

KIC 006766634

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})
006766634-01	OBS	1375.01	321.212145	206.931254	2366.6	4.091	79.7	77.4	1.29	6018	7.33	2.18
006766634-02	OBS	No	321.231187	207.337446	126.9	46.260	7.7	7.9	1.29	6018	1.76	2.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006766634-01	OBS	PC	0.68	0	0	0	0	NO_COMMENT
006766634-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—RESIDUAL_TCE—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.

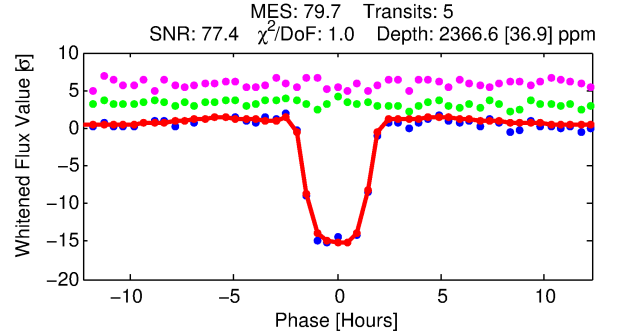
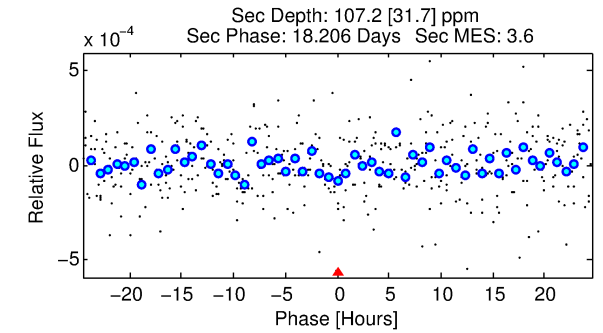
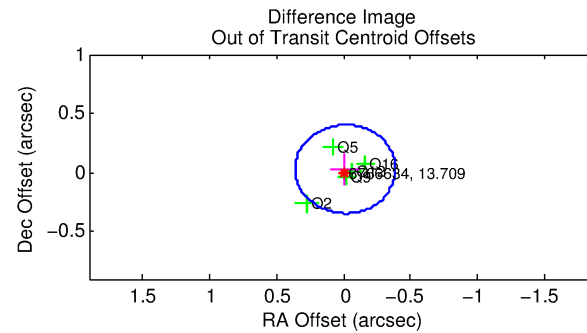
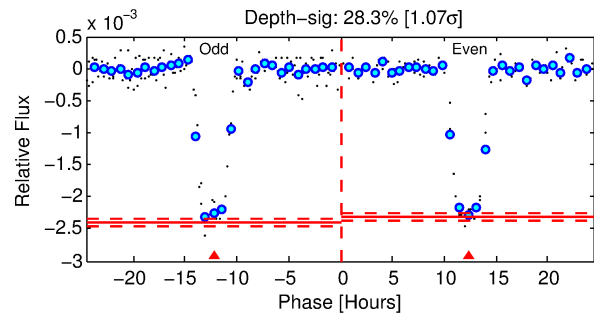
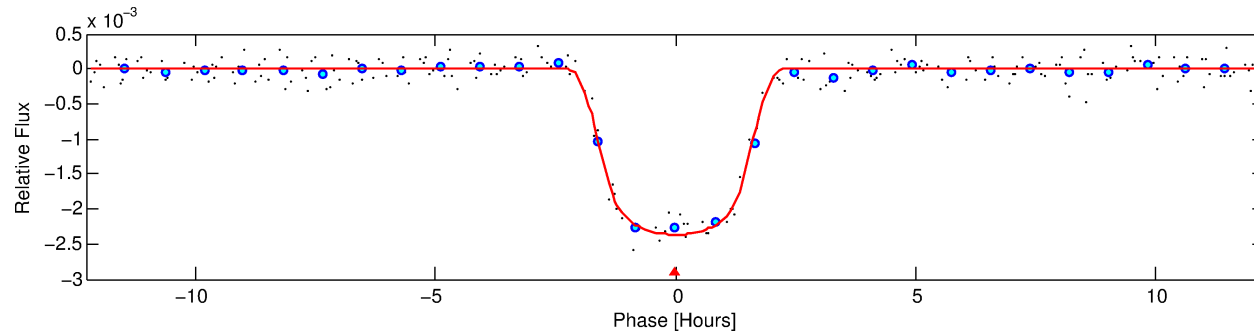
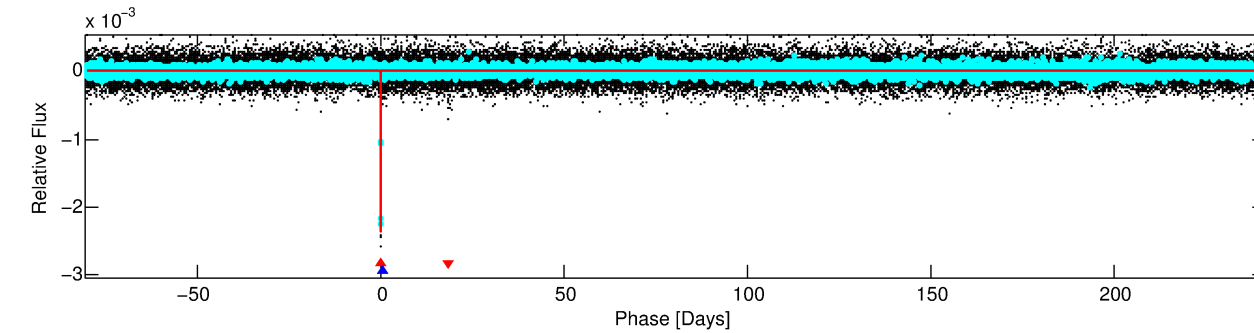
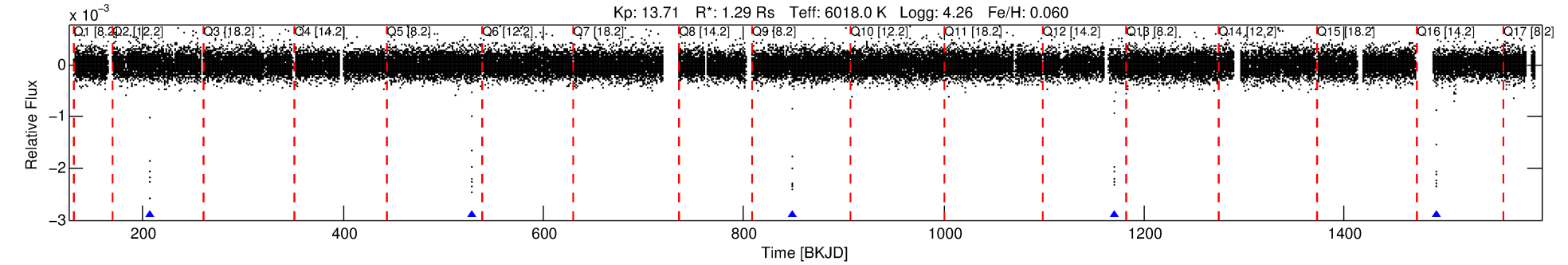
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006766634-01

