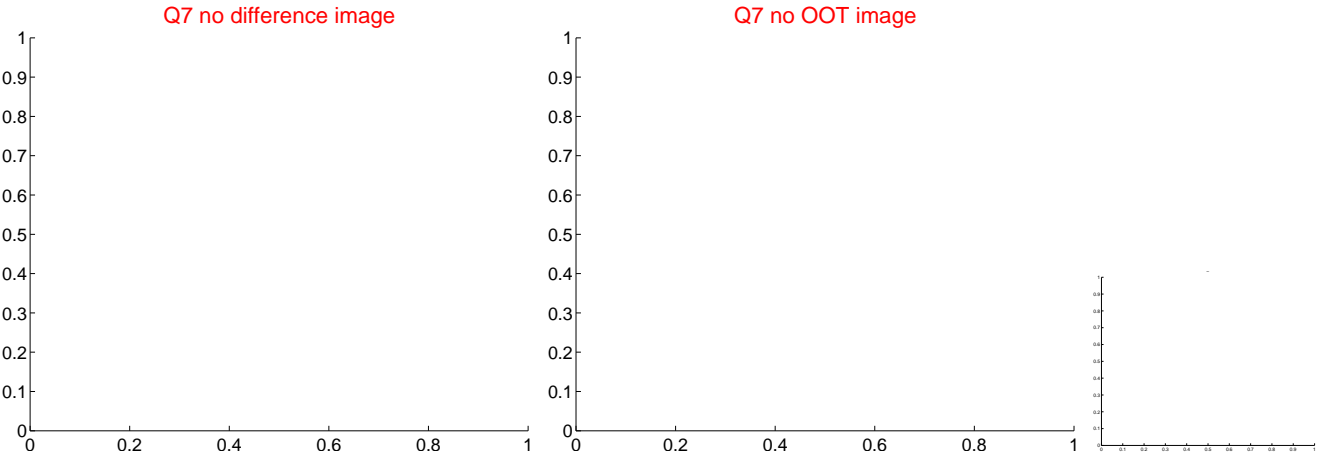
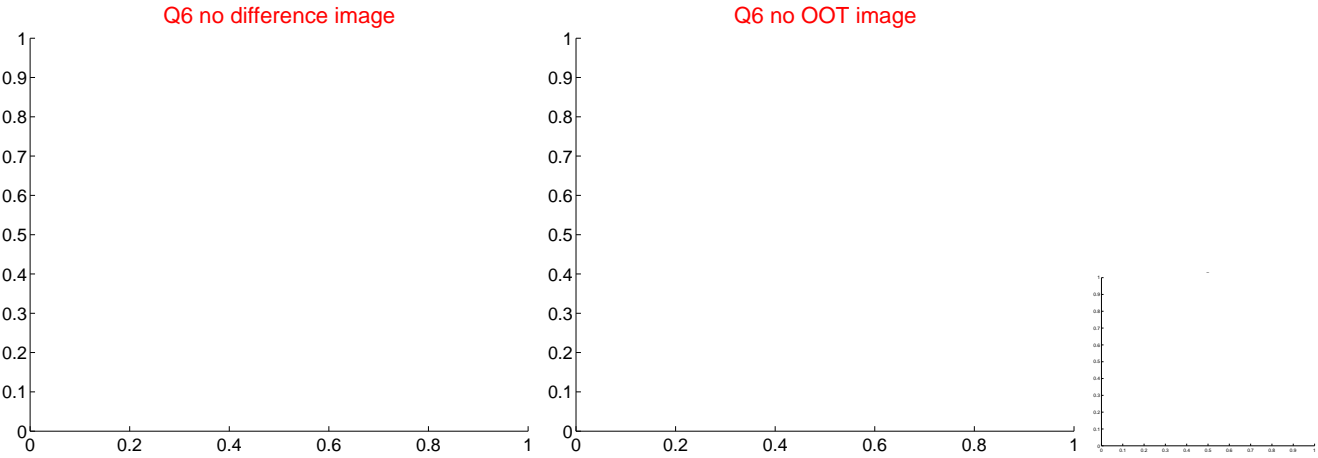
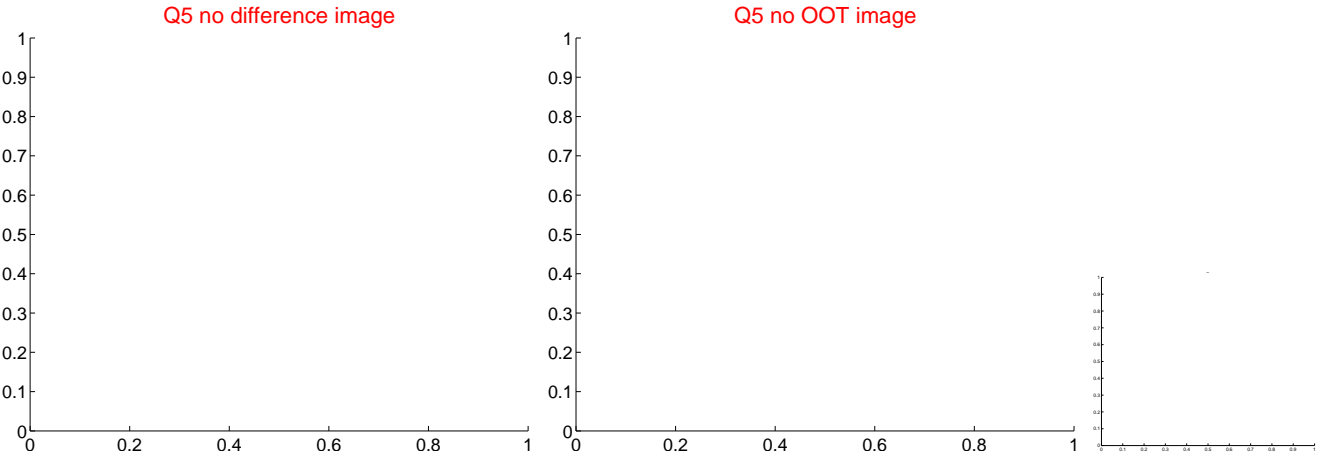


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

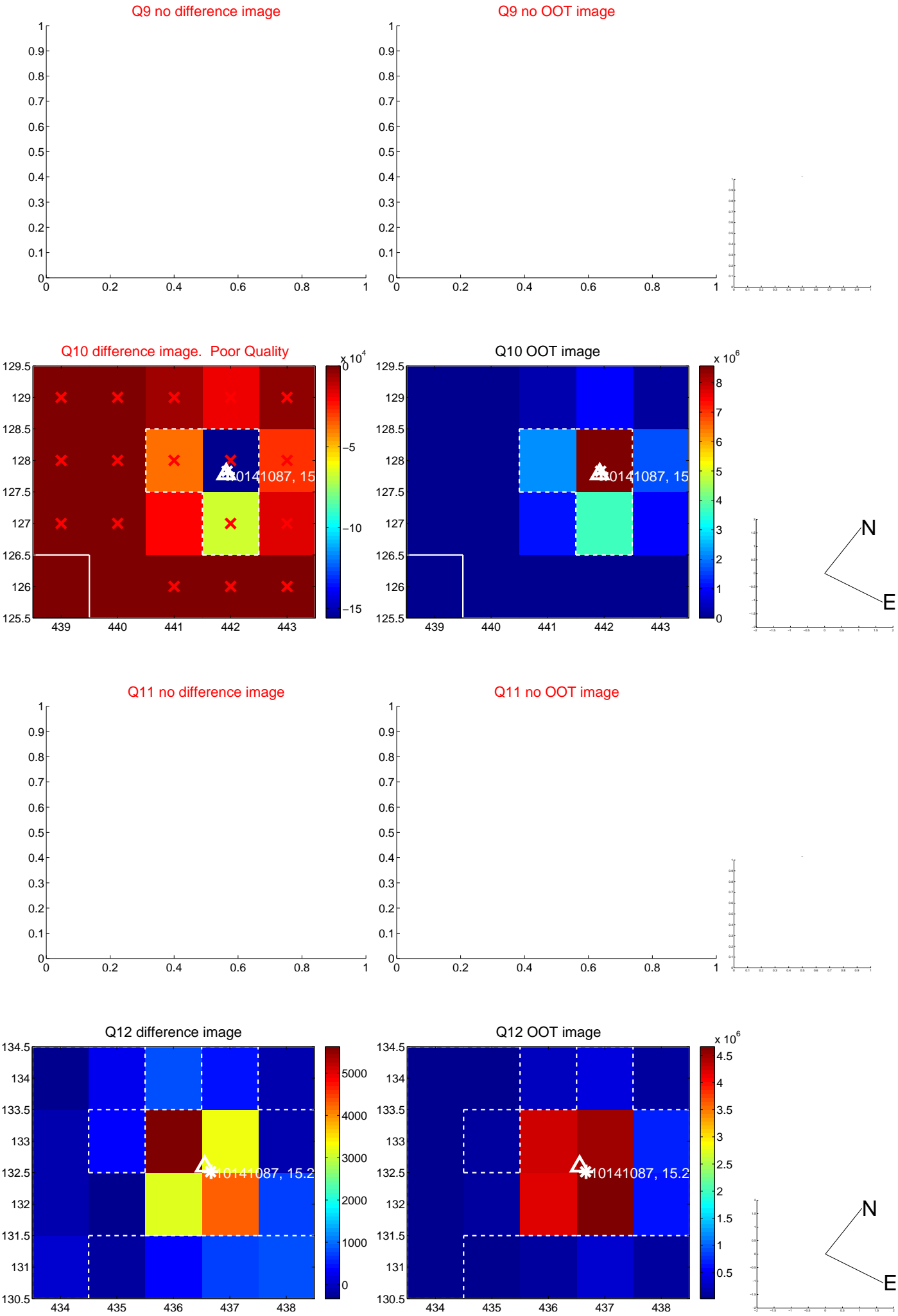
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



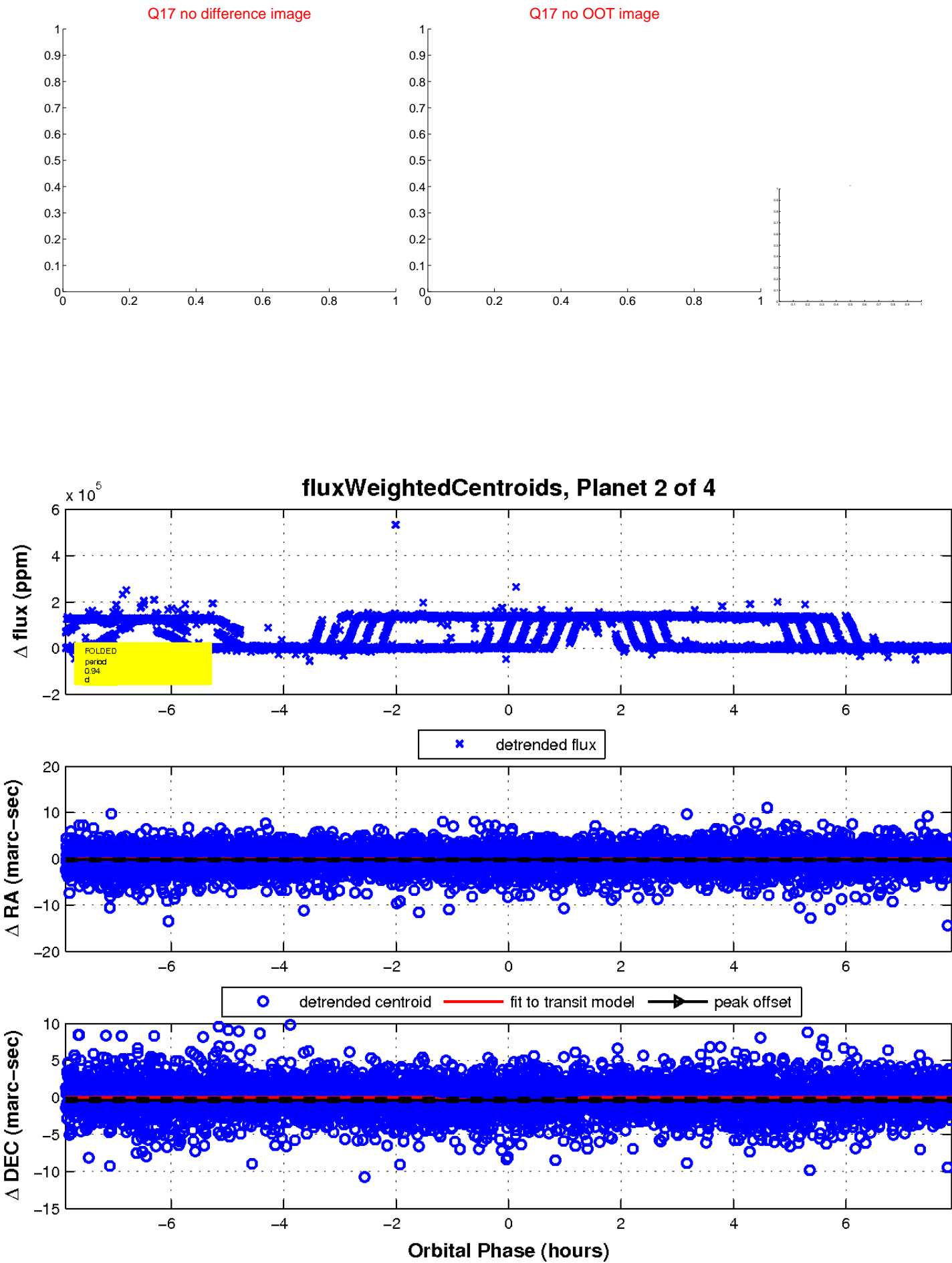
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



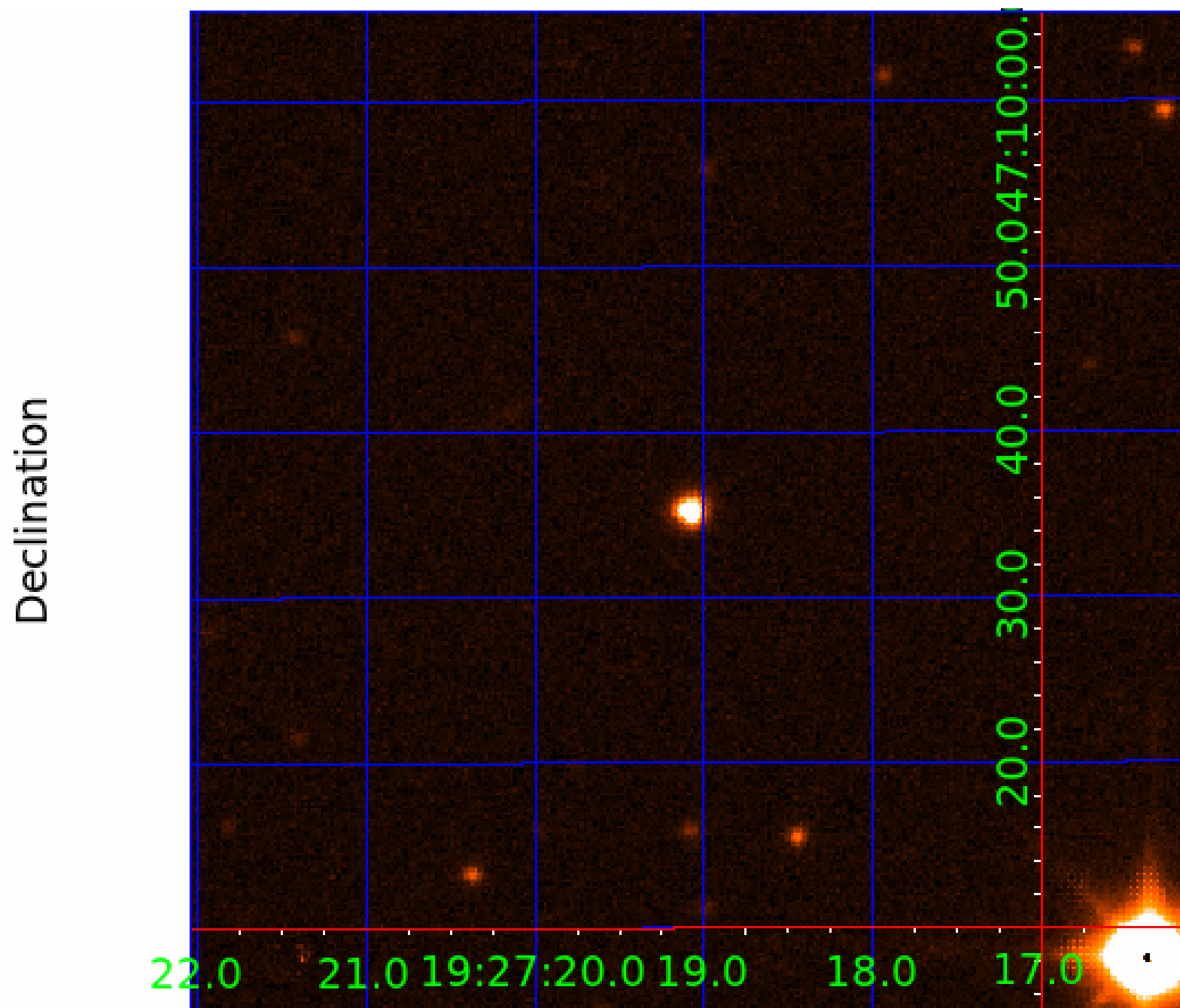
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010141087

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})
010141087-01	OBS	No	0.939714	132.373494	828.5	1.500	14.2	-1.0	1.41	6654	4.11	9462.22
010141087-02	OBS	No	0.939512	131.742676	173.3	2.626	13.7	0.9	1.41	6654	1.99	9464.92
010141087-03	OBS	No	0.941707	131.506367	784.8	3.208	13.5	3.9	1.41	6654	4.20	9435.53
010141087-04	OBS	No	0.938830	131.568286	996.5	2.500	12.3	-1.0	1.41	6654	4.50	9474.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141087-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
010141087-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010141087-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010141087-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