No Significant Match Found

DV One-Page Summary

KIC: 6766634 Candidate: 1 of 2 Period: 321.212 d
KOI: K01375.01 Corr: 0.983



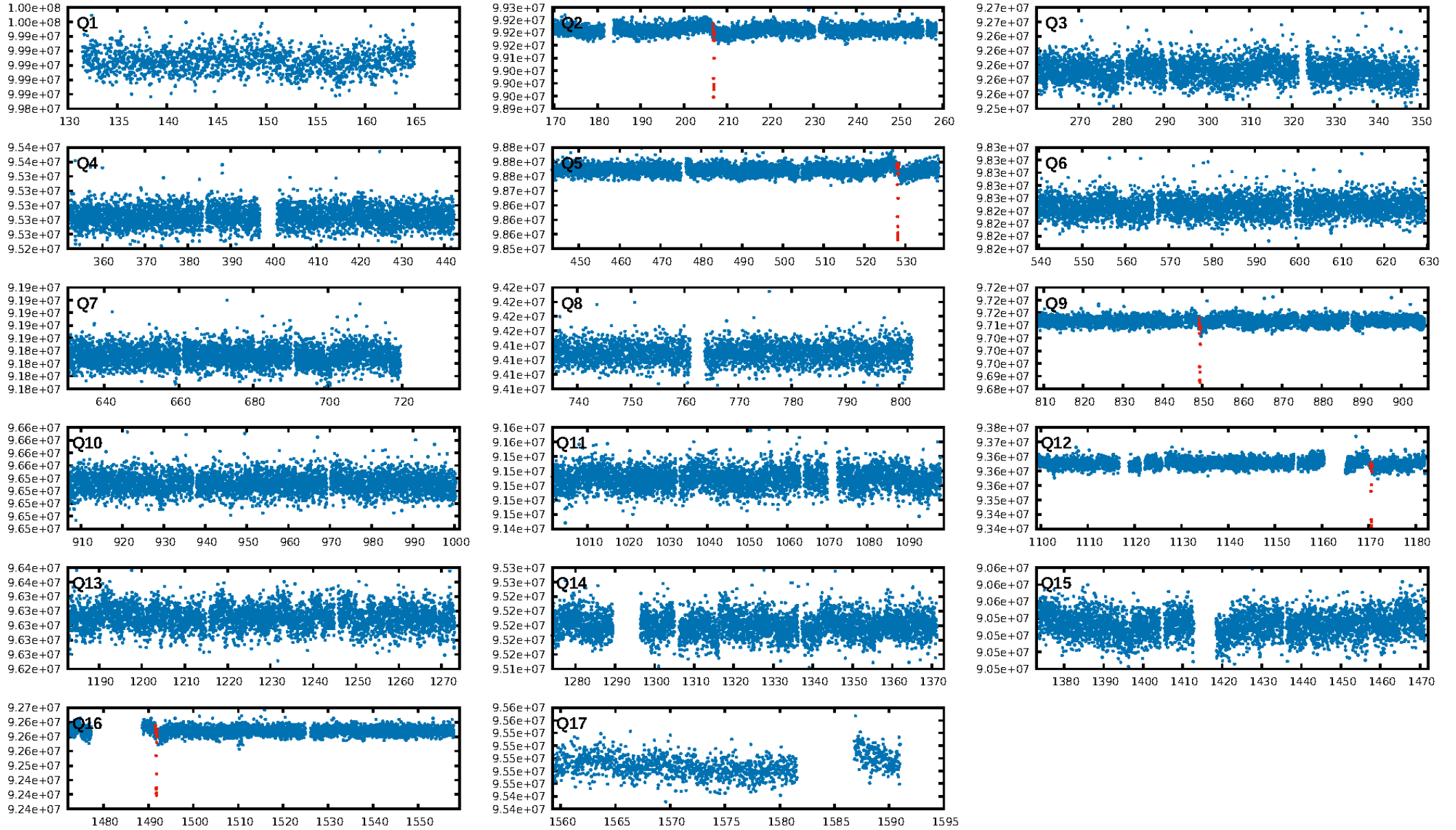
DV Fit Results:

Period = 321.21215 [0.00046] d
Epoch = 206.9313 [0.0012] BKJD
Rp/R* = 0.0522 [0.0009]
a/R* = 340.14 [20.97]
b = 0.89 [0.02]
Seff = 2.18 [0.54]
Teq = 310 [19] K
Rp = 7.32 [1.19] Re
a = 0.9449 [0.1420] AU
Ag = 981.51 [372.66] [2.63 σ]
Teffp = 2680 [206] K [11.44 σ]

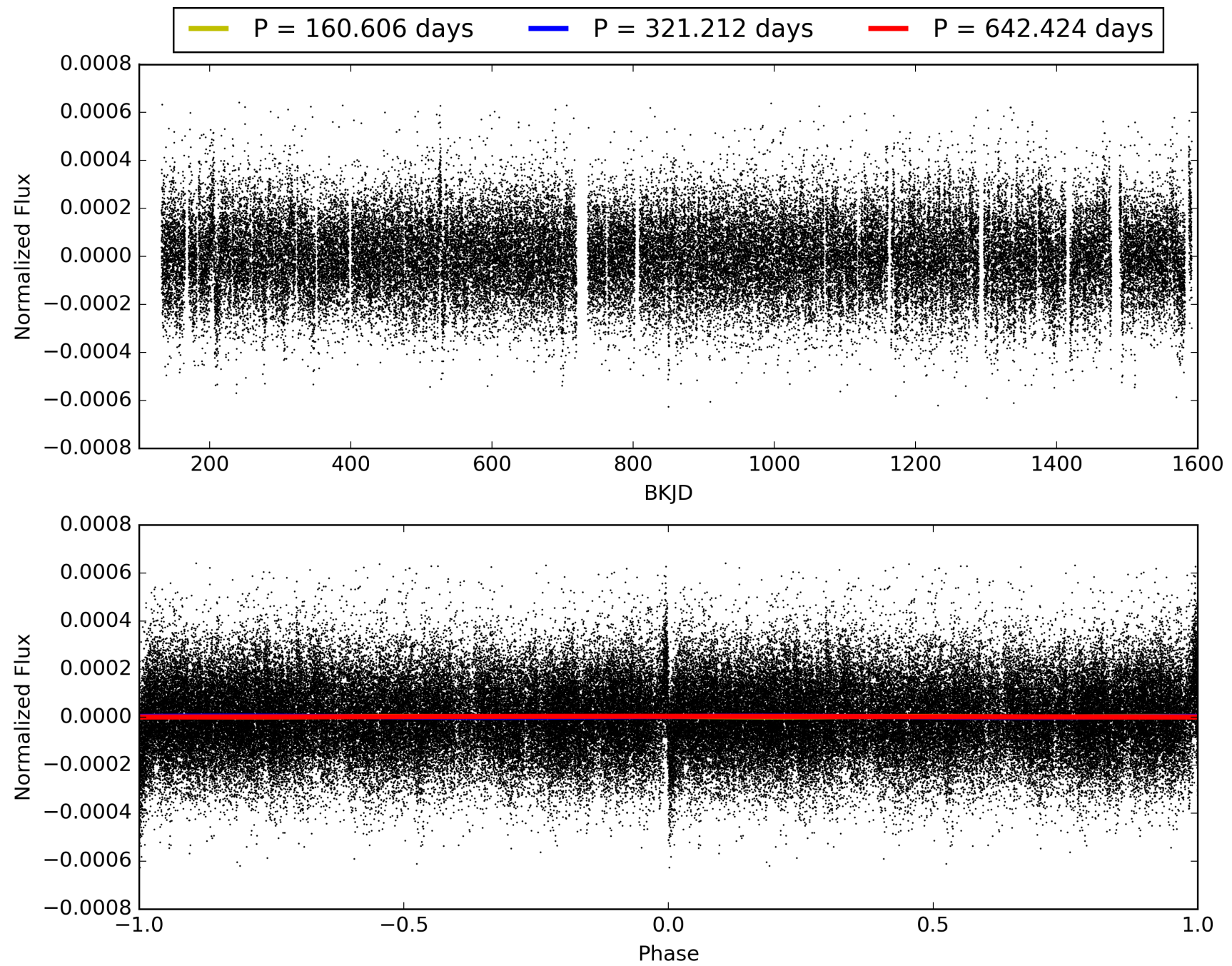
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.8% [0.01 σ]
ModelChiSquare2-sig: 75.5%
ModelChiSquareGof-sig: 97.2%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 10.08
Centroid-sig: 12.2%
Centroid-so: 0.213 arcsec [1.23 σ]
OotOffset-rm: 0.032 arcsec [0.25 σ]
KicOffset-rm: 0.150 arcsec [1.31 σ]
OotOffset-st: 1/0/2/2 [5]
KicOffset-st: 1/0/2/2 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 0.00 [0/5]

TCE 006766634-01, PDC Light Curves

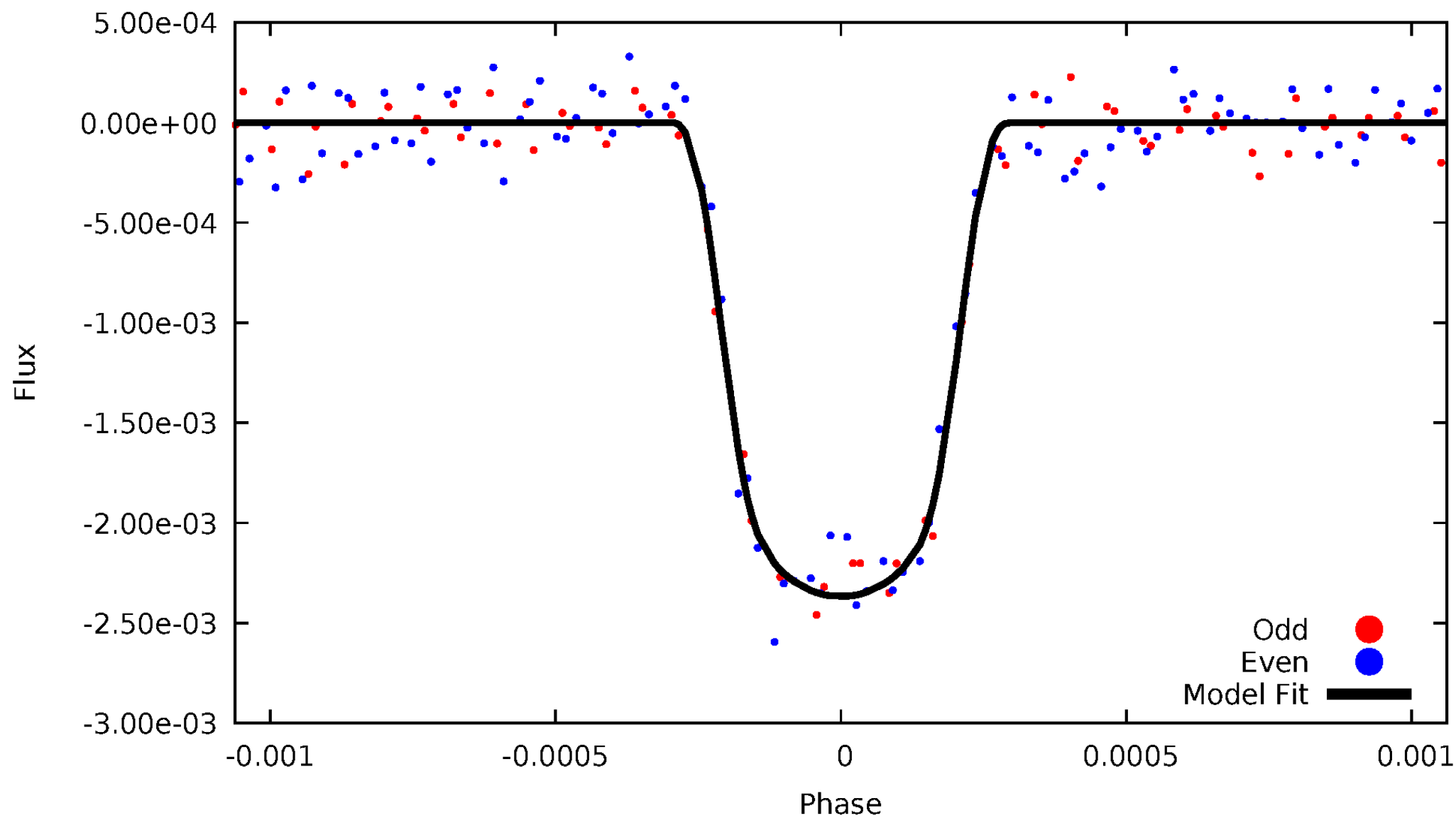


TCE 006766634-01



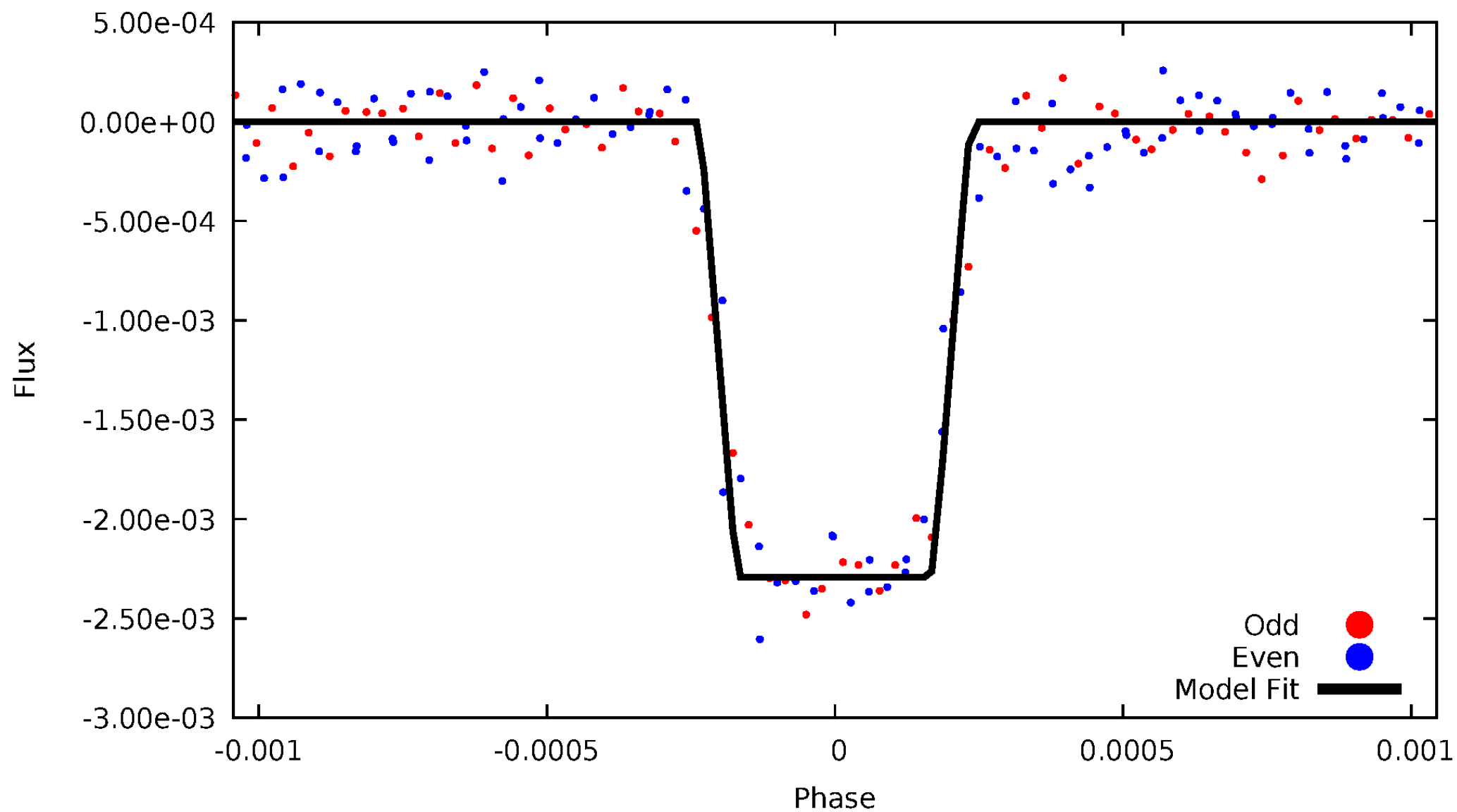
DV Odd/Even

TCE 006766634-01



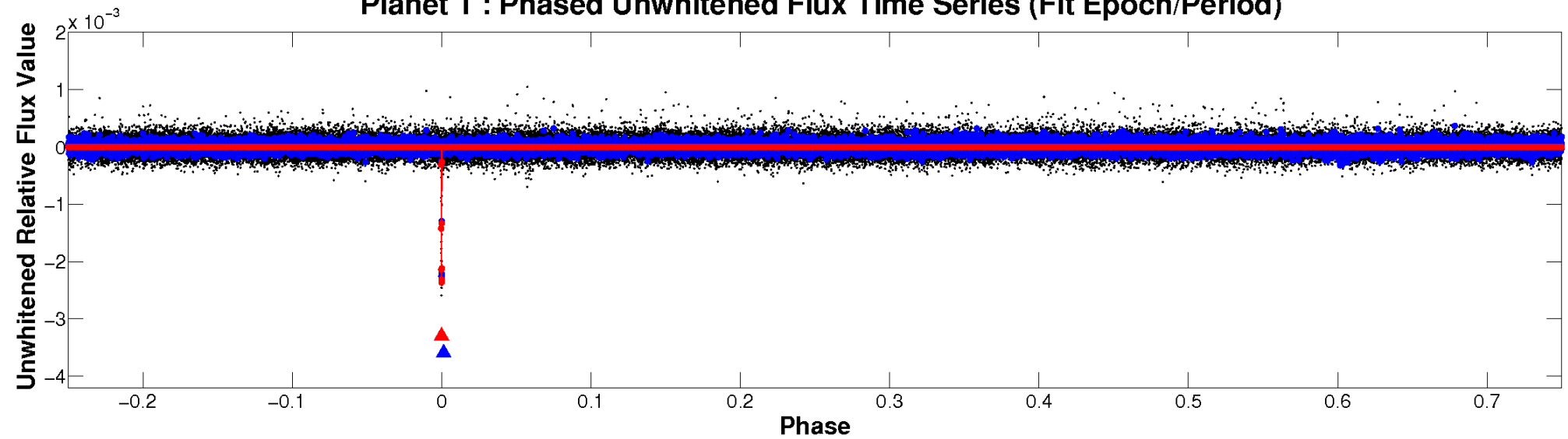
ALT Odd/Even

TCE 006766634-01

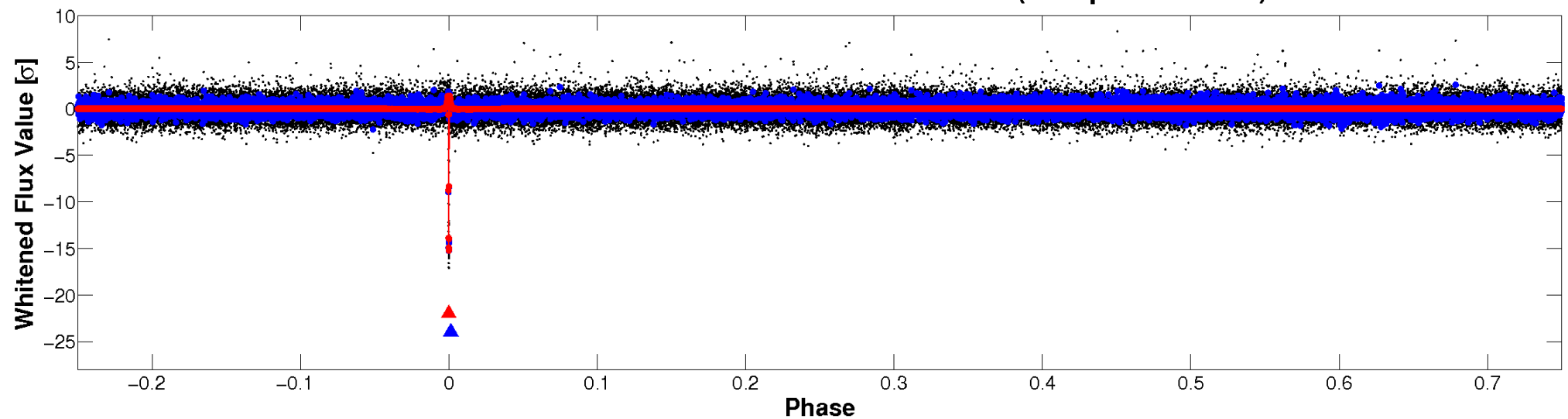


Non-Whitened Vs. Whitened Light Curve