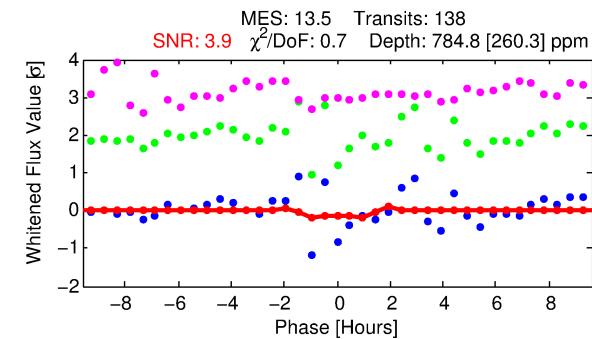
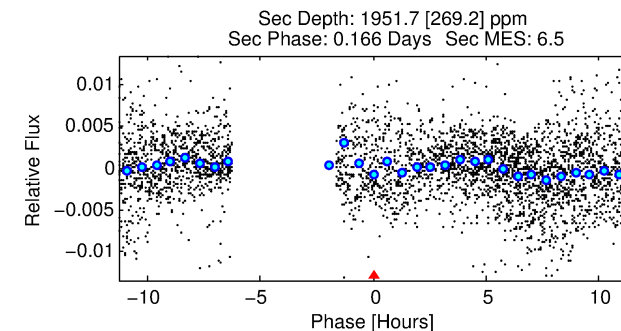
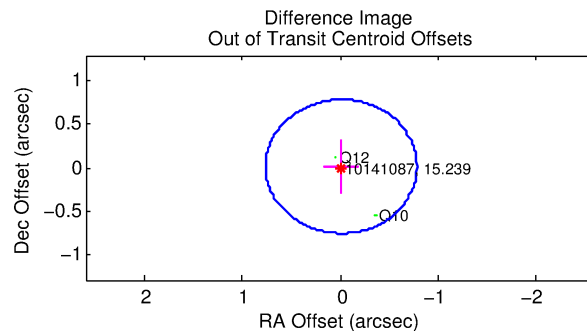
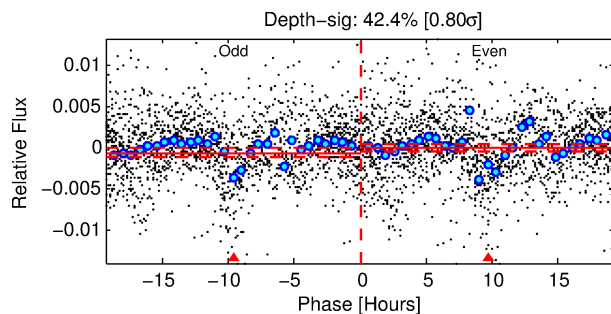
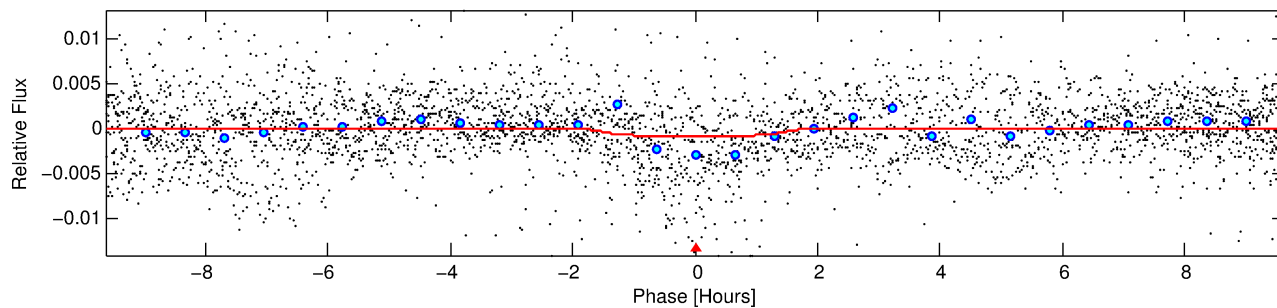
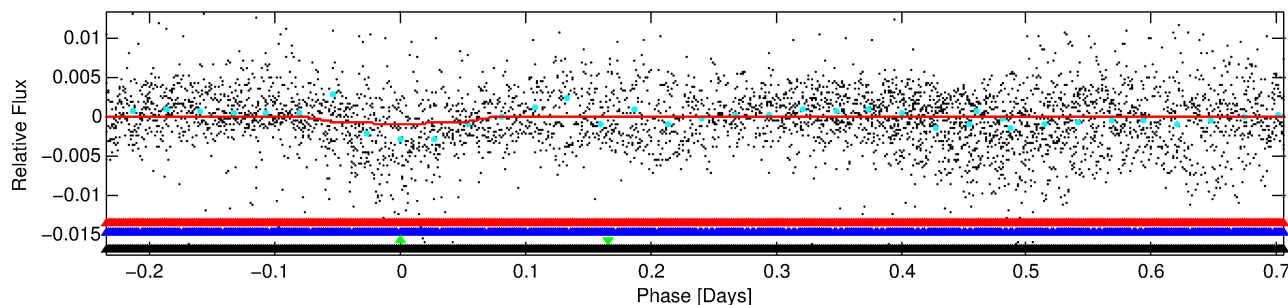
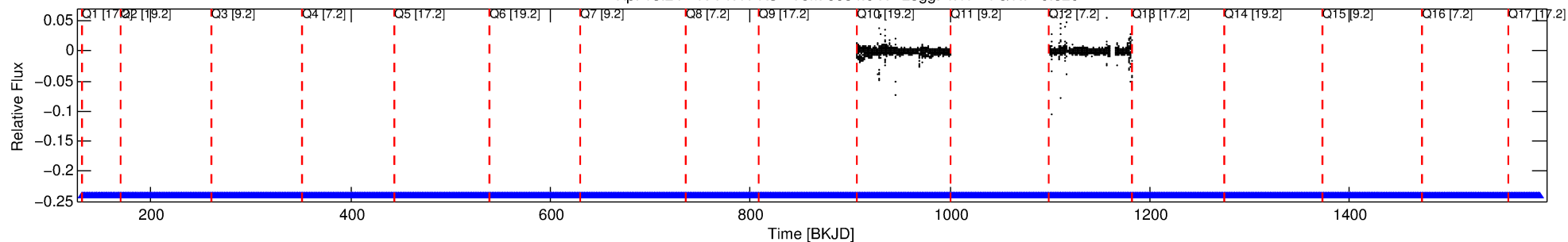
Ephemeris Match Information For 010141087-03

No Significant Match Found

DV One-Page Summary

KIC: 10141087 Candidate: 3 of 4 Period: 0.942 d

Kp: 15.24 R*: 1.41 Rs Teff: 6654.0 K Logg: 4.17 Fe/H: -0.520



DV Fit Results:

Period = 0.94171 [0.00002] d
Epoch = 131.5064 [0.0042] BKJD
Rp/R* = 0.0272 [0.0251]
a/R* = 1.95 [7.23]
b = 0.65 [4.45]
Seff = 9435.53 [3997.36]
Teq = 2513 [266] K
Rp = 4.20 [4.03] Re
a = 0.0193 [0.0048] AU
Ag = 22.64 [42.89] [0.50σ]
Teffp = 8476 [3936] K [1.51σ]

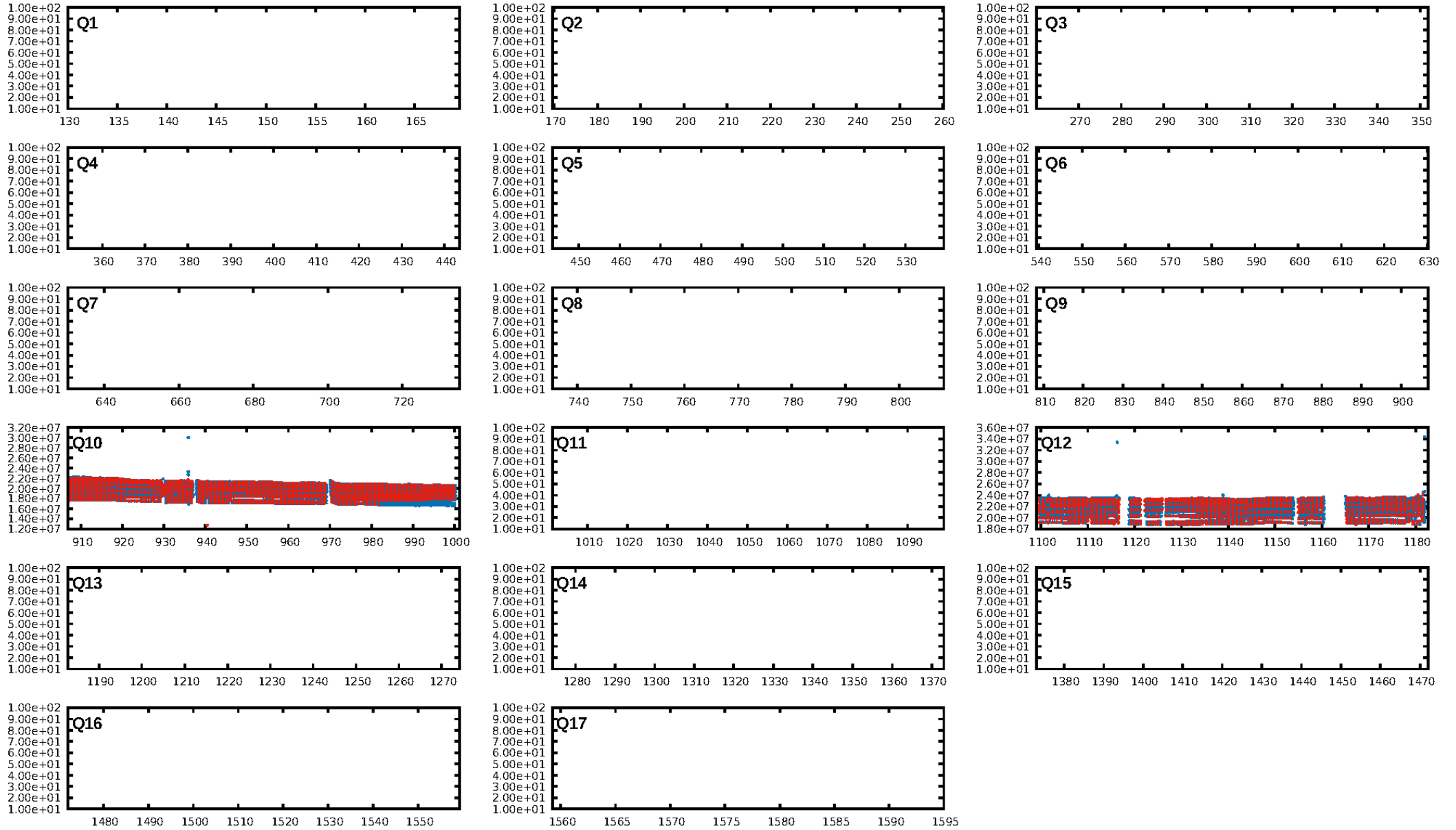
DV Diagnostic Results:

ShortPeriod-sig: 1.1% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [138/138]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.017 arcsec [0.07σ]
KicOffset-rm: 0.028 arcsec [0.17σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

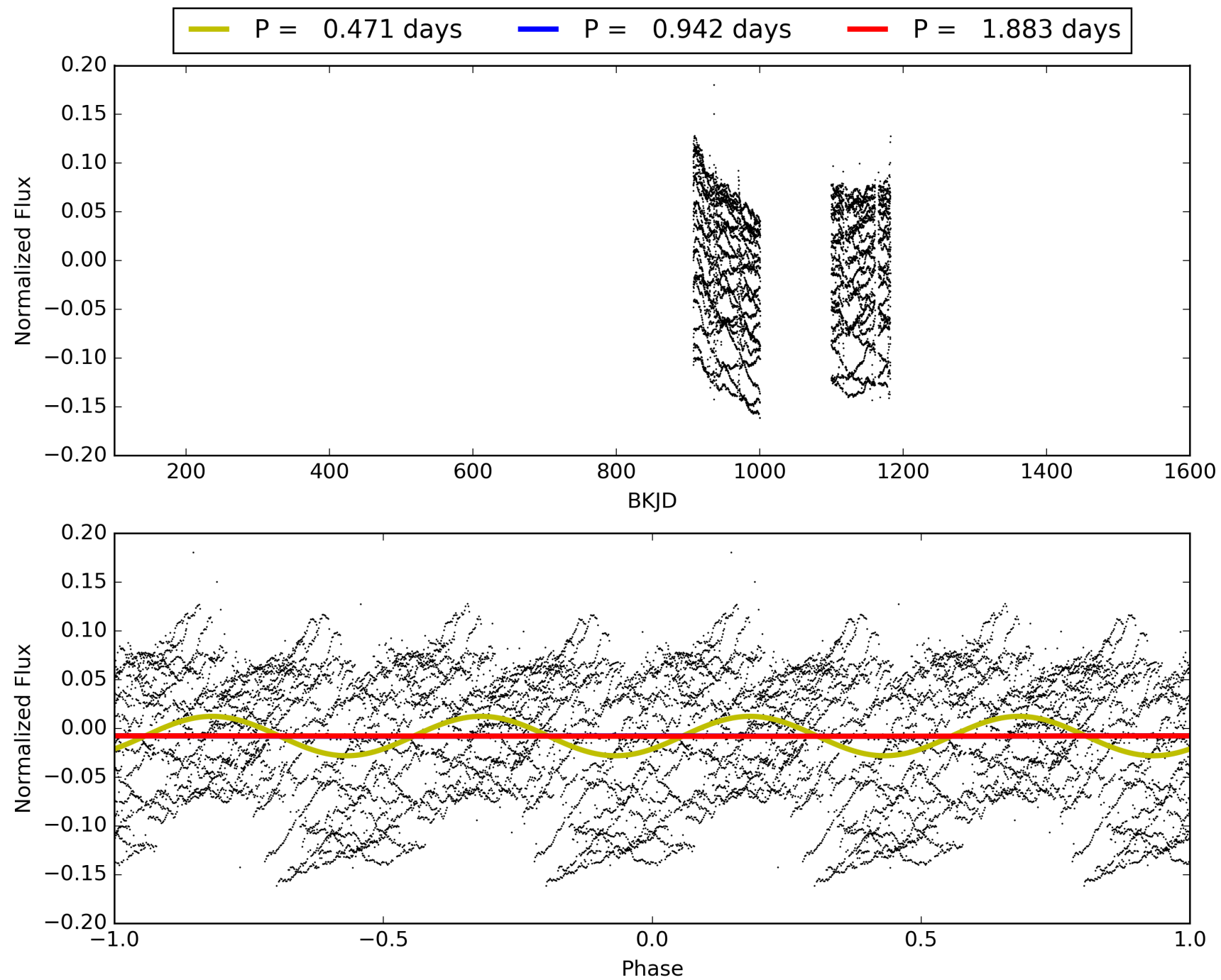
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:35:54 Z

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

TCE 010141087-03, PDC Light Curves

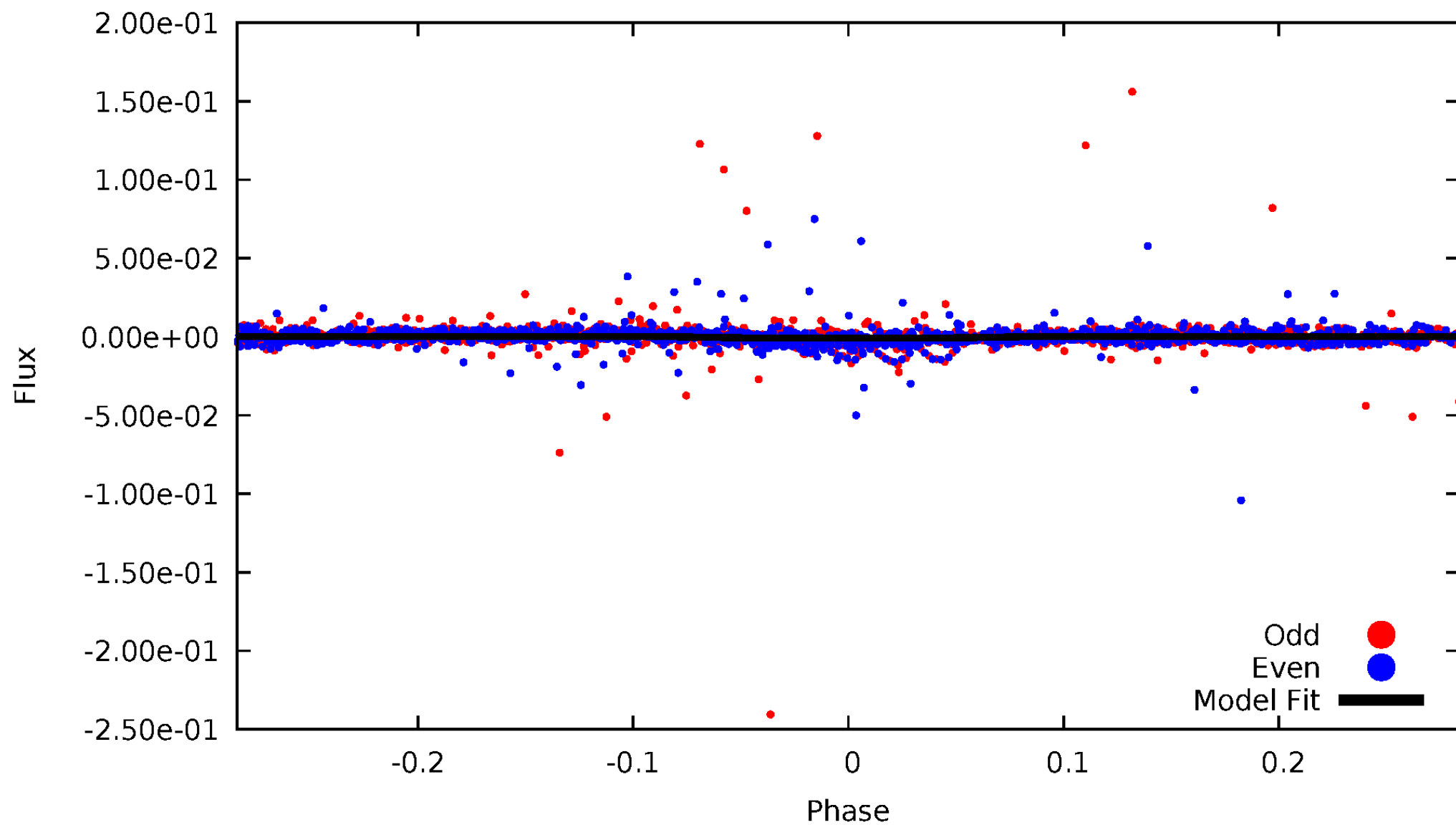


TCE 010141087-03



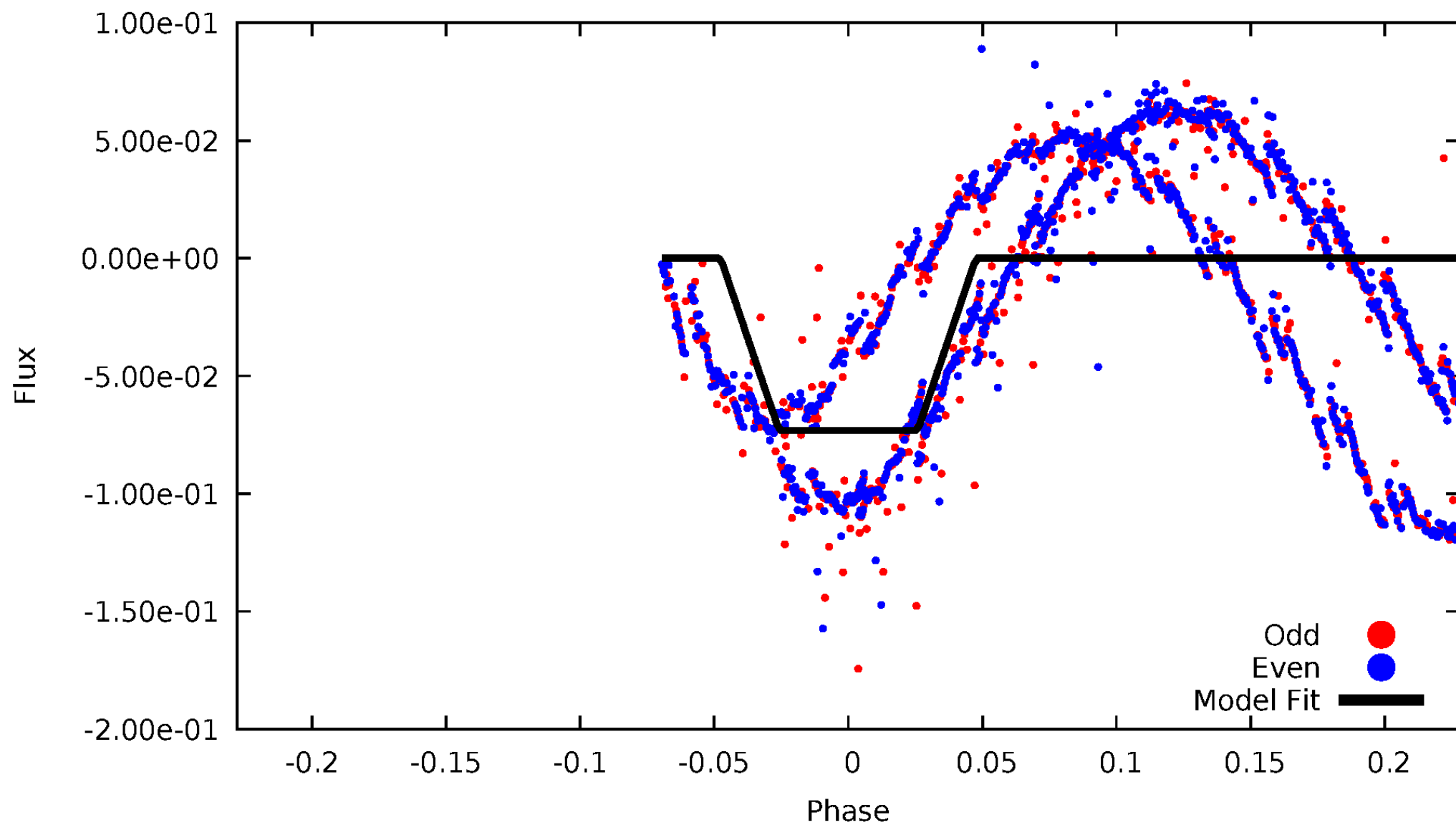
DV Odd/Even

TCE 010141087-03



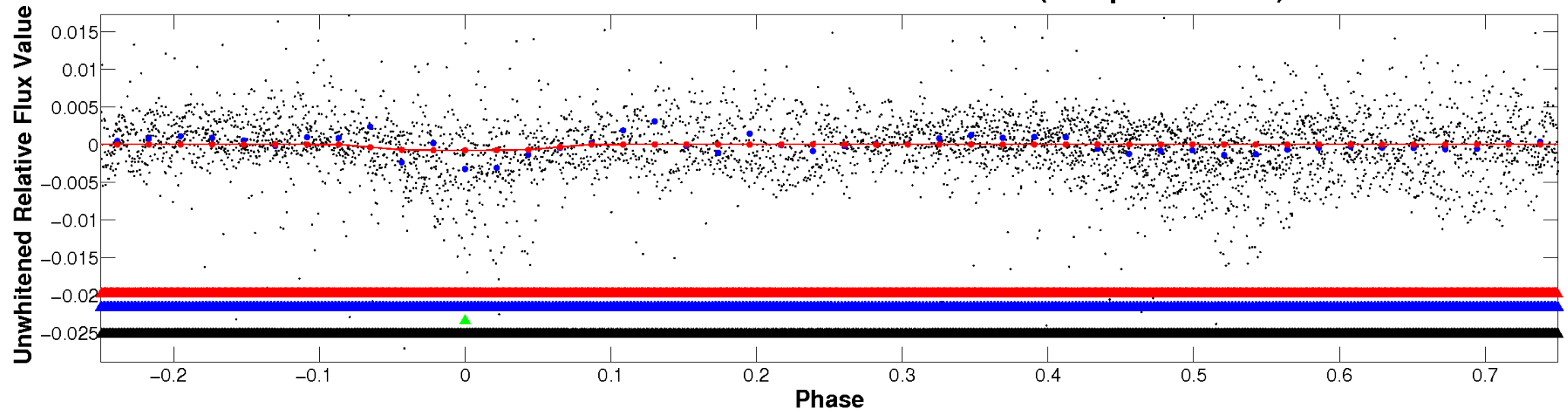
ALT Odd/Even

TCE 010141087-03

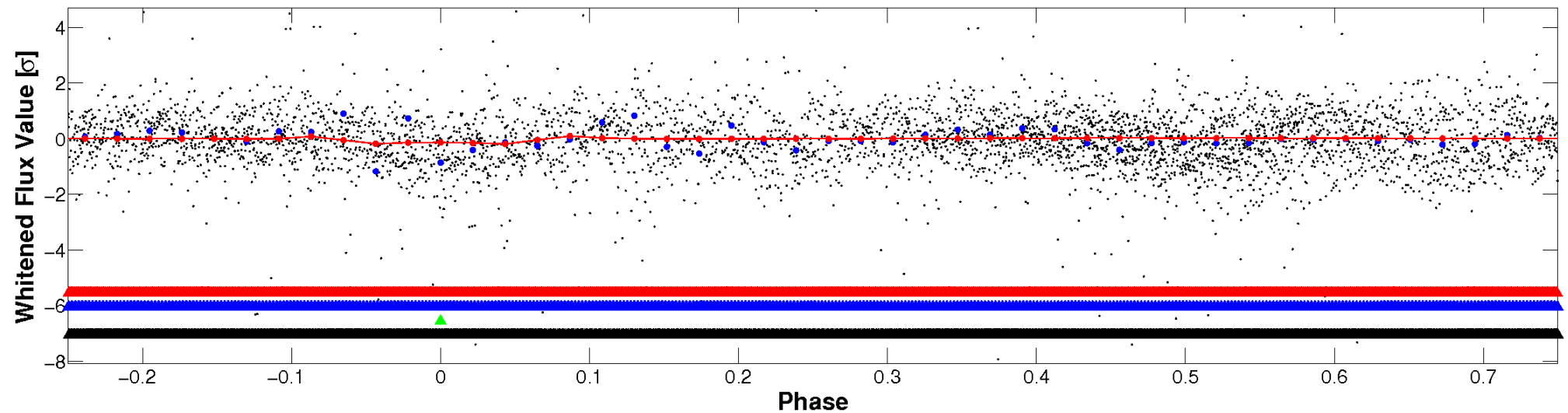


Non-Whitened Vs. Whitened Light Curve

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

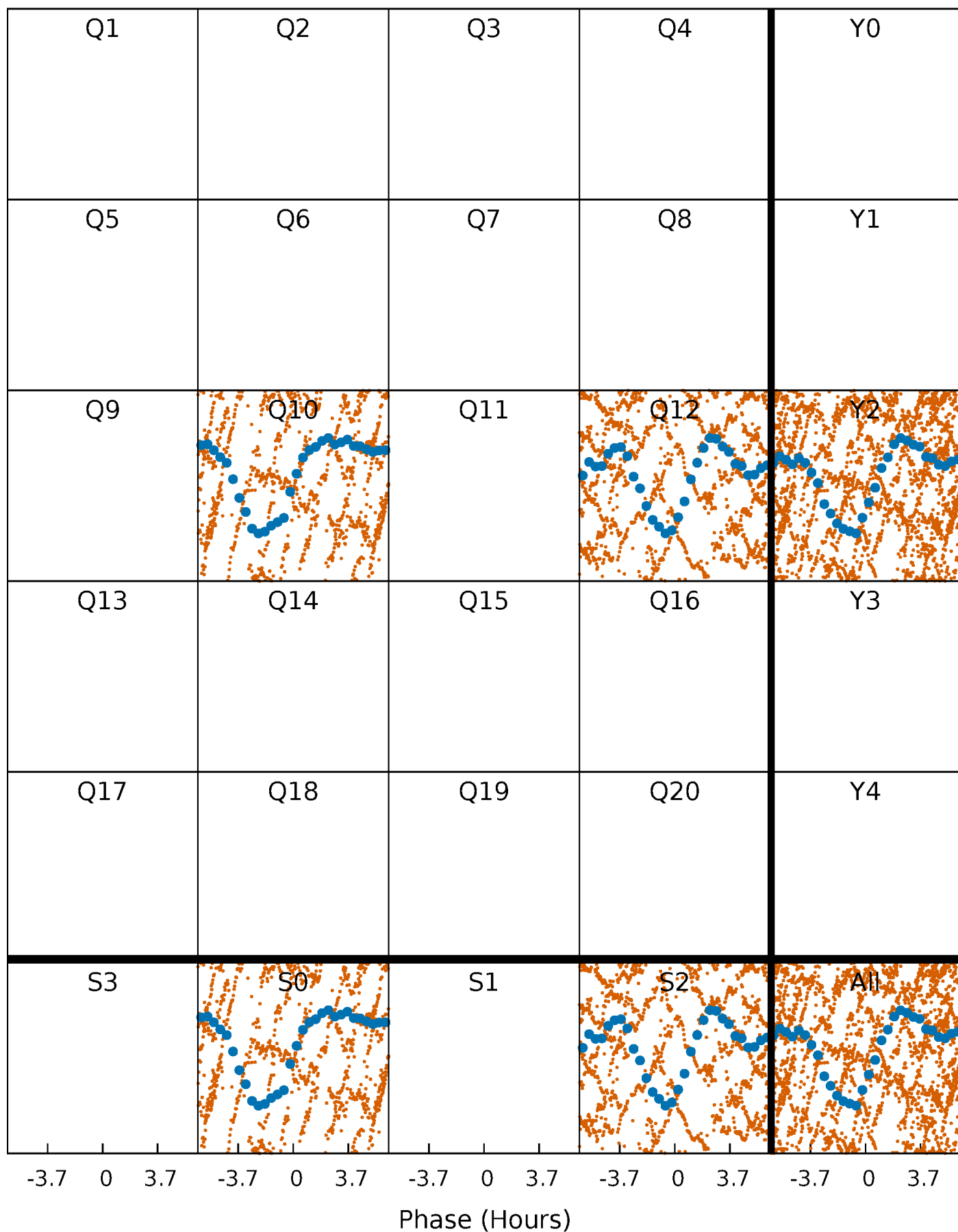


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



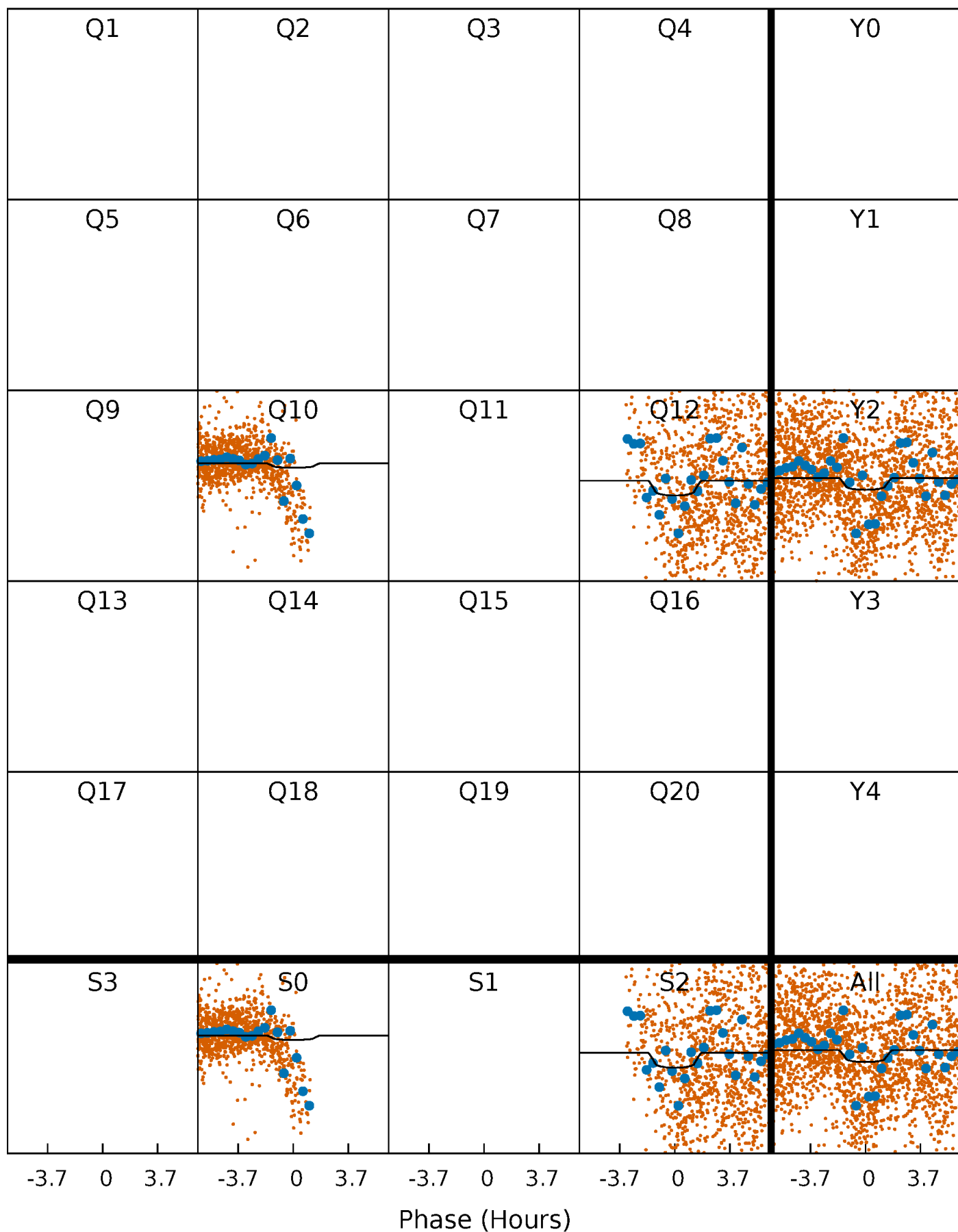
PDC Quarter-Phased Transit Curves

TCE 010141087-03 P= 0.941707 Days $T_0=131.506367$ (BKJD)



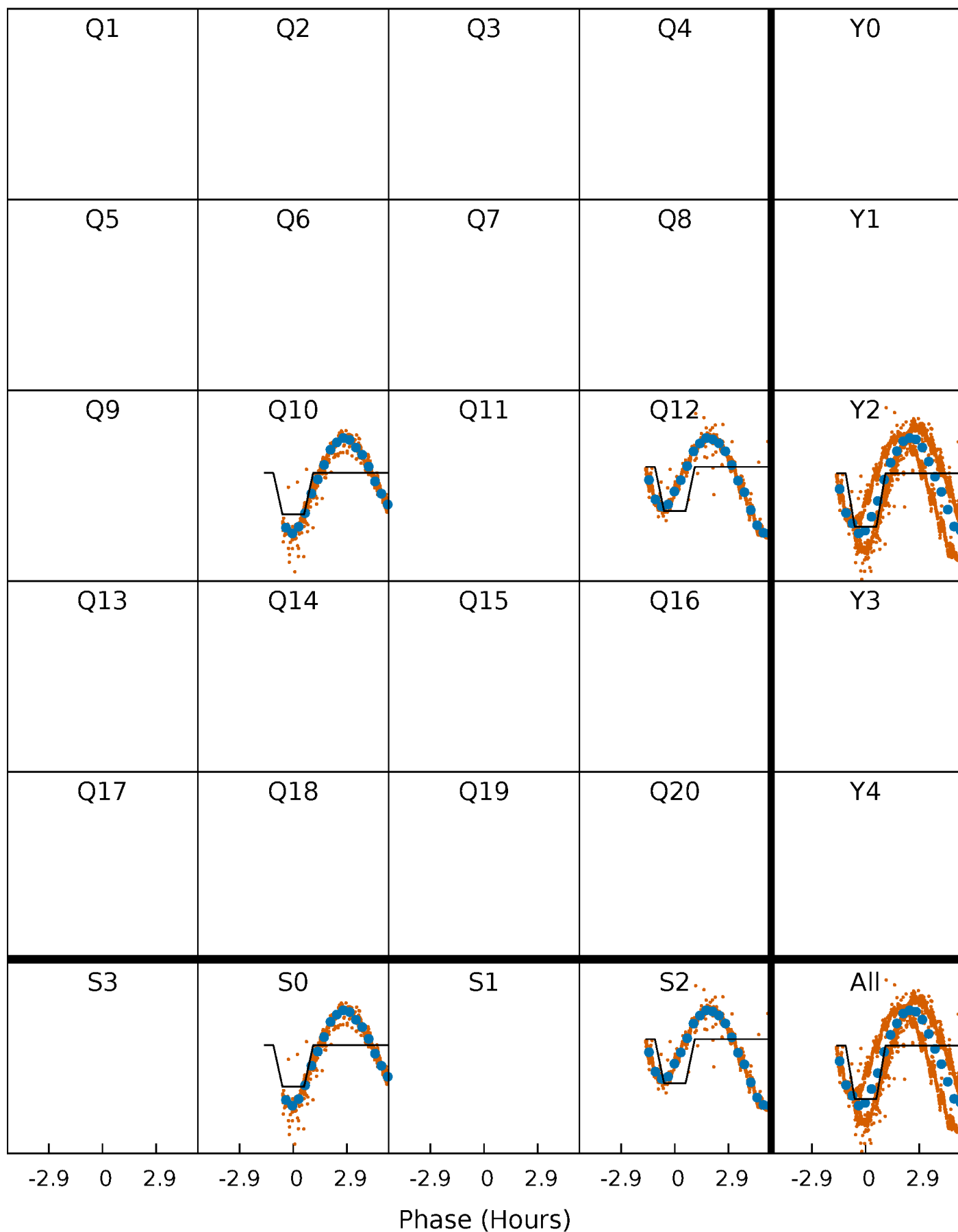
DV Quarter-Phased Transit Curves

TCE 010141087-03 $P = 0.941707$ Days $T_0 = 131.506367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