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

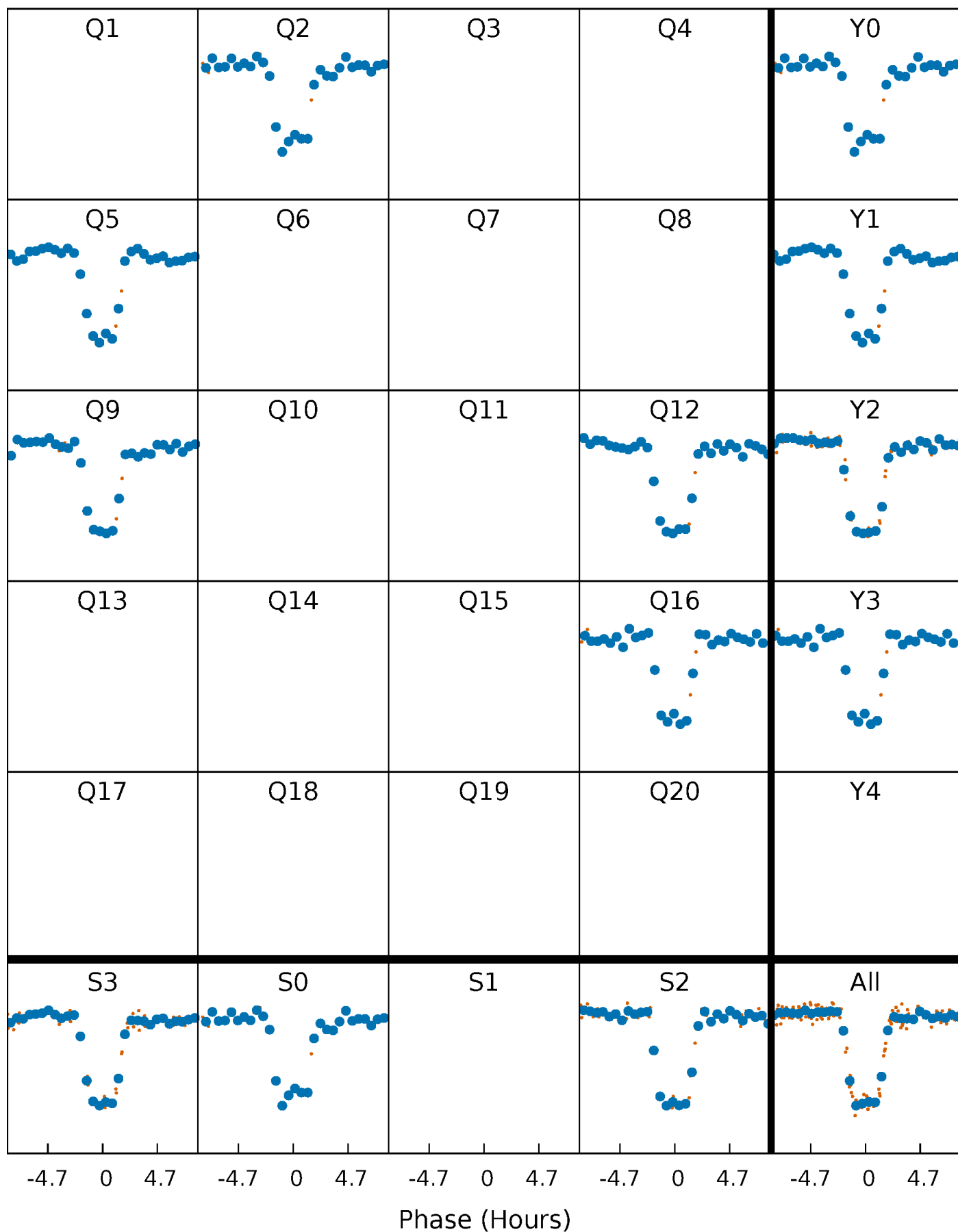


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



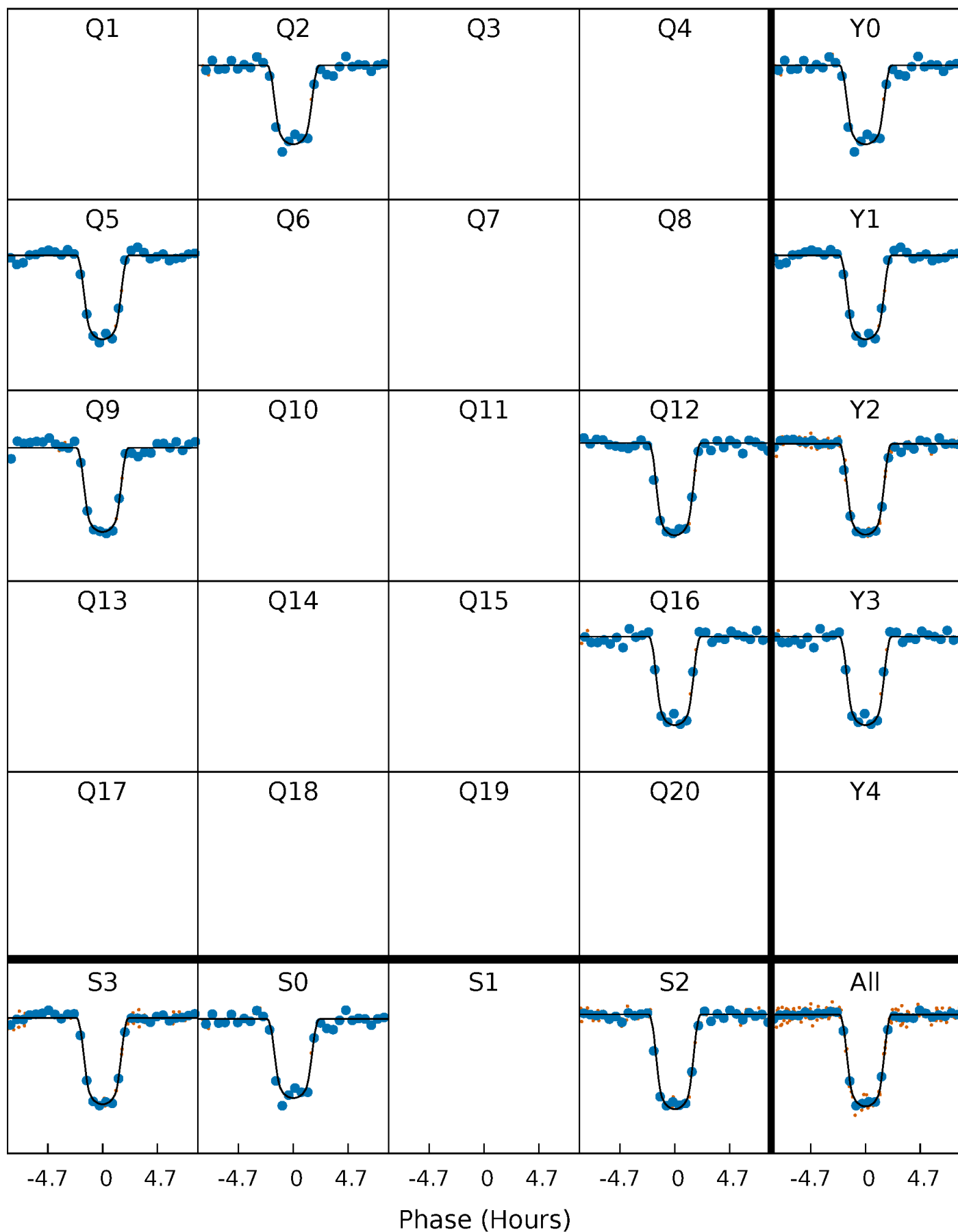
PDC Quarter-Phased Transit Curves

TCE 006766634-01 P=321.212145 Days $T_0=206.931254$ (BKJD)



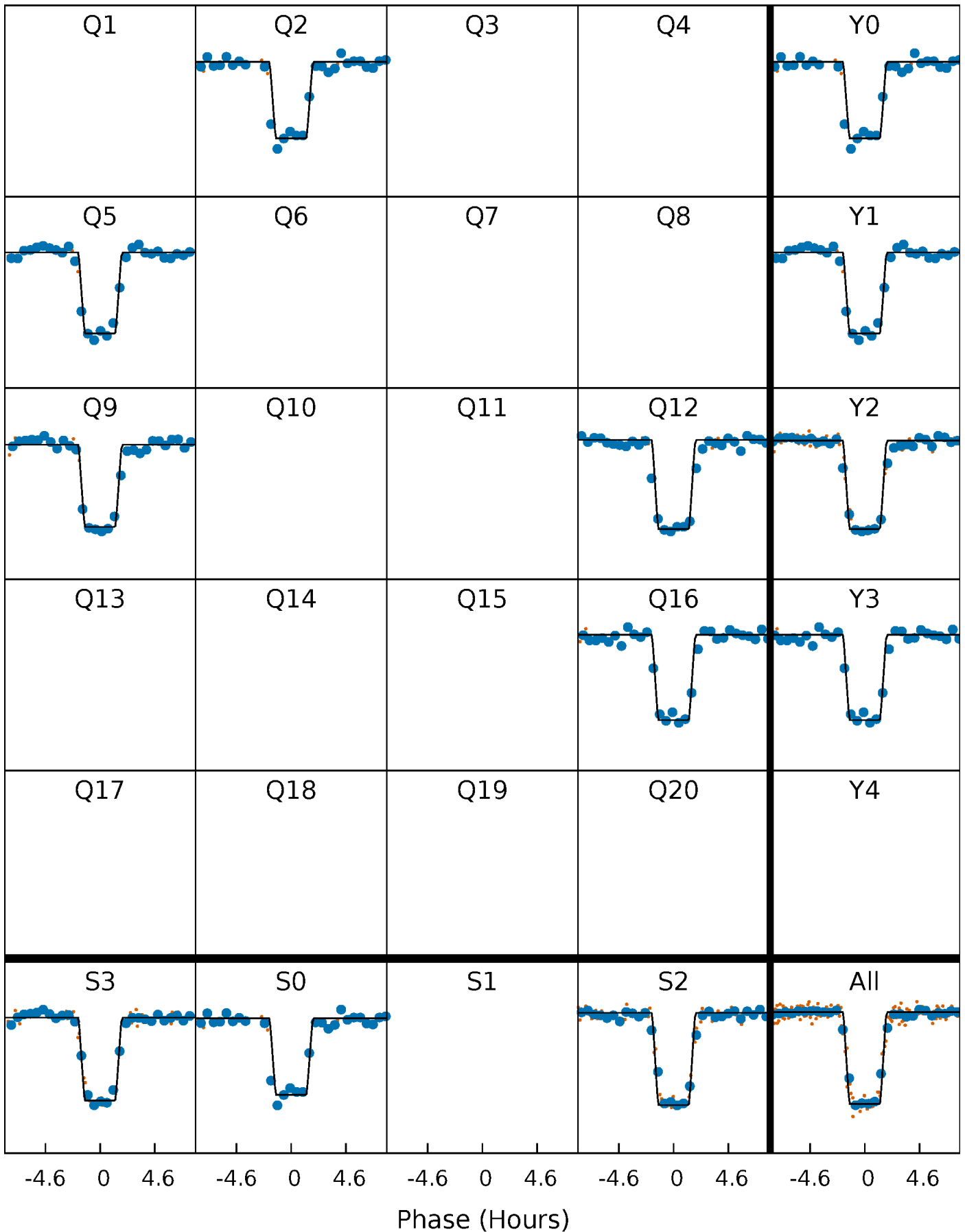
DV Quarter-Phased Transit Curves

TCE 006766634-01 P=321.212145 Days $T_0=206.931254$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

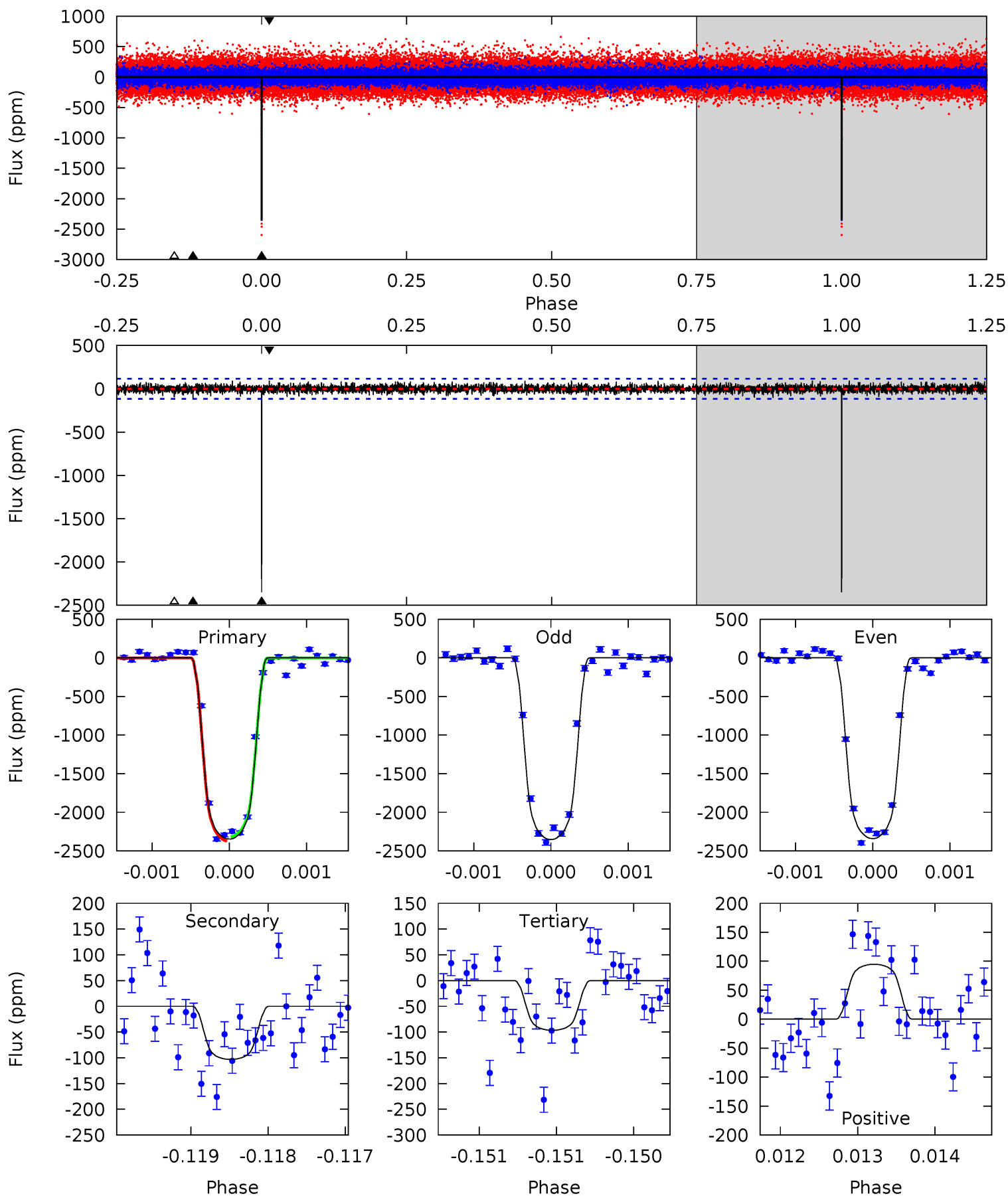
TCE 006766634-01 P=321.209903 Days $T_0=206.935795$ (BKJD)