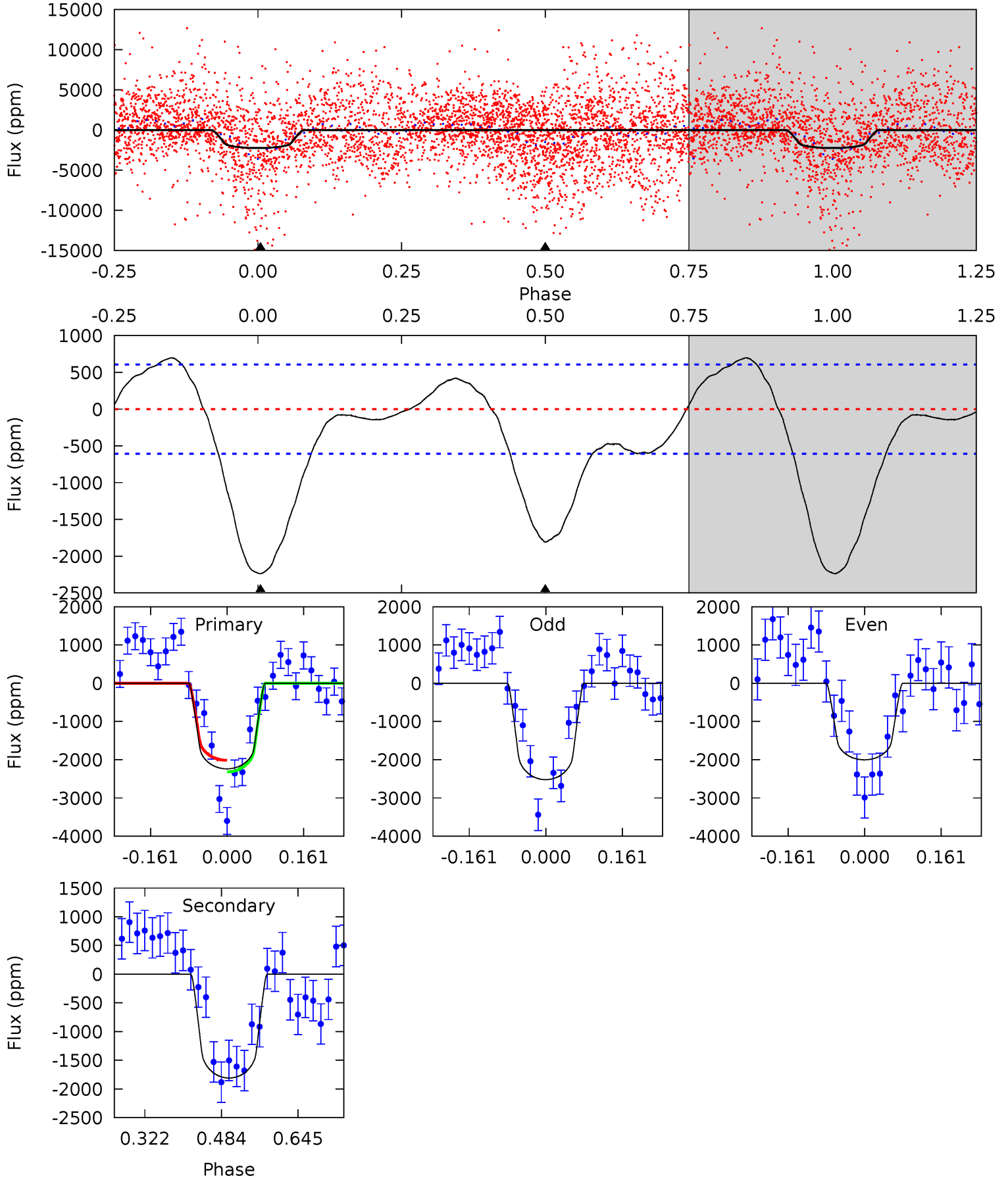
TCE 010141087-03 $P = 0.939722$ Days $T_0 = 131.755718$ (BKJD)



DV Model-Shift Uniqueness Test

010141087-03, P = 0.941707 Days, E = 131.506367 Days

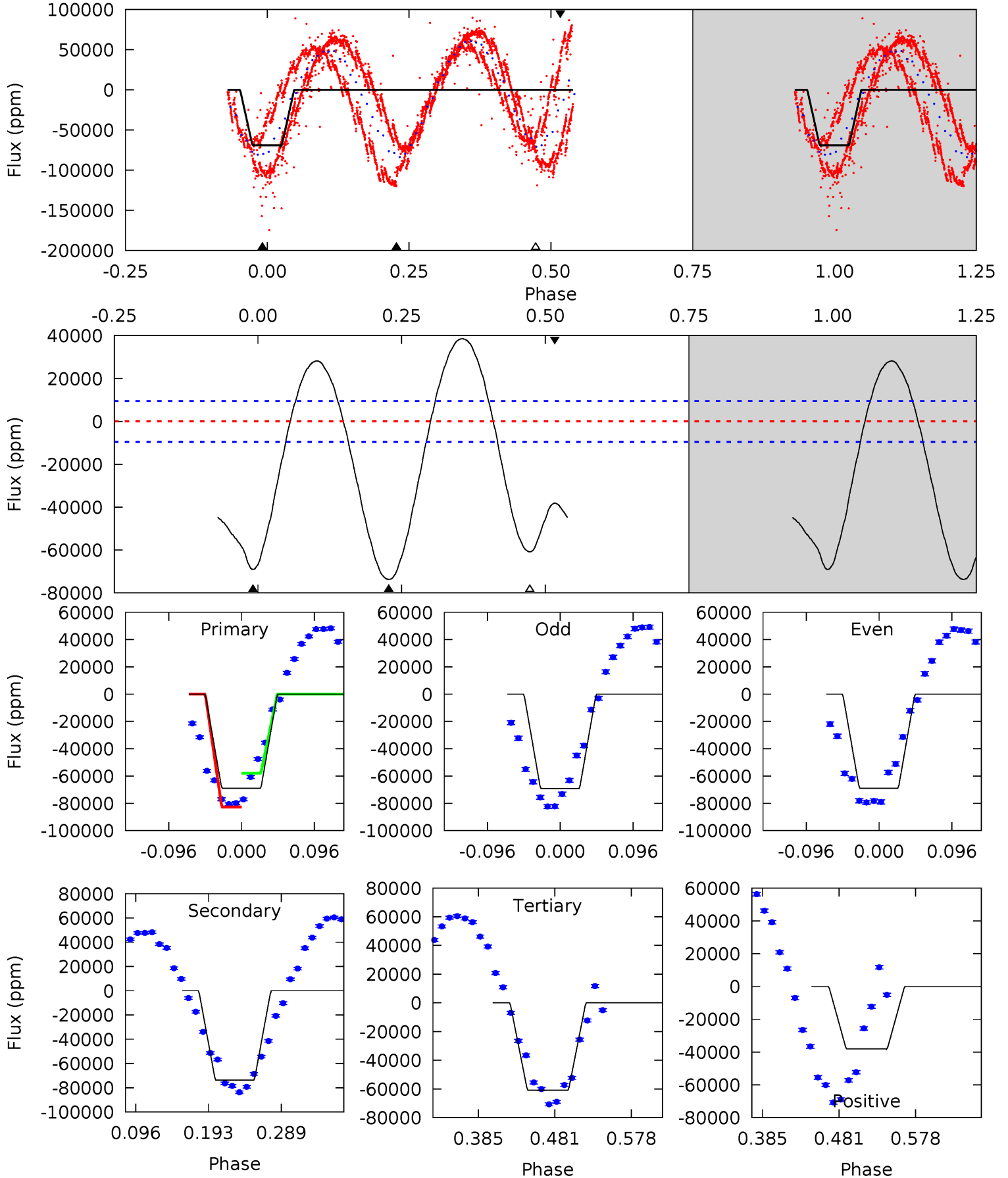
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	13.3	0	0	4.46	1.40	2.72	16.5	16.5	13.3	13.3	1.90	0.61	0.24	1.14



Alt Model-Shift Uniqueness Test

010141087-03, P = 0.939722 Days, E = 131.755718 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.1	35.3	29.2	-18.3	4.57	1.66	17.7	3.92	51.4	6.15	53.6	0.06	0.82	0.34	8.13



Stellar Parameters For KIC 010141087

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6654^{+190}_{-238}	$4.170^{+0.234}_{-0.175}$	$-0.520^{+0.250}_{-0.300}$	$1.413^{+0.367}_{-0.367}$	$1.076^{+0.163}_{-0.134}$	$0.537^{+0.646}_{-0.260}$
	+3%/-4%	+6%/-4%	+48%/-58%	+26%/-26%	+15%/-12%	+120%/-48%
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 010141087-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1809 ± 136	$4.97^{+3.23}_{-3.23}$	3490^{+269}_{-263}	7773^{+9025}_{-1956}	16^{+111}_{-10}
Alt.	-73696 ± 2085	$41.46^{+7.98}_{-6.84}$	3507^{+263}_{-278}	6737^{+438}_{-399}	$9.505^{+4.127}_{-2.732}$

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

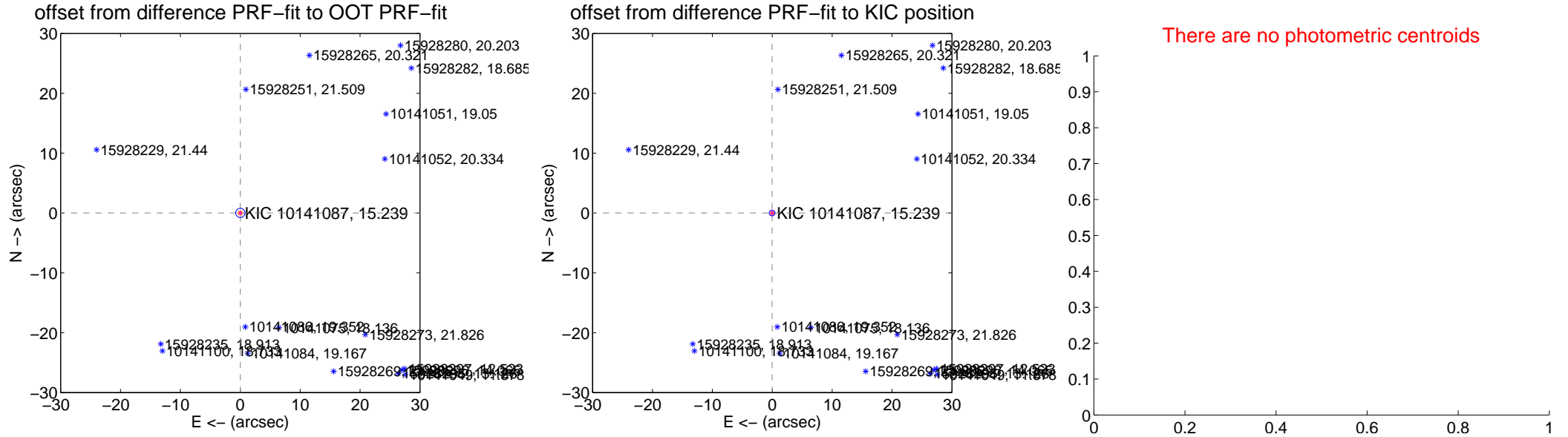
DV Centroid Data

Supplemental centroid analysis for 010141087-03. Kepler magnitude: 15.24. Transit SNR 3.94

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.258	0.07	-0.010 ± 0.171	0.013 ± 0.297
PRF-fit source offset from KIC position	0.028 ± 0.160	0.17	0.027 ± 0.142	0.007 ± 0.344
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.

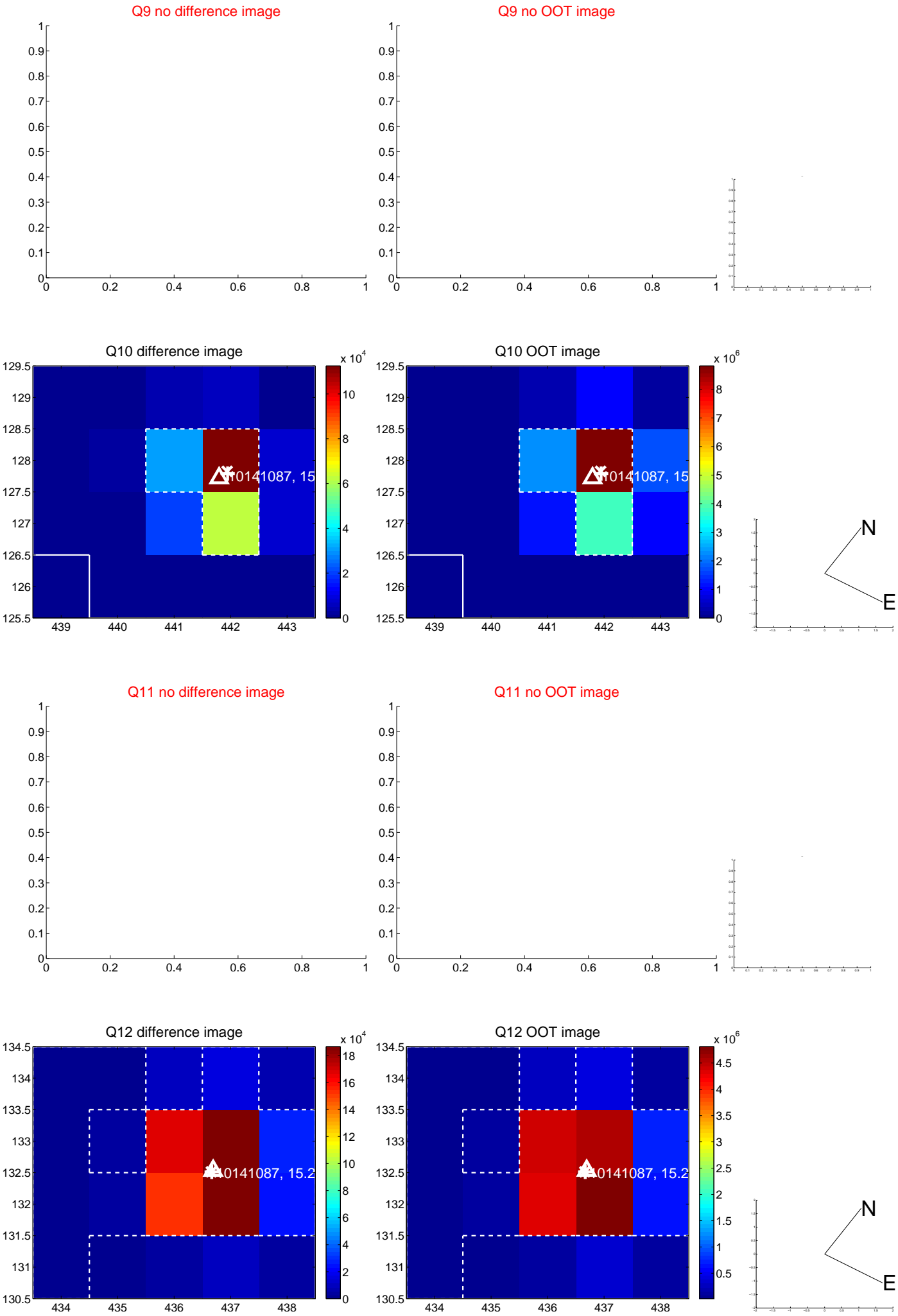
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



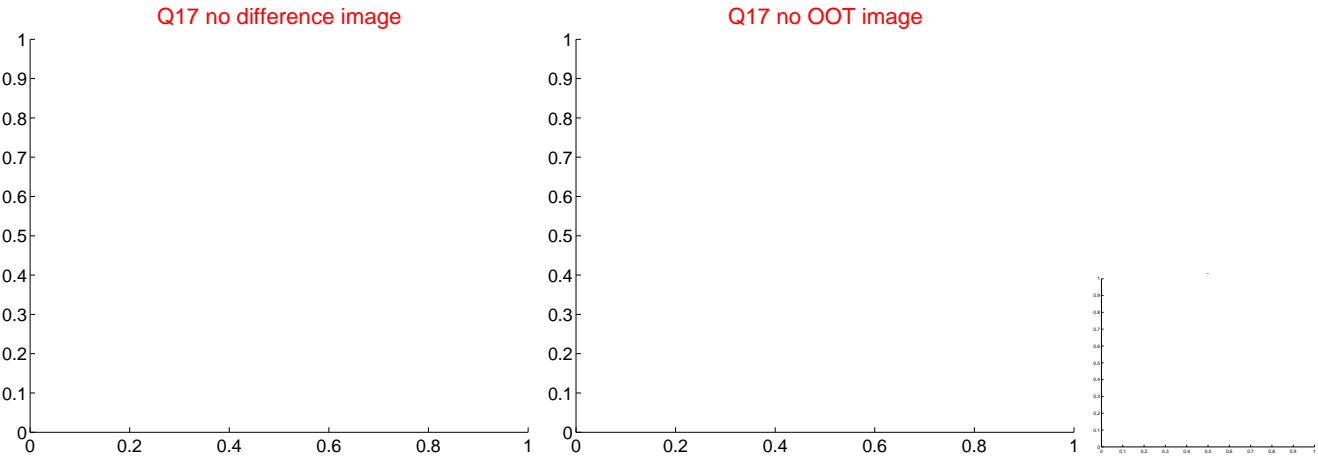
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

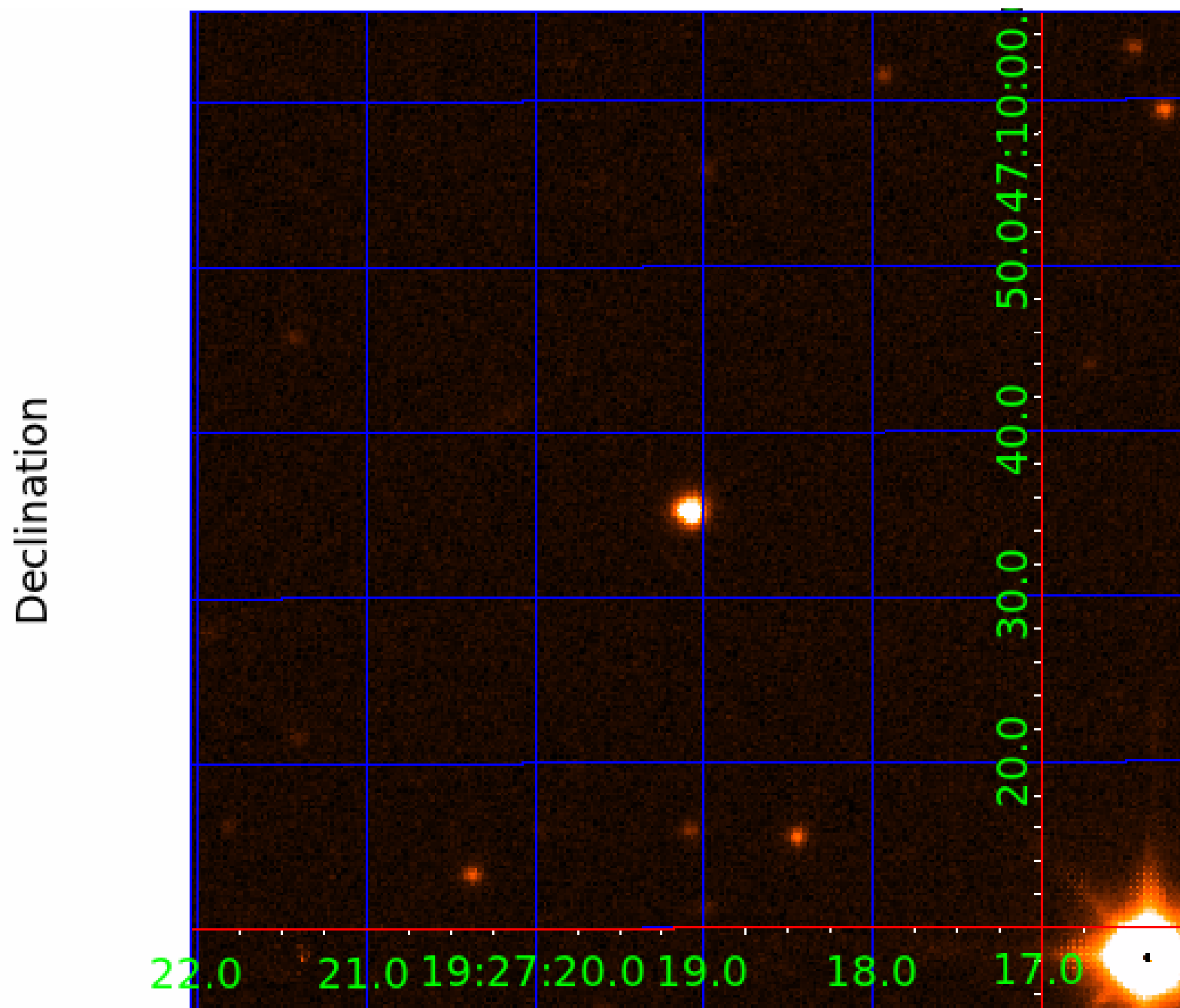


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 010141087

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})
010141087-01	OBS	No	0.939714	132.373494	828.5	1.500	14.2	-1.0	1.41	6654	4.11	9462.22
010141087-02	OBS	No	0.939512	131.742676	173.3	2.626	13.7	0.9	1.41	6654	1.99	9464.92
010141087-03	OBS	No	0.941707	131.506367	784.8	3.208	13.5	3.9	1.41	6654	4.20	9435.53
010141087-04	OBS	No	0.938830	131.568286	996.5	2.500	12.3	-1.0	1.41	6654	4.50	9474.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141087-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
010141087-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
010141087-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
010141087-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_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.

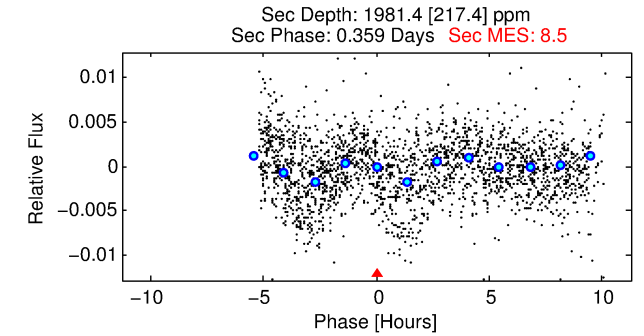
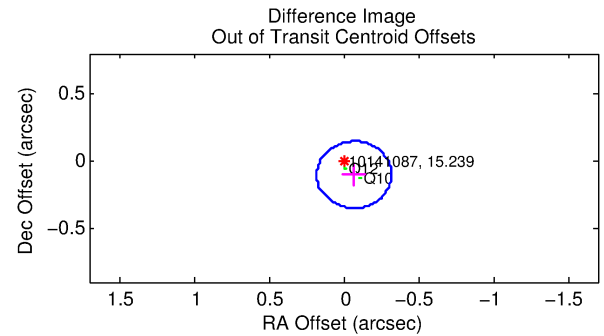
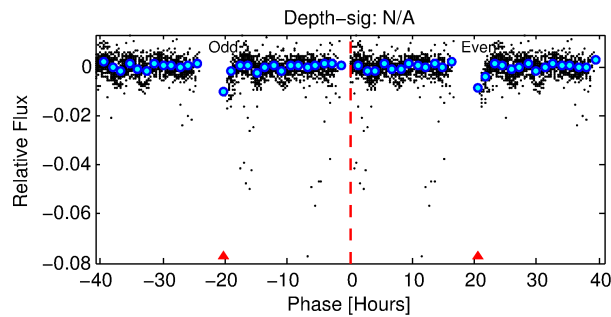
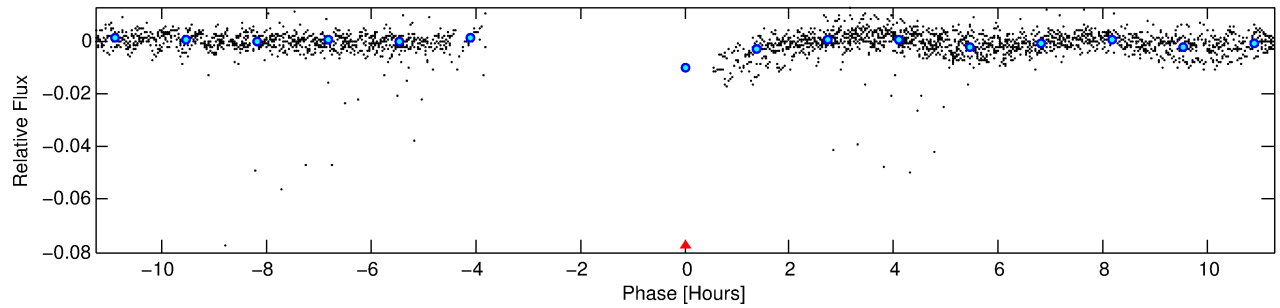
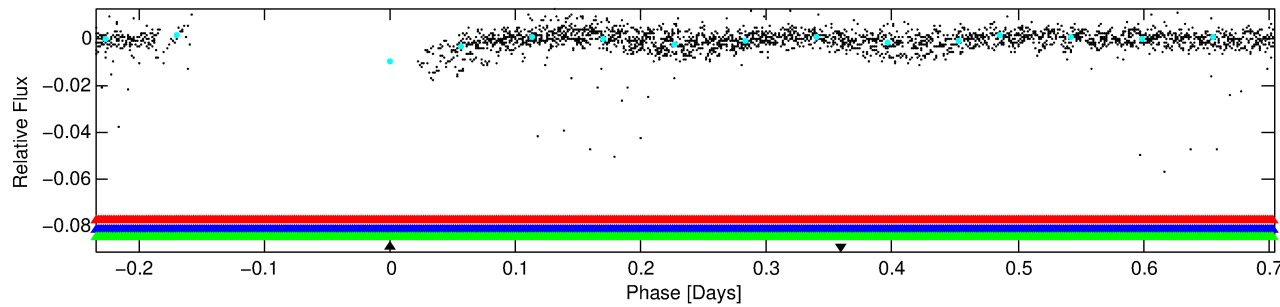
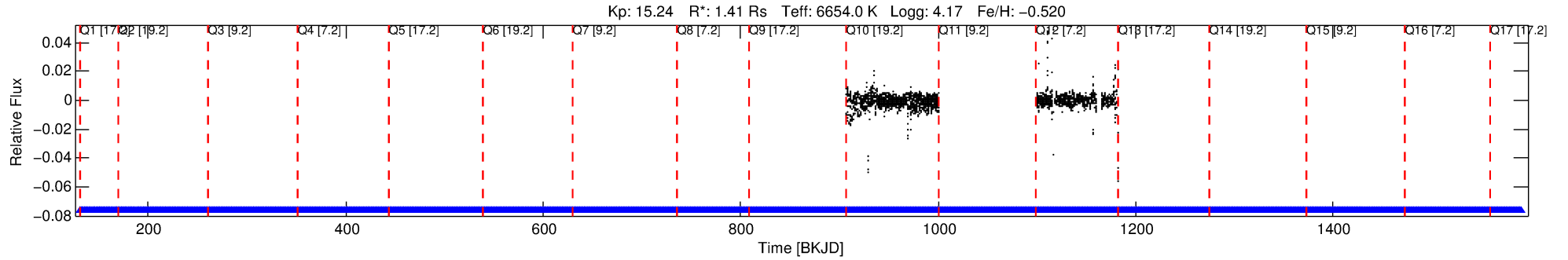
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010141087-04

No Significant Match Found

DV One-Page Summary

KIC: 10141087 Candidate: 4 of 4 Period: 0.939 d



TPS TCE Results:

Period = 0.93883 d
Epoch = 131.5683 BKJD

DV fit results are unavailable

DV Diagnostic Results:

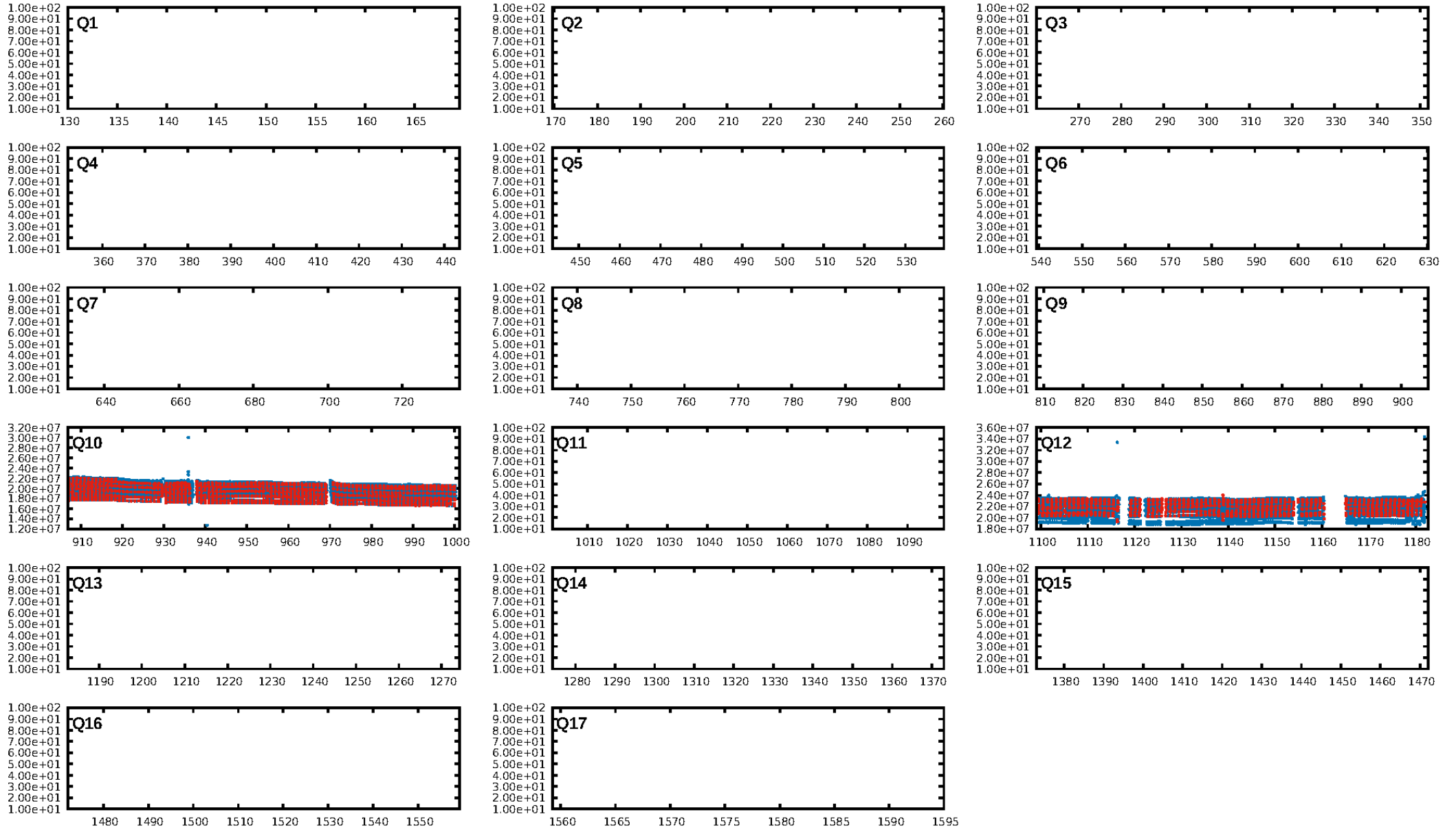
ShortPeriod-sig: N/A
LongPeriod-sig: 0.4% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [98/98]
GhostDiagnostic-chr: 1.238

Centroid-sig: 25.4%
Centroid-so: 0.118 arcsec [59.73σ]
OotOffset-rm: 0.124 arcsec [1.49σ]
KicOffset-rm: 0.164 arcsec [1.29σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

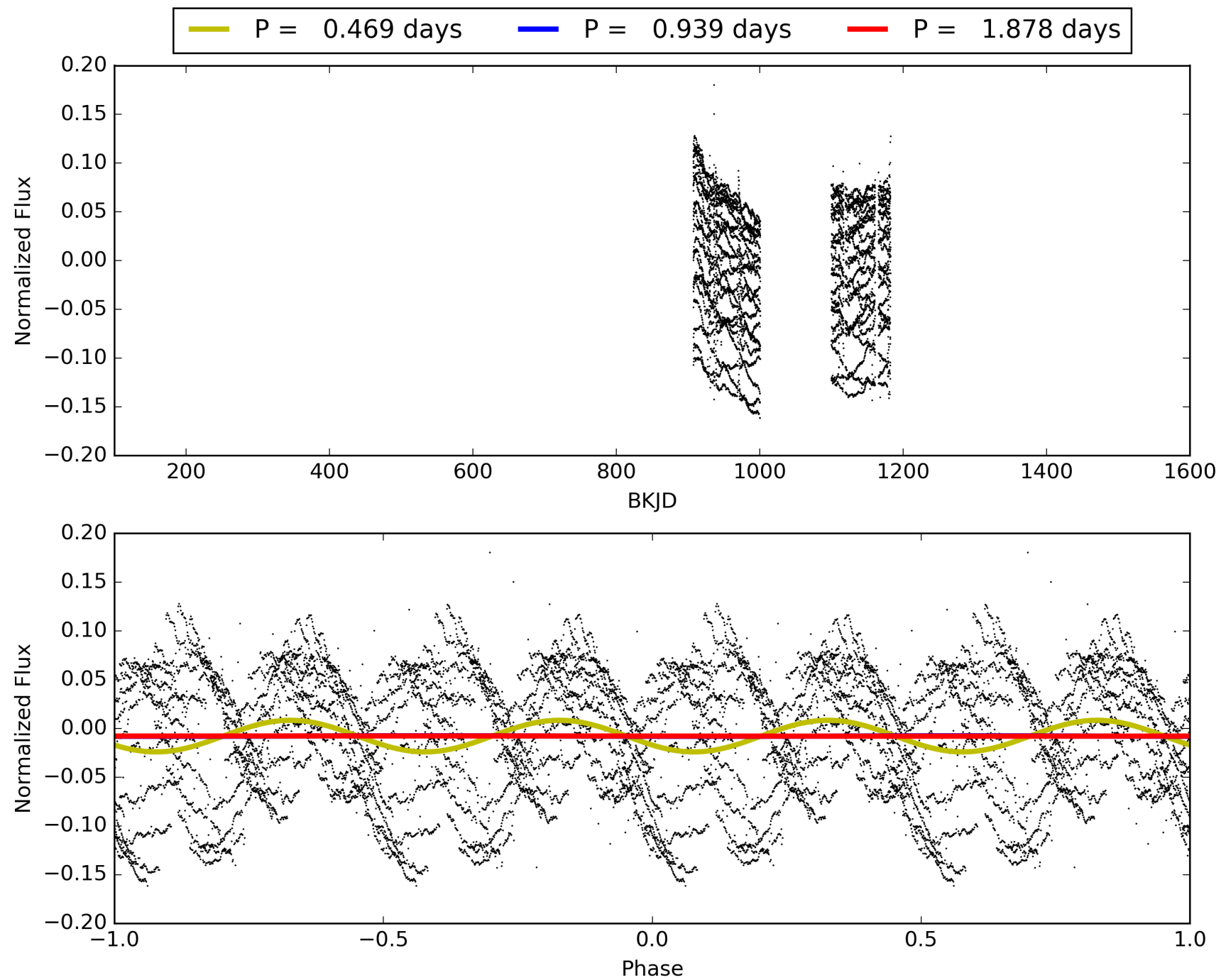
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:36:00 Z