DV Model-Shift Uniqueness Test

006766634-01, P = 321.212145 Days, E = 206.931254 Days

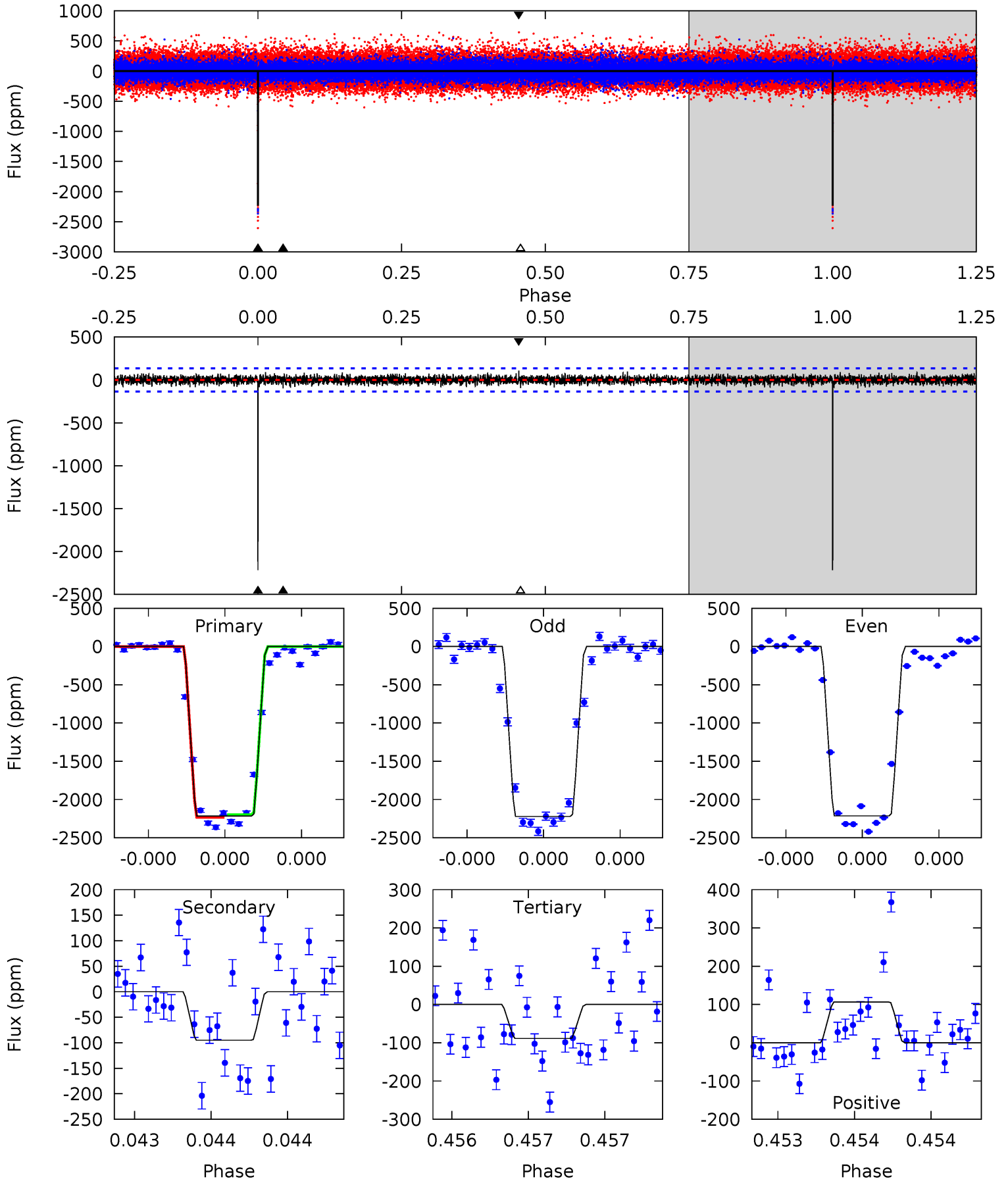
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
112.5	4.94	4.63	4.54	5.54	3.44	1.26	107.8	107.9	0.31	0.40	0.30	0.99	0.04	1.36



Alt Model-Shift Uniqueness Test

006766634-01, P = 321.209903 Days, E = 206.935795 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
91.2	3.91	3.66	4.38	5.59	3.51	1.05	87.5	86.8	0.25	-0.47	0.15	1.00	0.05	0.73



Stellar Parameters For KIC 006766634

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6018^{+120}_{-120}	$4.257^{+0.137}_{-0.112}$	$0.060^{+0.150}_{-0.150}$	$1.286^{+0.207}_{-0.207}$	$1.090^{+0.100}_{-0.082}$	$0.722^{+0.452}_{-0.235}$
	+2%/-2%	+3%/-3%	+250%/-250%	+16%/-16%	+9%/-8%	+63%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 006766634-01 / KOI 1375.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-103 ± 21	$7.37^{+0.66}_{-0.67}$	433^{+20}_{-21}	3230^{+112}_{-106}	939^{+280}_{-235}
Alt.	-95 ± 24	$6.68^{+0.63}_{-0.65}$	431^{+21}_{-23}	3285^{+122}_{-158}	1056^{+356}_{-322}

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 $A_{obs} \gg 1.0$

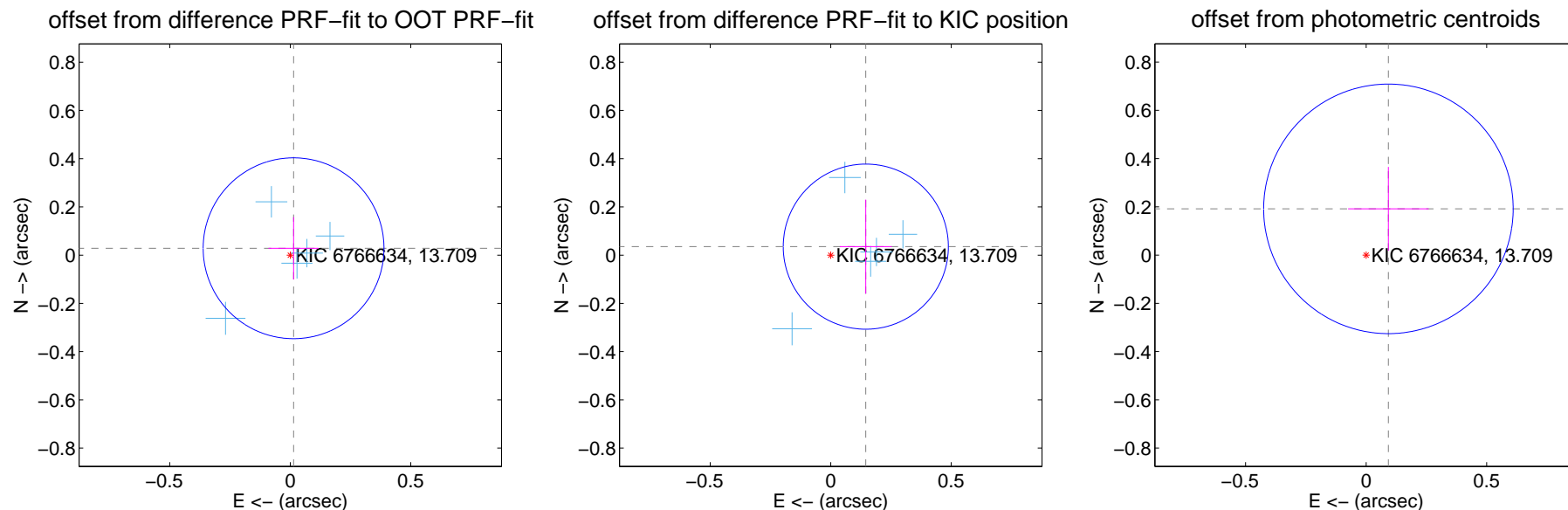
DV Centroid Data

Supplemental centroid analysis for 006766634-01. Kepler magnitude: 13.71. Transit SNR 77.40