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

TCE 010141087-04, PDC Light Curves

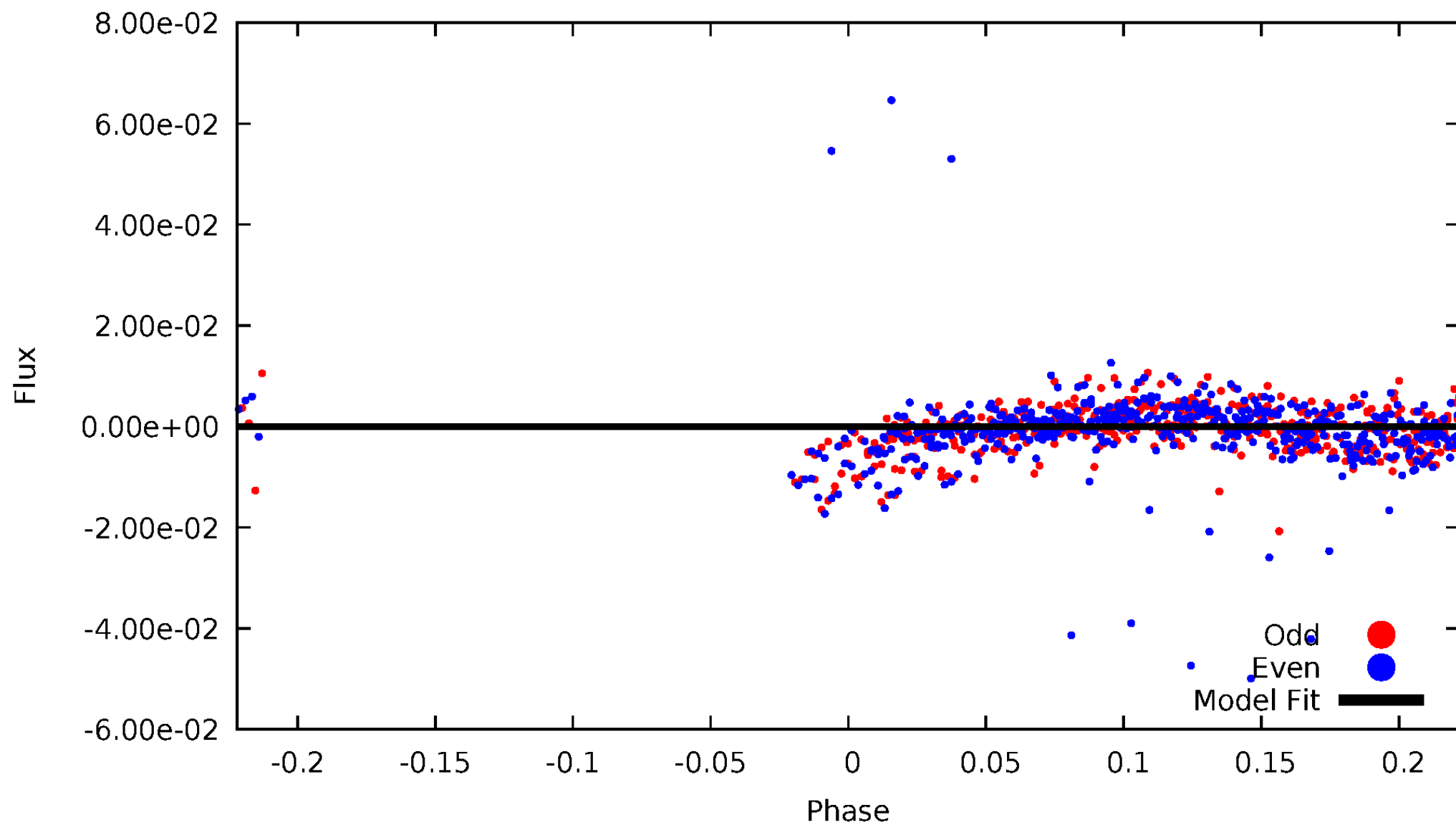


TCE 010141087-04



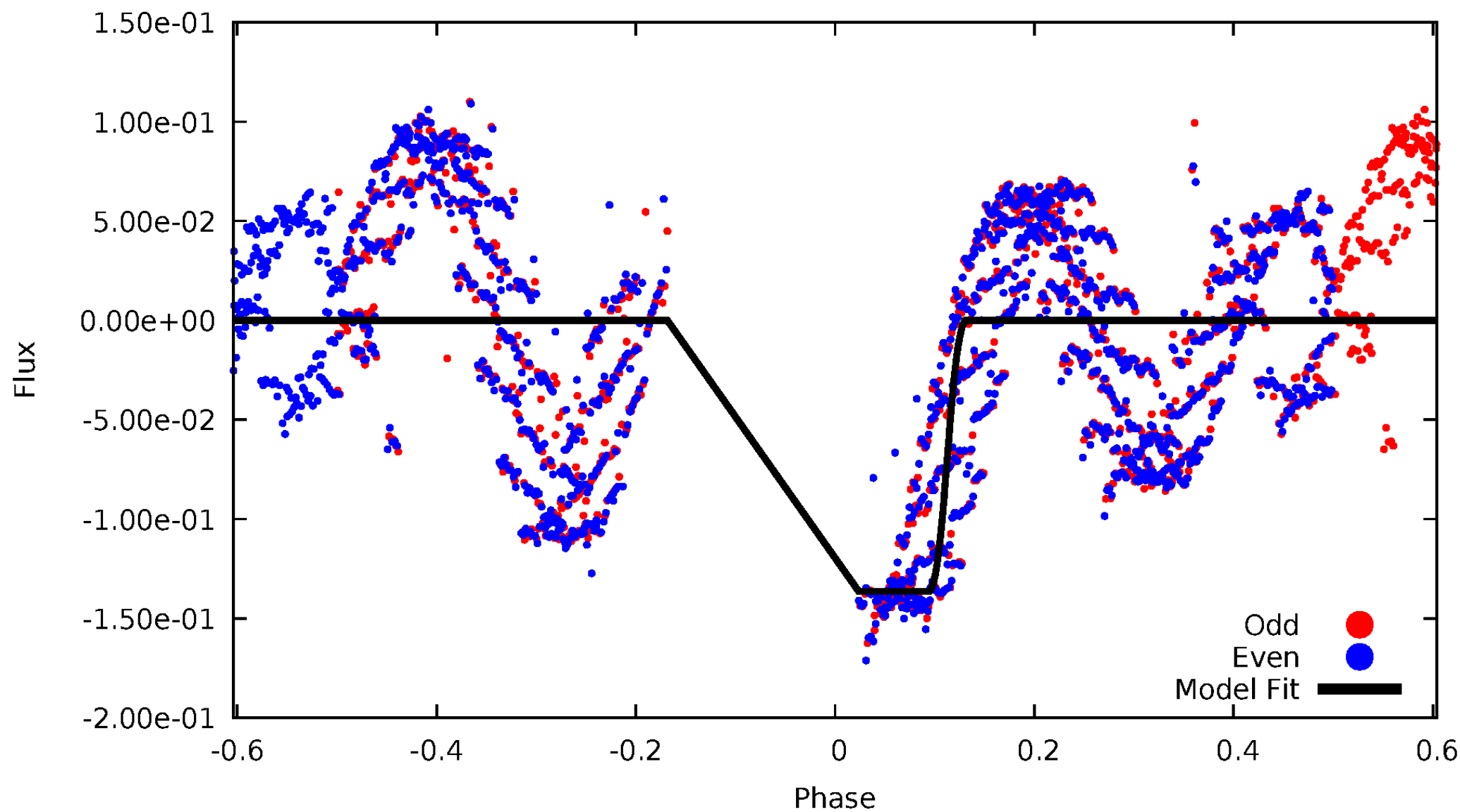
DV Odd/Even

TCE 010141087-04



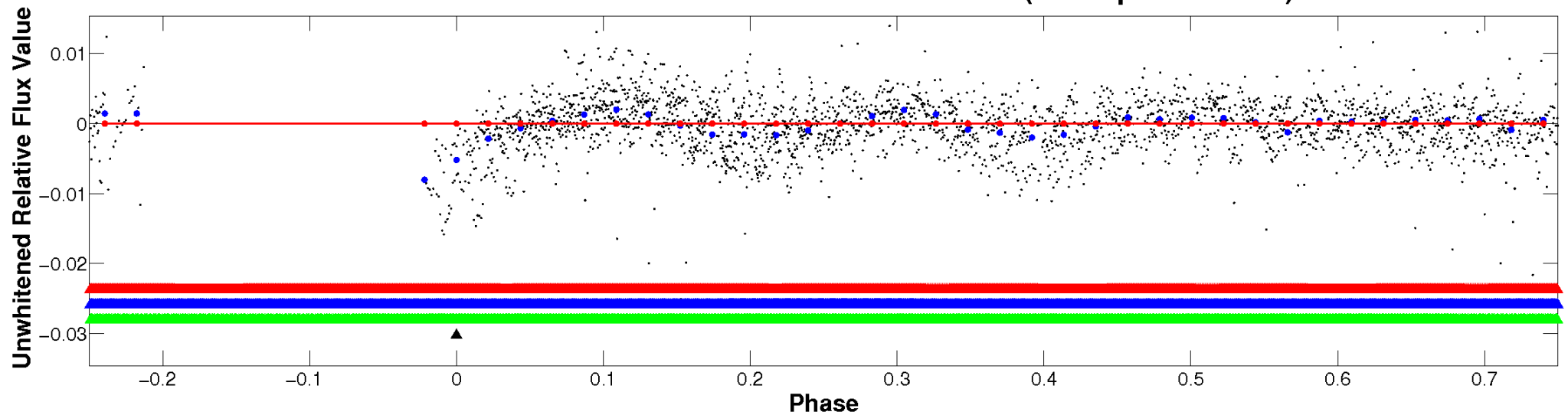
ALT Odd/Even

TCE 010141087-04

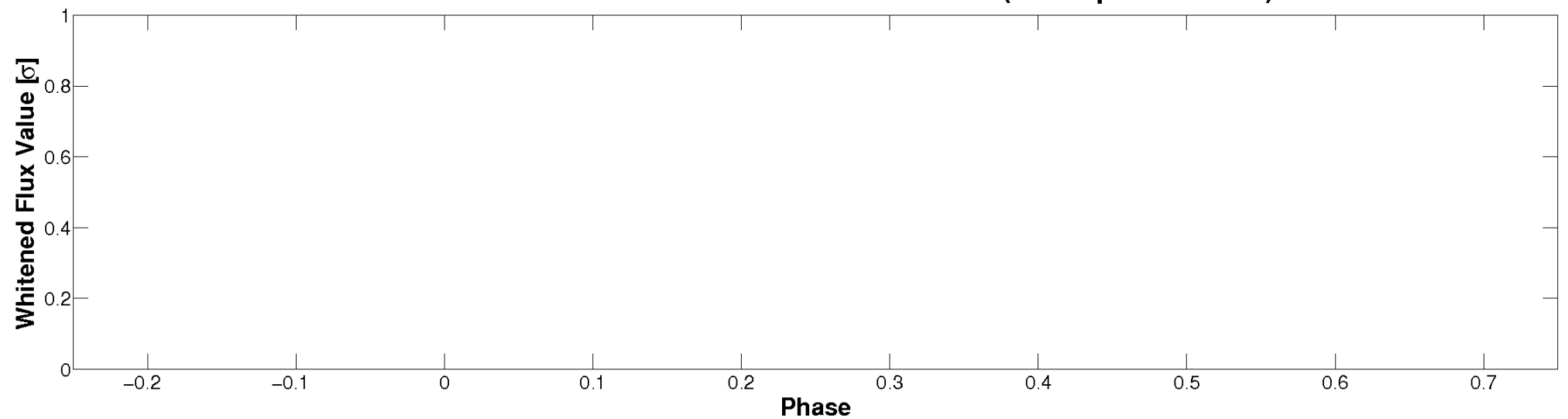


Non-Whitened Vs. Whitened Light Curve

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

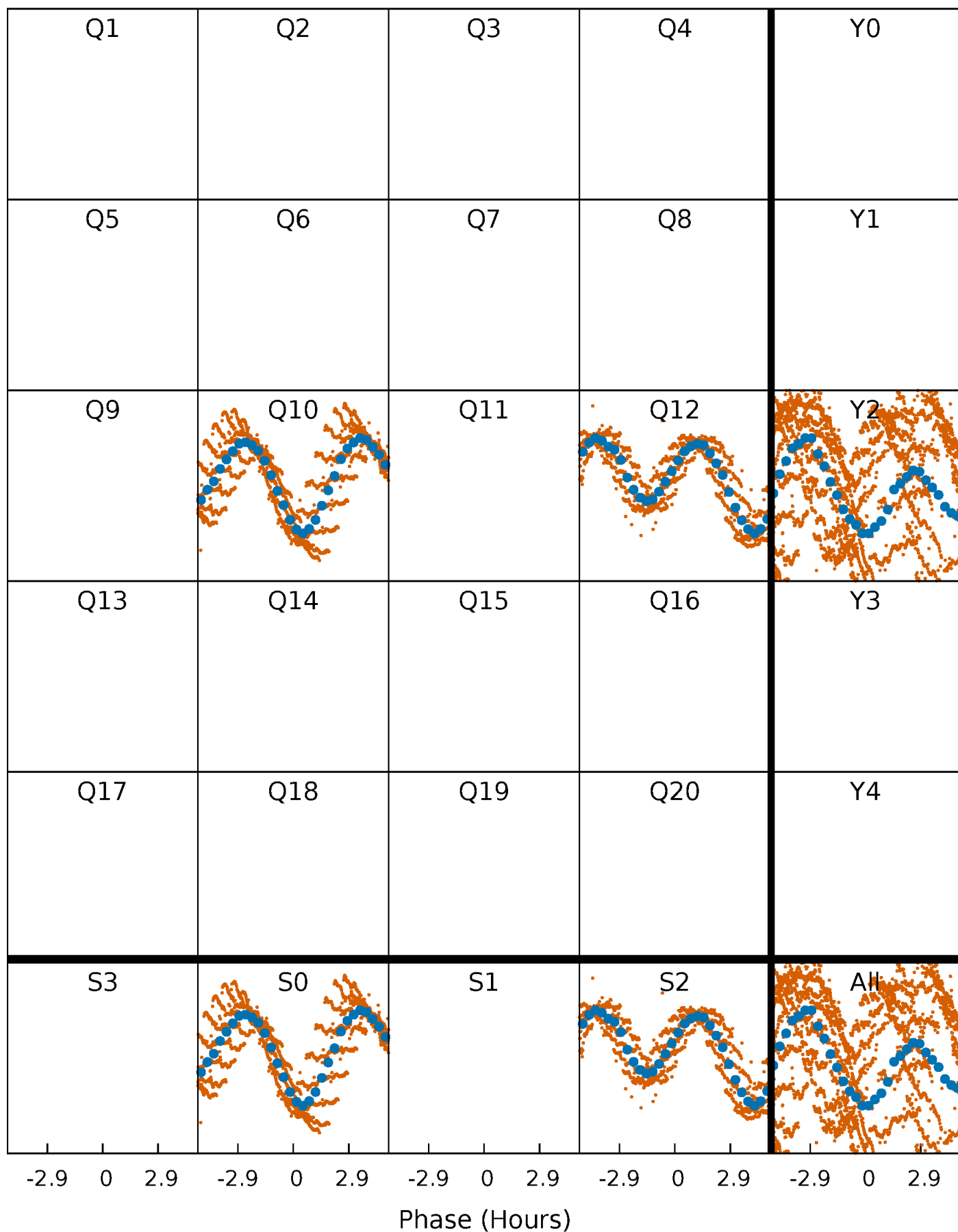


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



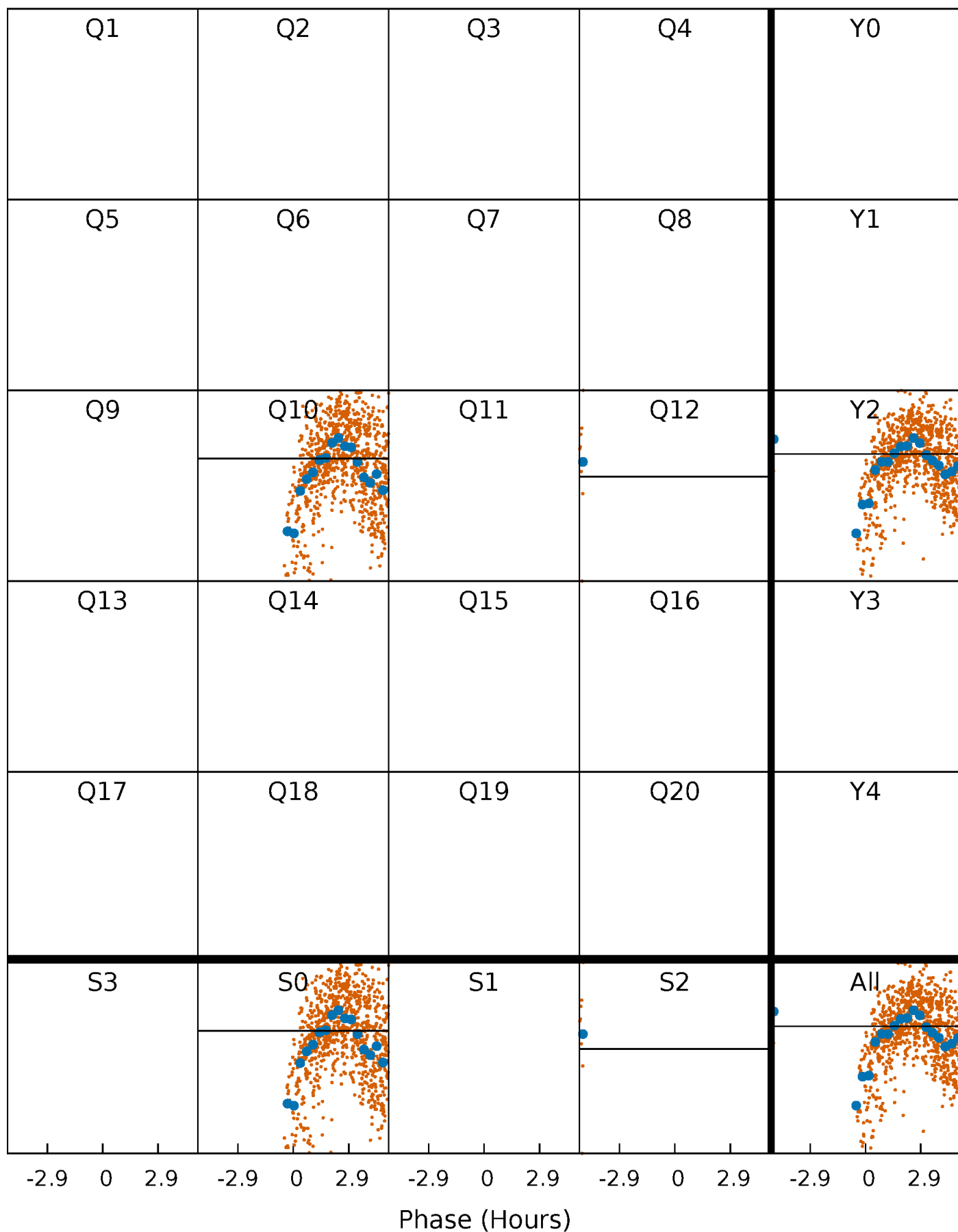
PDC Quarter-Phased Transit Curves

TCE 010141087-04 $P = 0.938830$ Days $T_0 = 131.568286$ (BKJD)



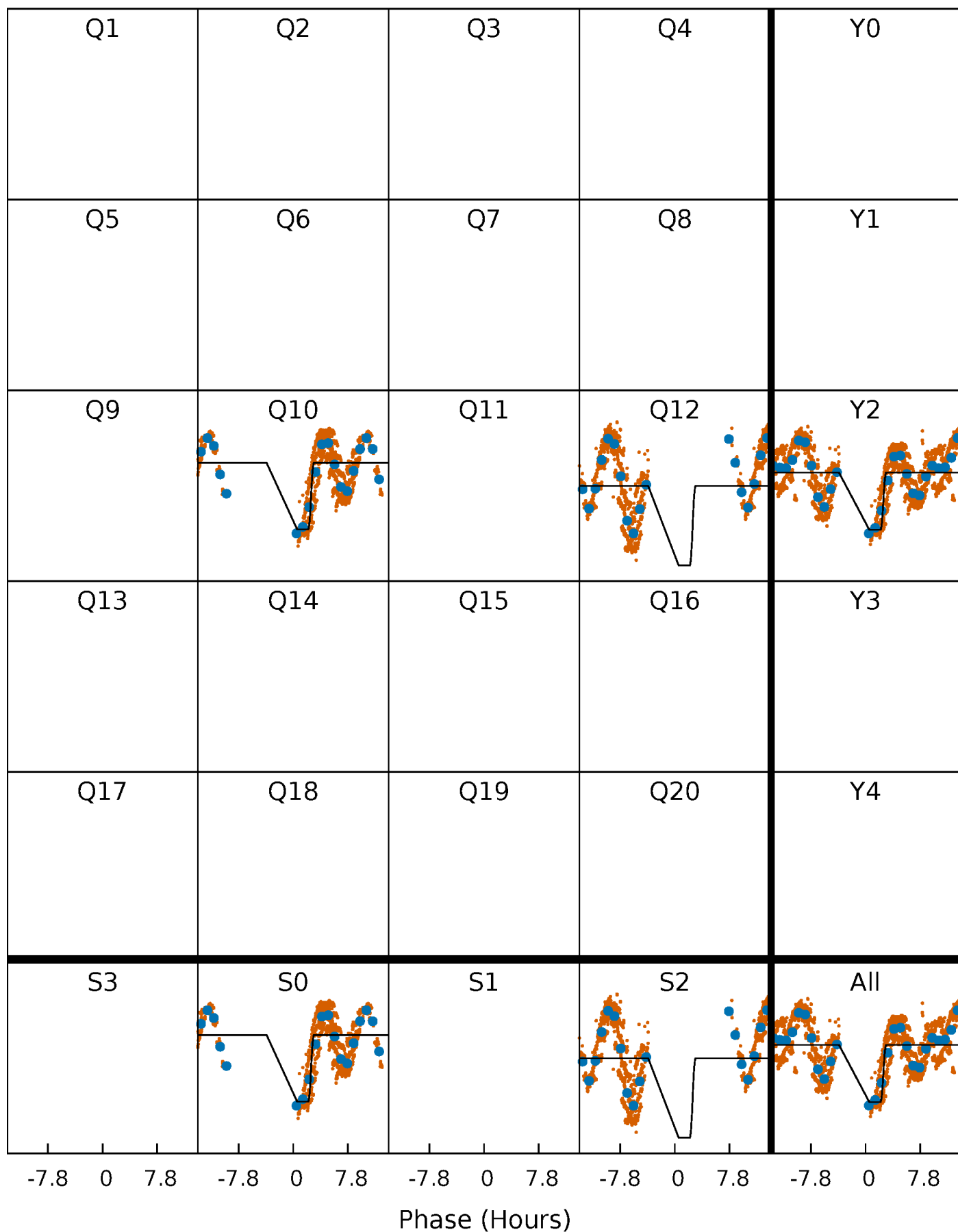
DV Quarter-Phased Transit Curves

TCE 010141087-04 P= 0.938830 Days $T_0=131.568286$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

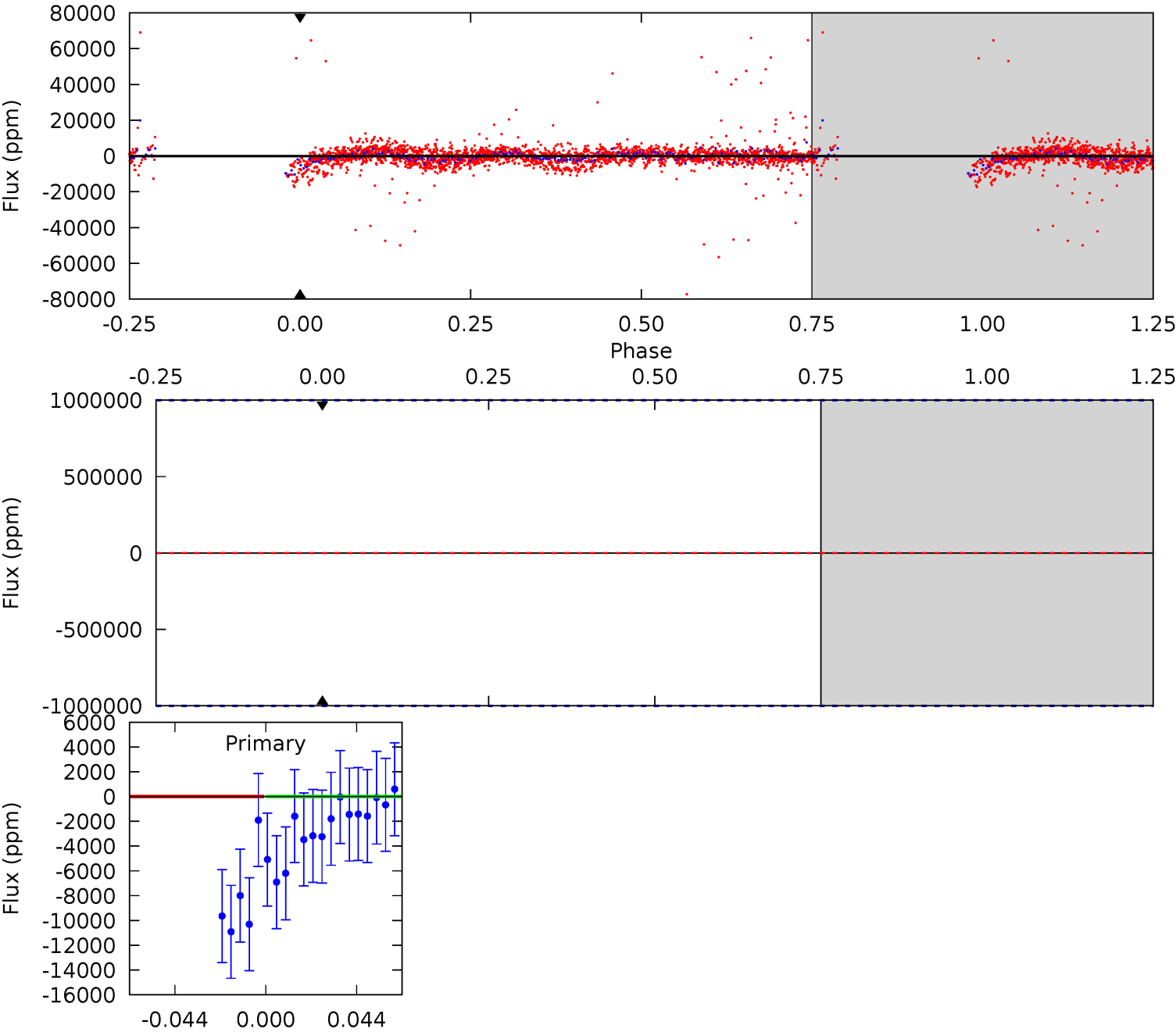
TCE 010141087-04 P= 0.938830 Days $T_0=131.526422$ (BKJD)



DV Model-Shift Uniqueness Test

010141087-04, P = 0.938830 Days, E = 131.568286 Days

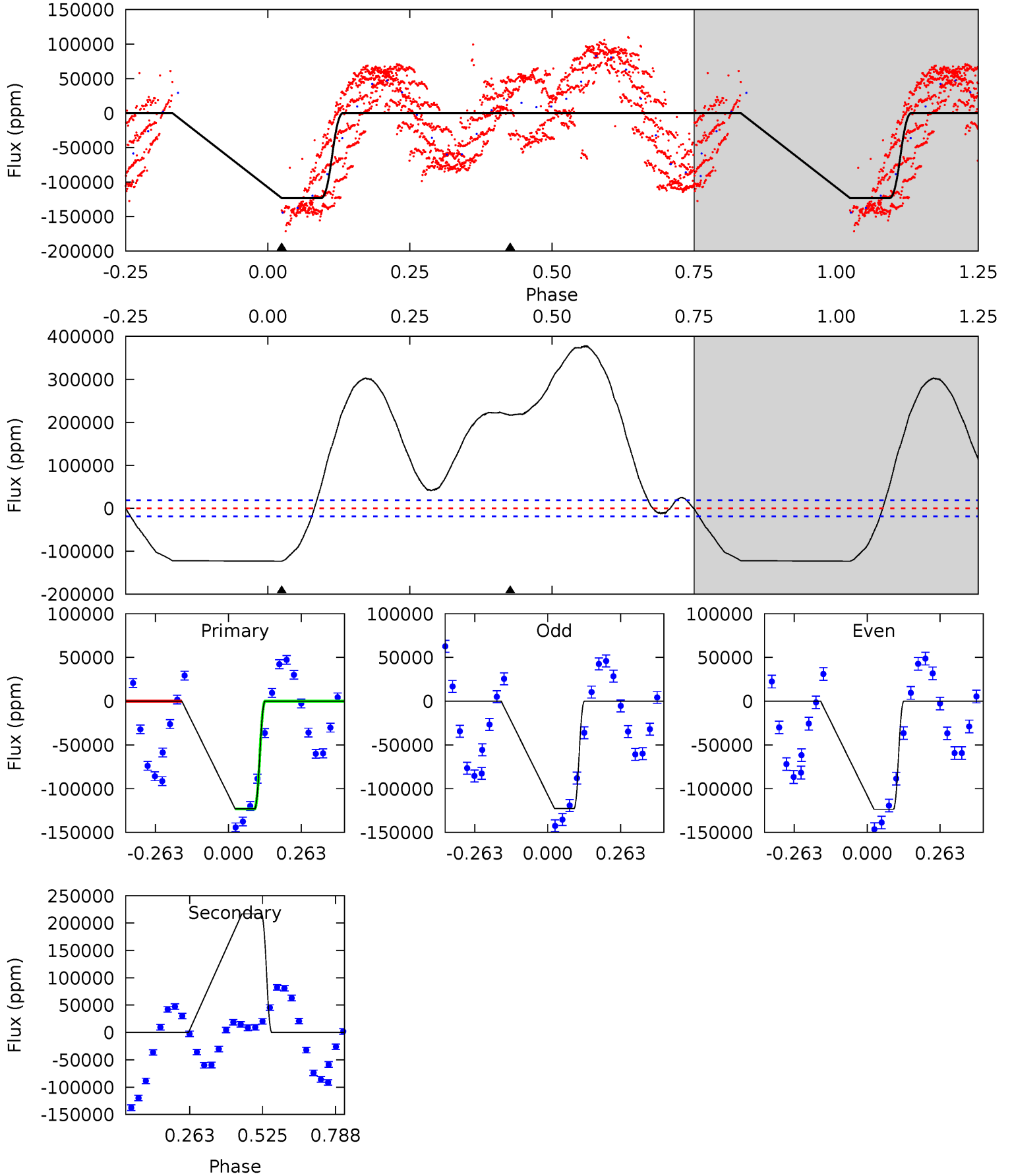
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010141087-04, P = 0.938830 Days, E = 131.526422 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.6	-50.4	0	0	4.36	1.12	3.61	28.6	28.6	-50.4	-50.4	0.09	1.00	0.75	0



Stellar Parameters For KIC 010141087

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6654^{+190}_{-238}	$4.170^{+0.234}_{-0.175}$	$-0.520^{+0.250}_{-0.300}$	$1.413^{+0.367}_{-0.367}$	$1.076^{+0.163}_{-0.134}$	$0.537^{+0.646}_{-0.260}$
	+3%/-4%	+6%/-4%	+48%/-58%	+26%/-26%	+15%/-12%	+120%/-48%
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 010141087-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$12.42^{+13.33}_{-8.55}$	3492^{+263}_{-265}	4889^{+26023}_{-25049}	$2.488^{+271.512}_{-156.534}$
Alt.	216758 ± 4300	$55.49^{+17.91}_{-15.70}$	3498^{+246}_{-280}	-7169^{+818}_{-1623}	$-11.902^{+5.086}_{-11.379}$

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 $A_{obs} \gg 1.0$

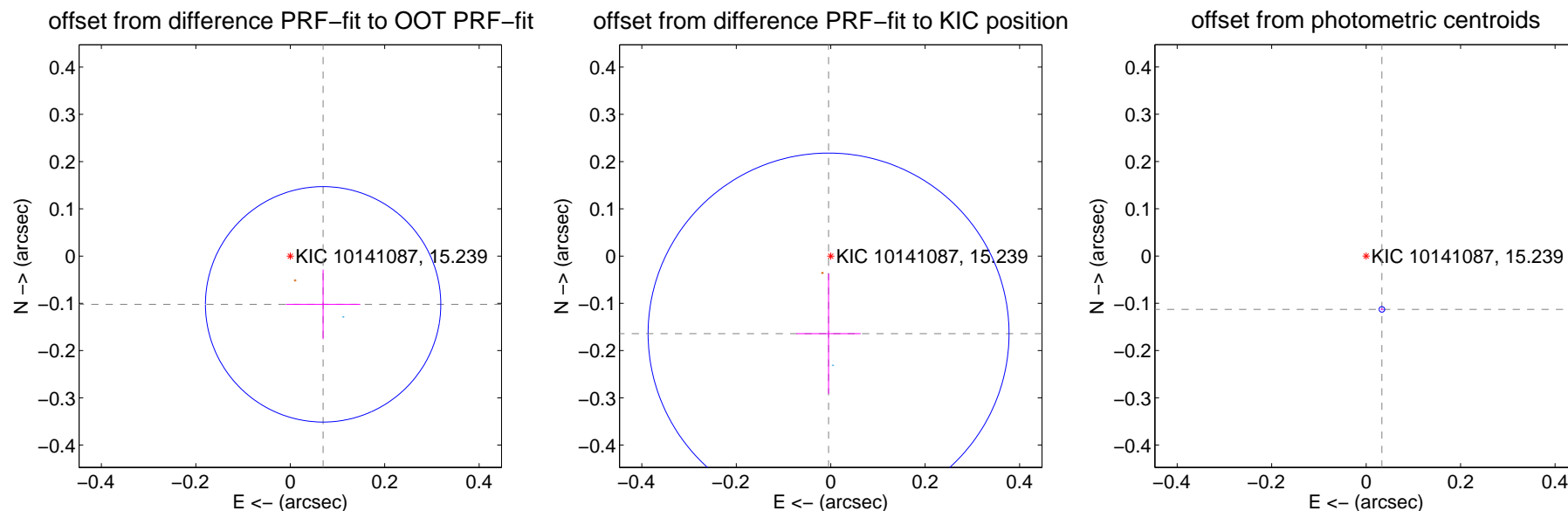
DV Centroid Data

Supplemental centroid analysis for 010141087-04. Kepler magnitude: 15.24. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

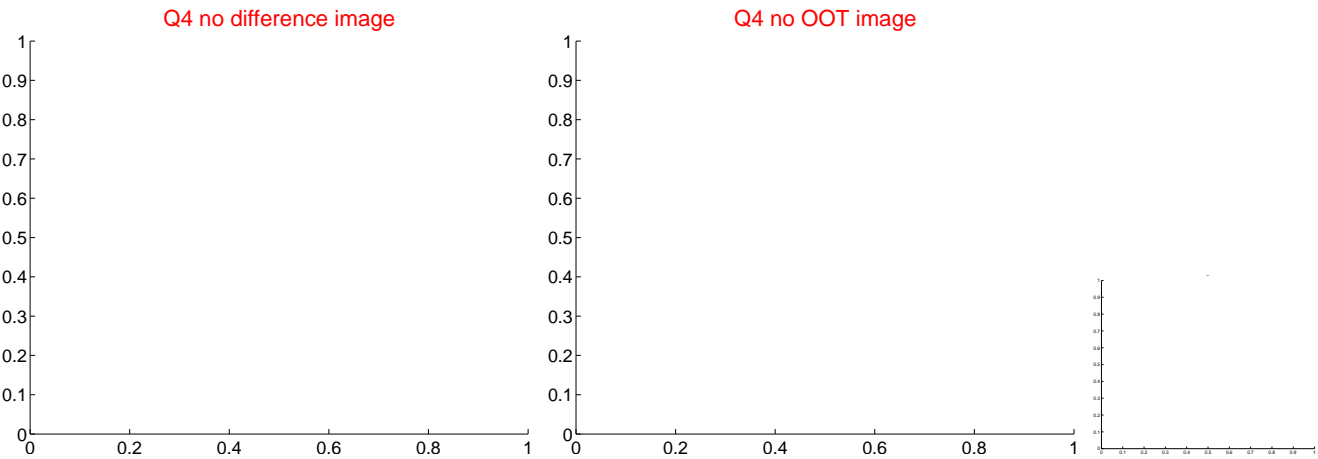
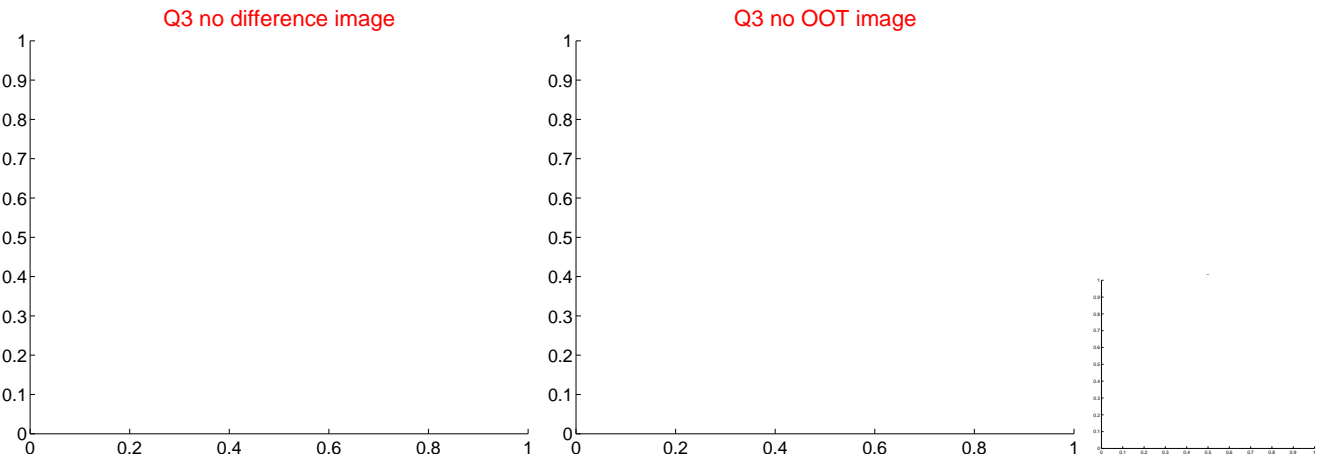
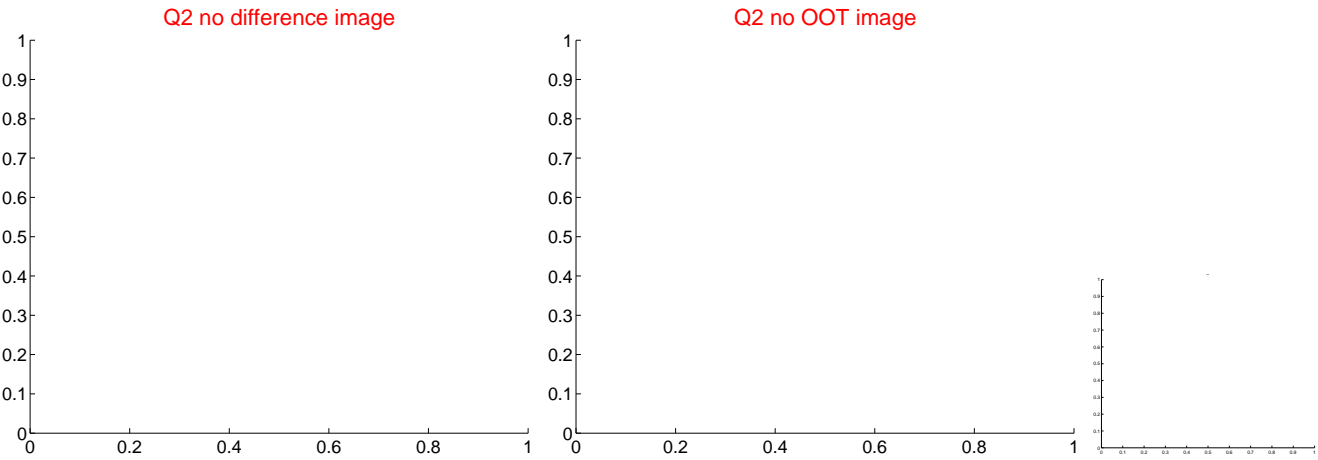
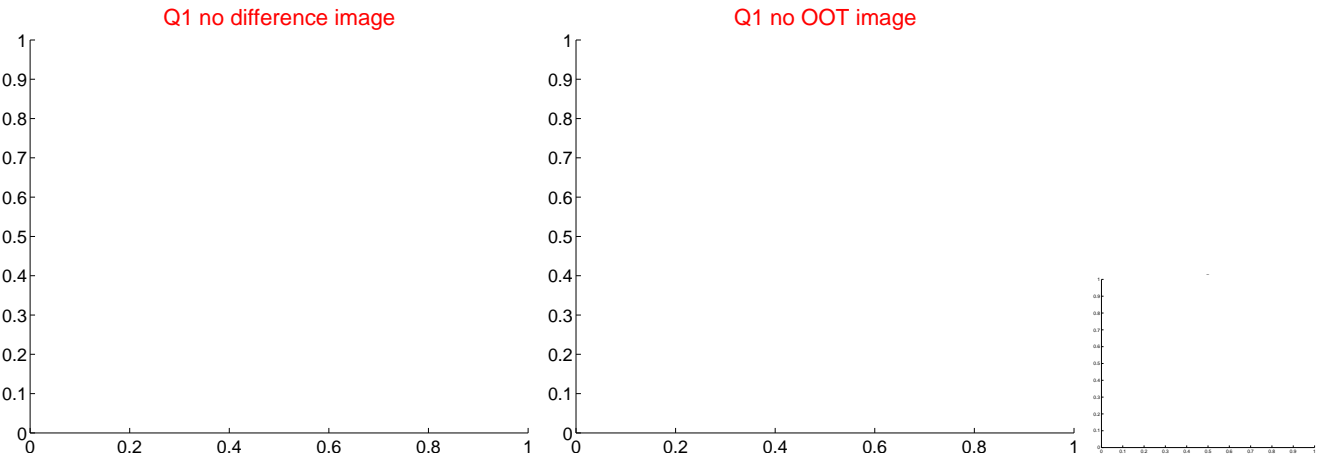
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.124 ± 0.083	1.49	-0.070 ± 0.079	-0.102 ± 0.074
PRF-fit source offset from KIC position	0.164 ± 0.127	1.29	0.005 ± 0.068	-0.164 ± 0.127
photometric centroid source offset	0.12 ± 0.00	59.73	-0.03 ± 0.00	-0.11 ± 0.00