There are 5 quarters with good PRF difference image offsets

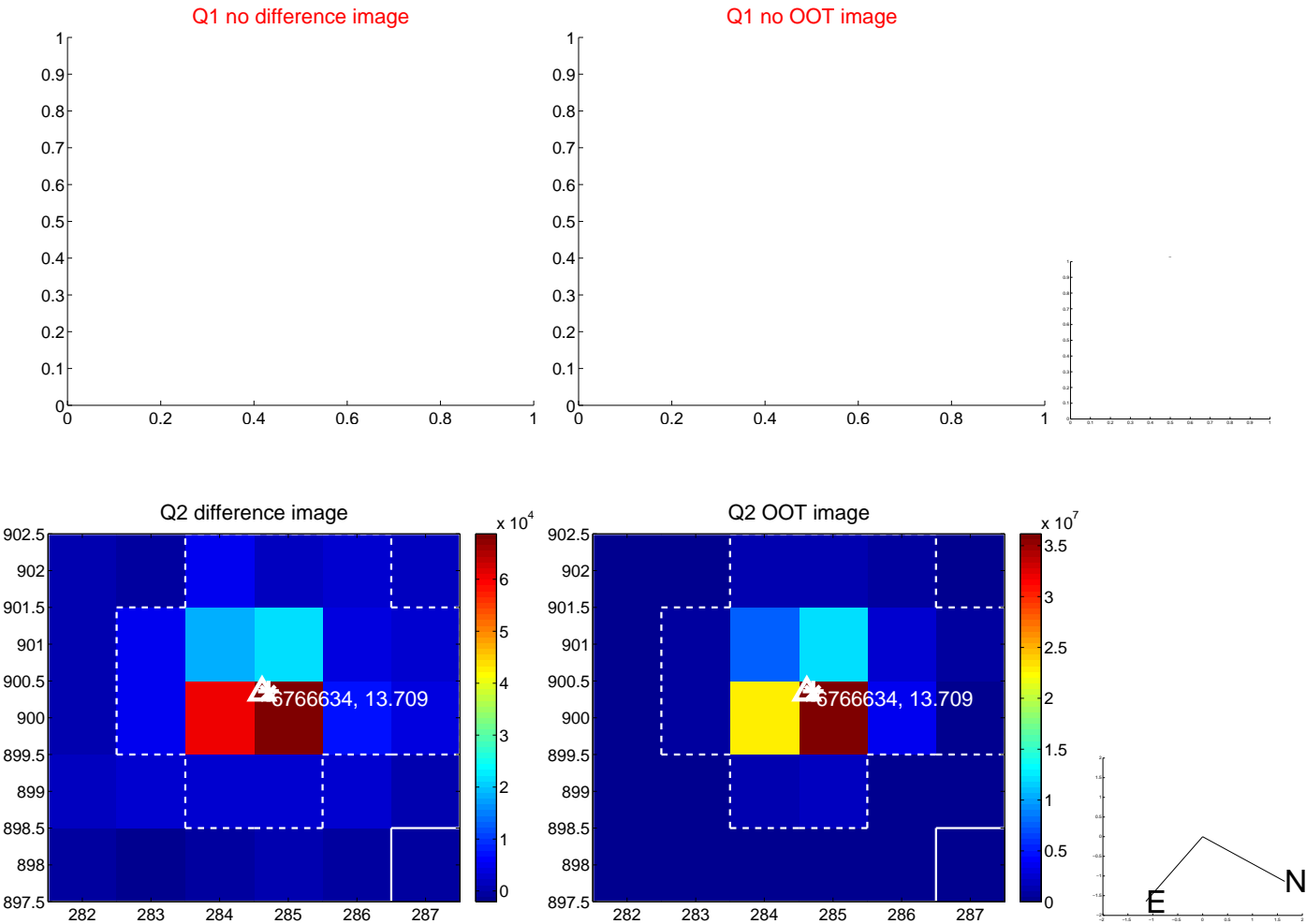
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.032 ± 0.125	0.25	-0.014 ± 0.104	0.029 ± 0.129
PRF-fit source offset from KIC position	0.150 ± 0.114	1.31	-0.145 ± 0.107	0.035 ± 0.195
photometric centroid source offset	0.21 ± 0.17	1.23	-0.09 ± 0.17	0.19 ± 0.17