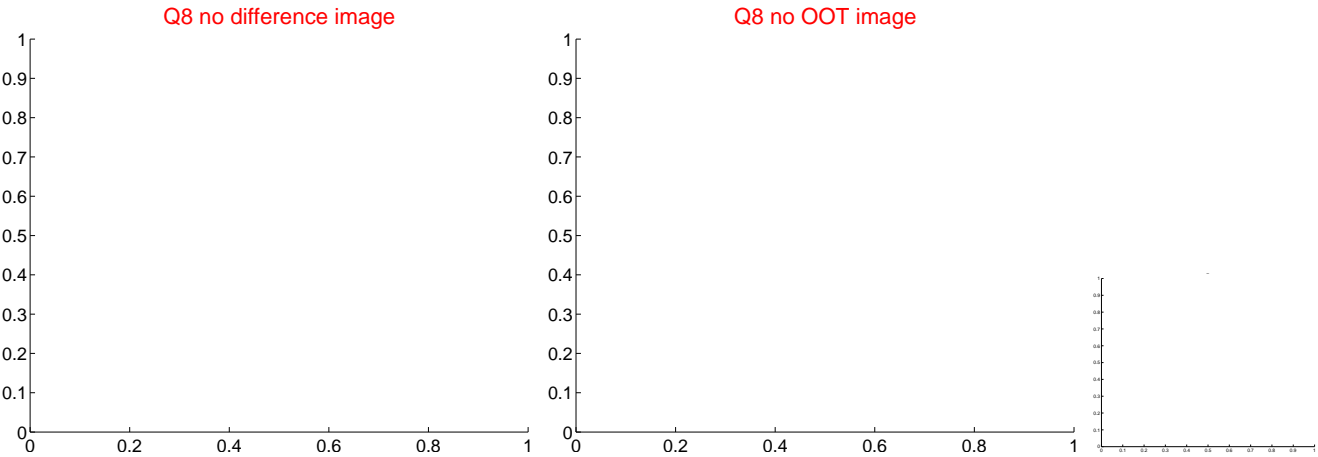
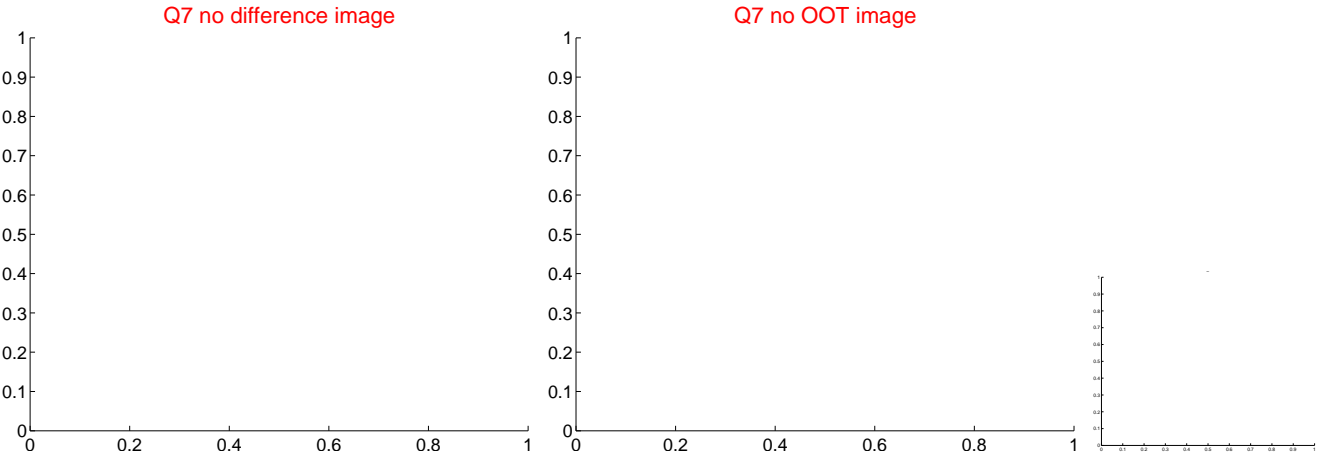
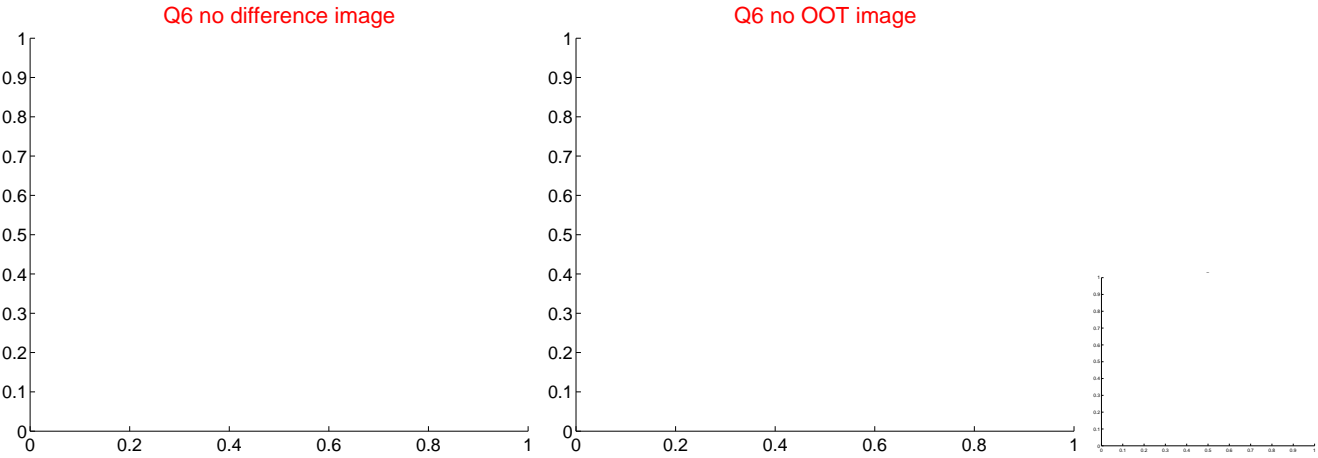
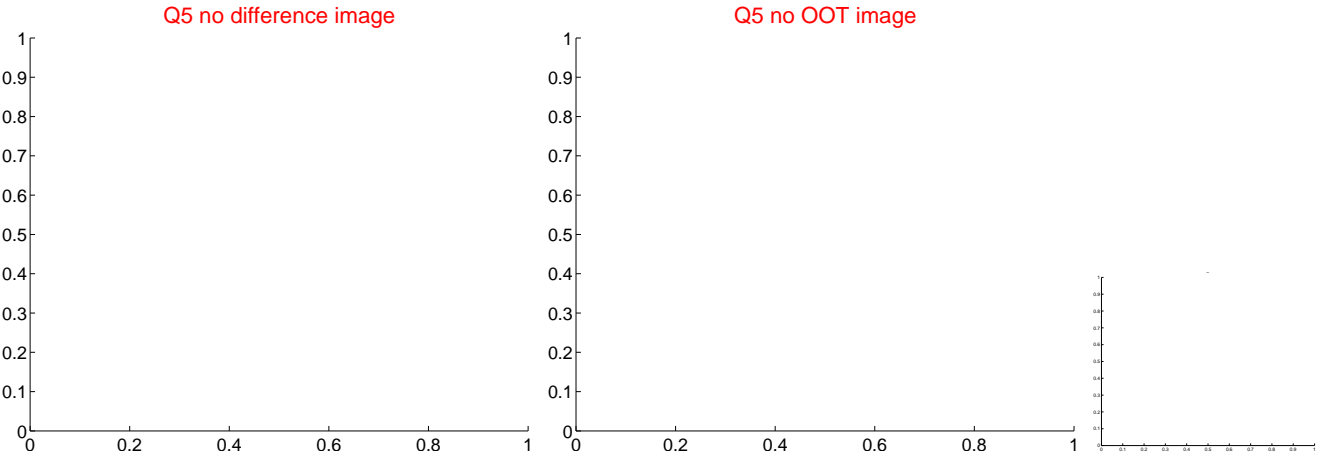


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

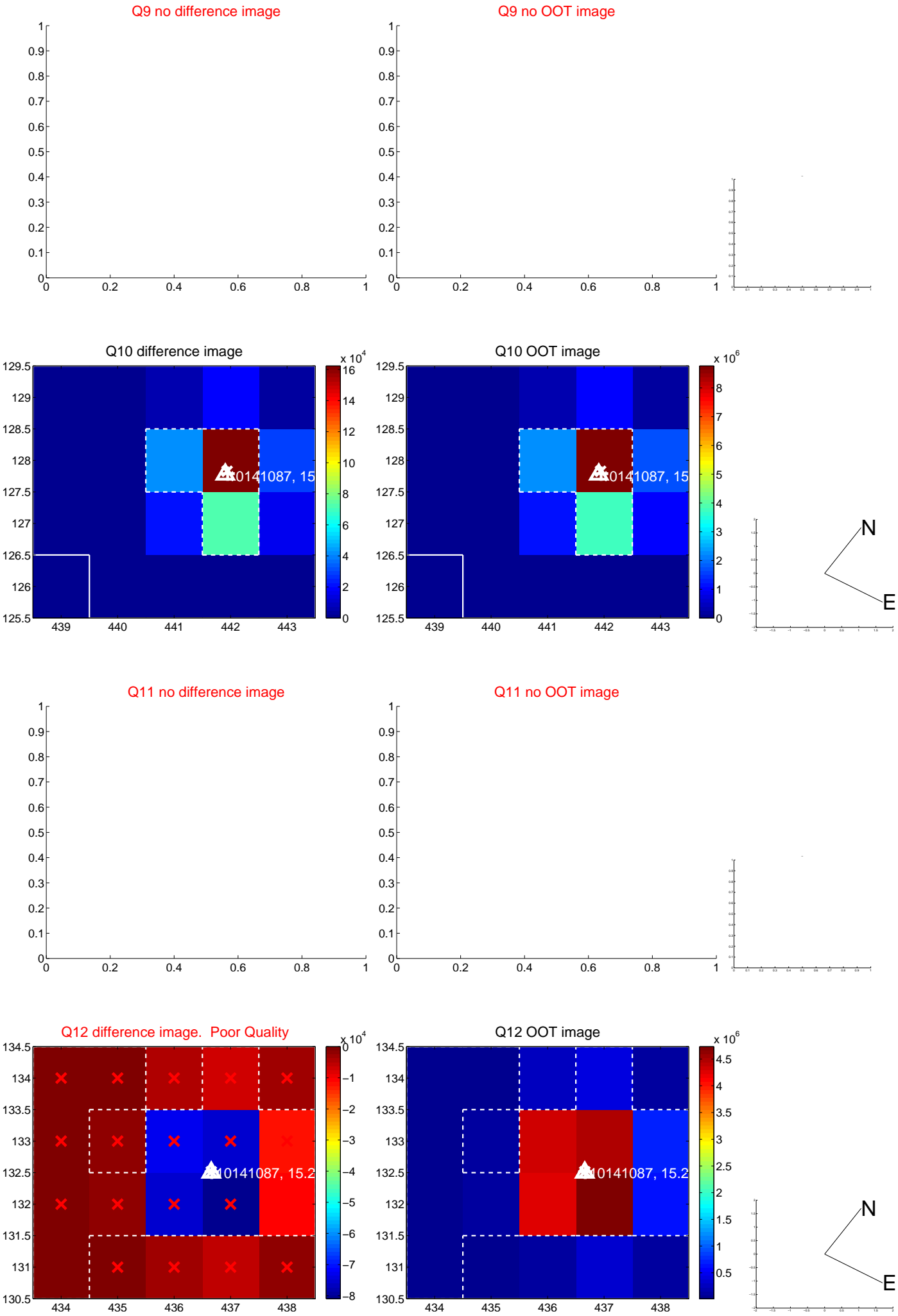
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



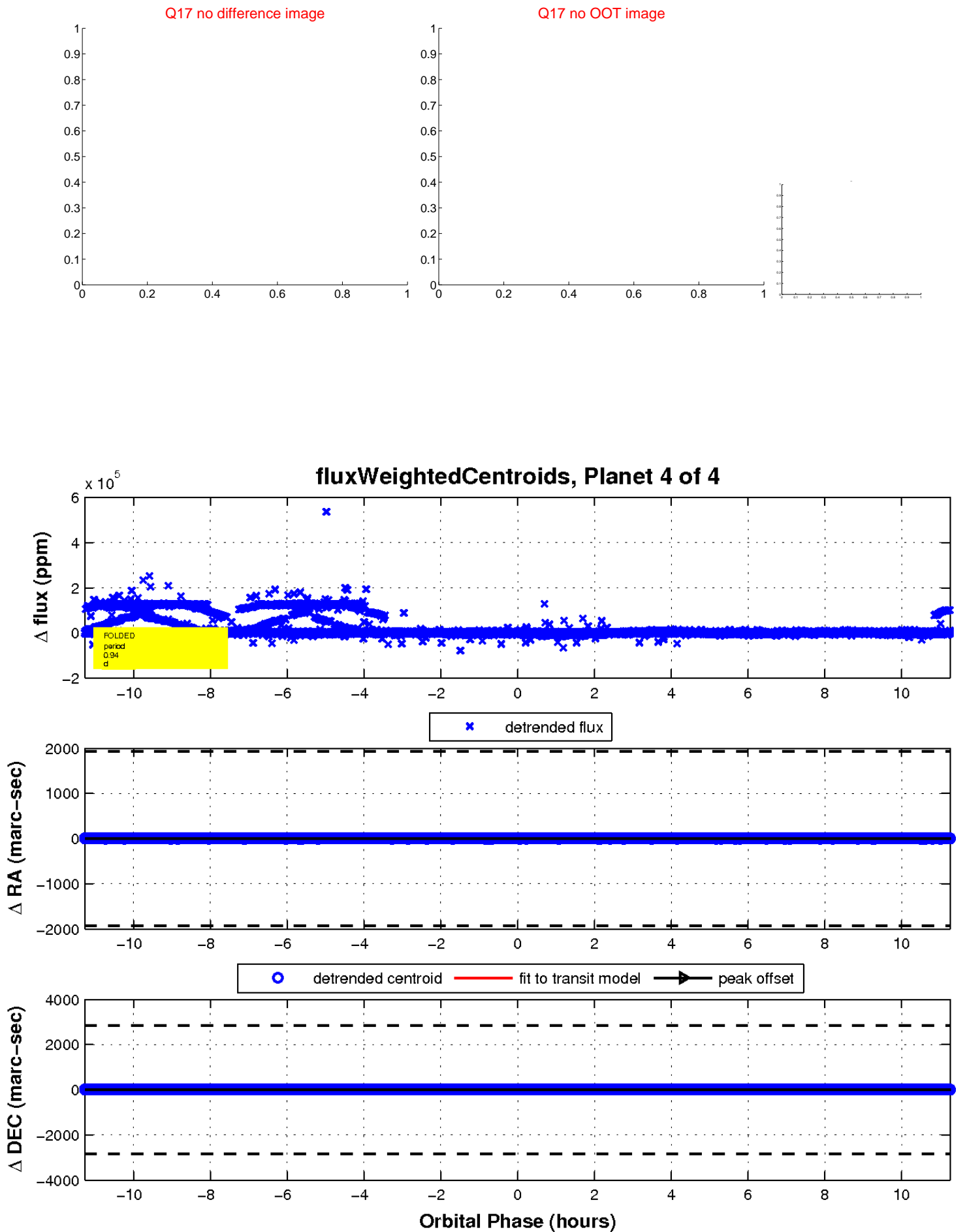
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