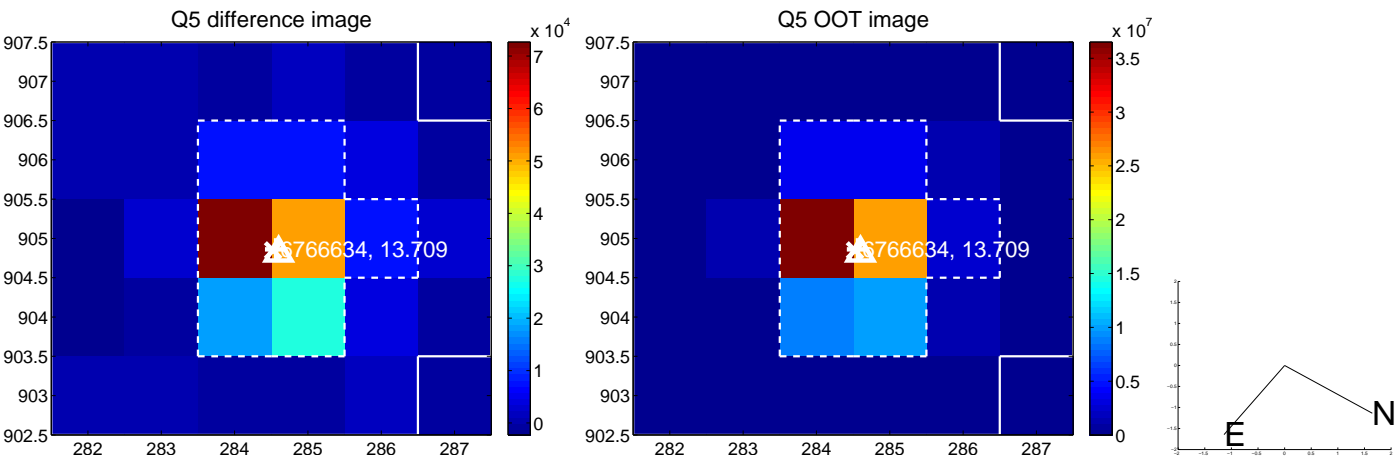


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

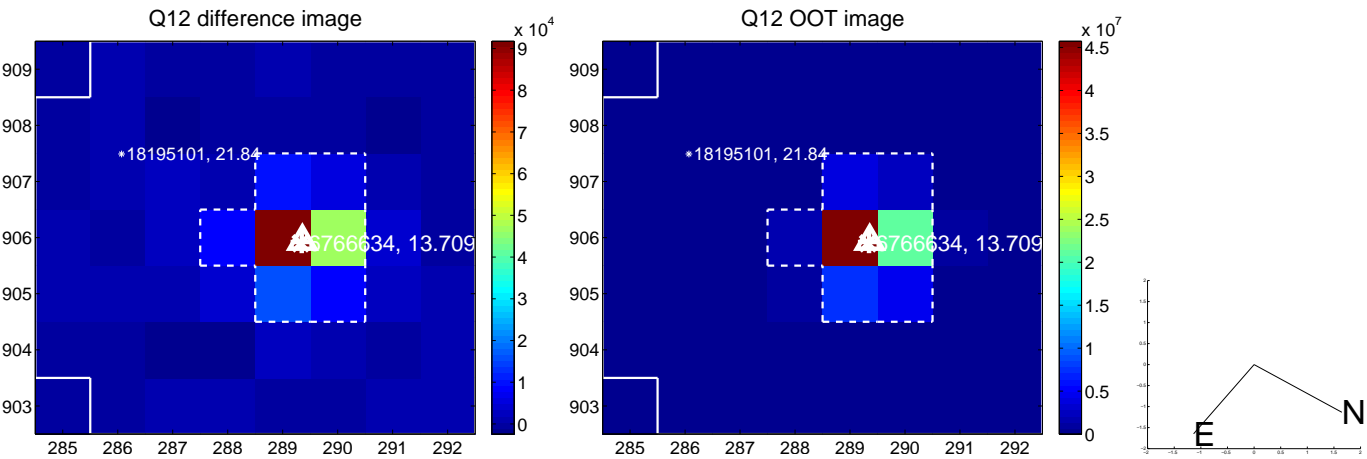
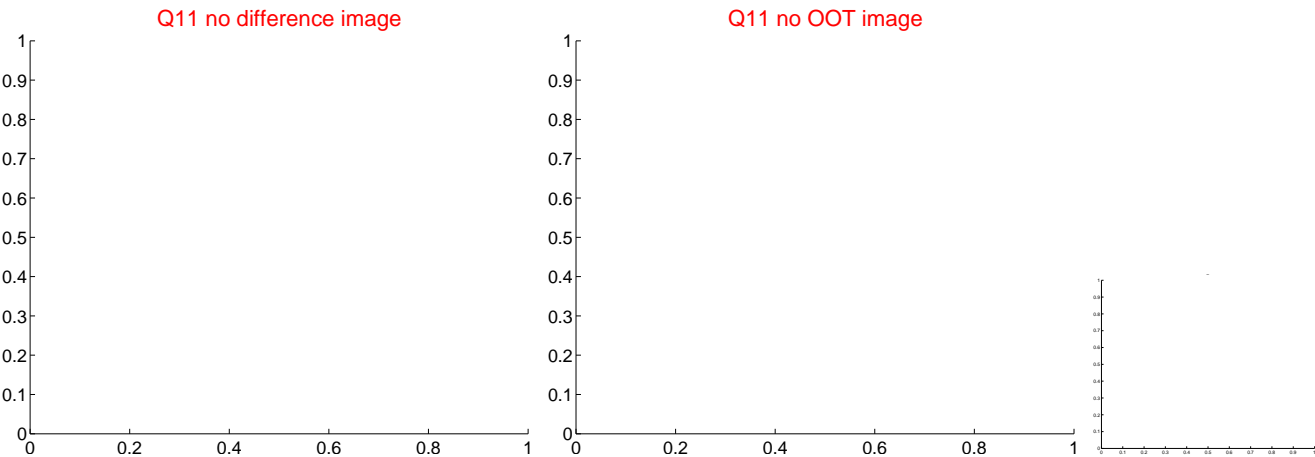
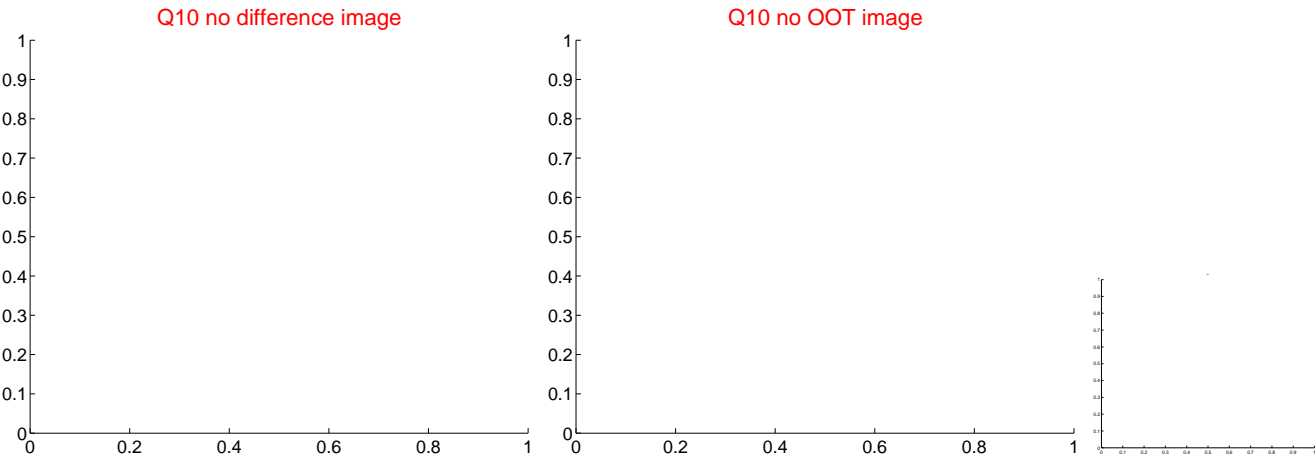
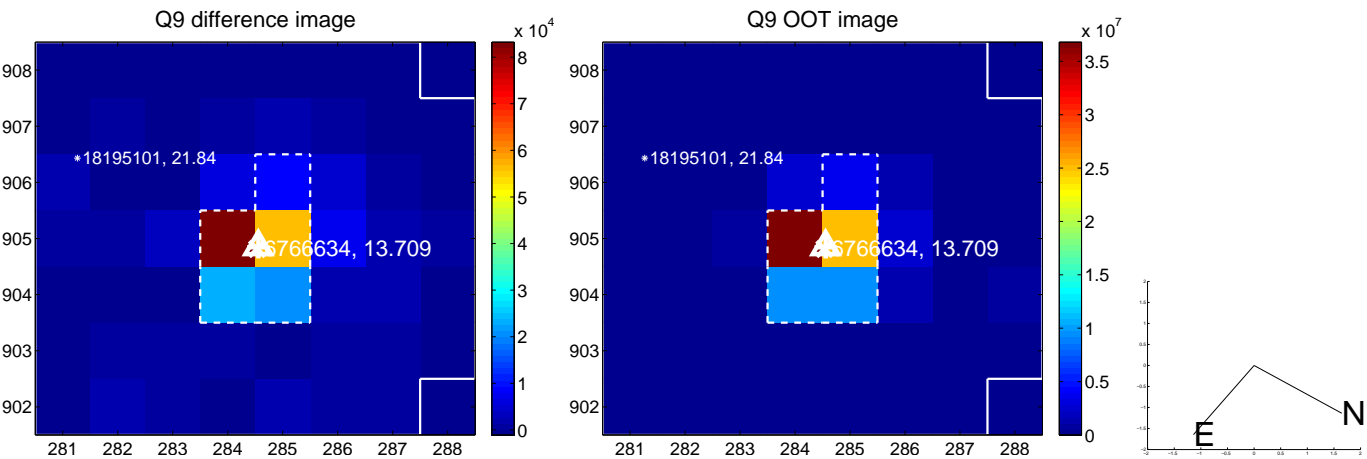
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



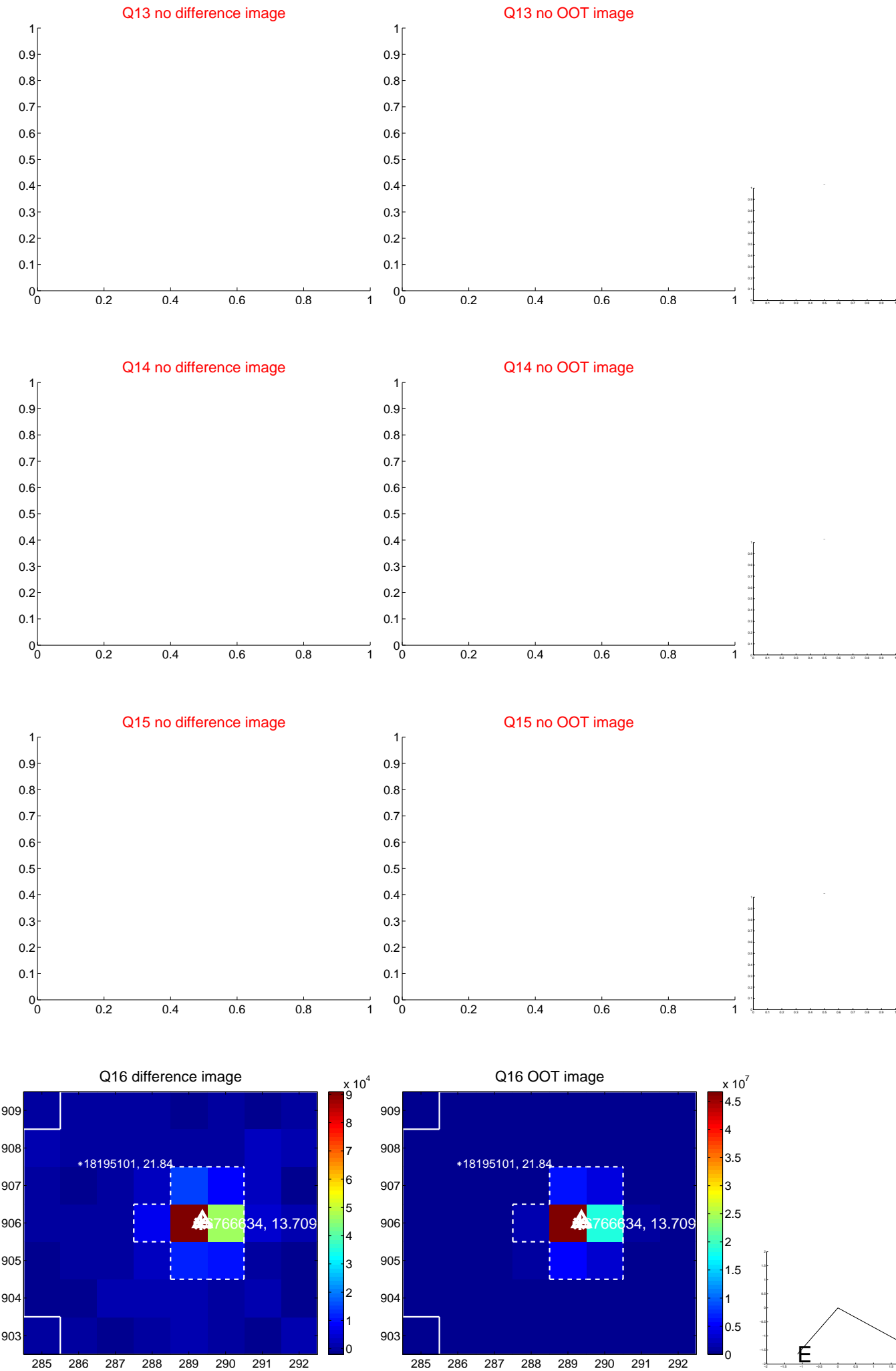
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



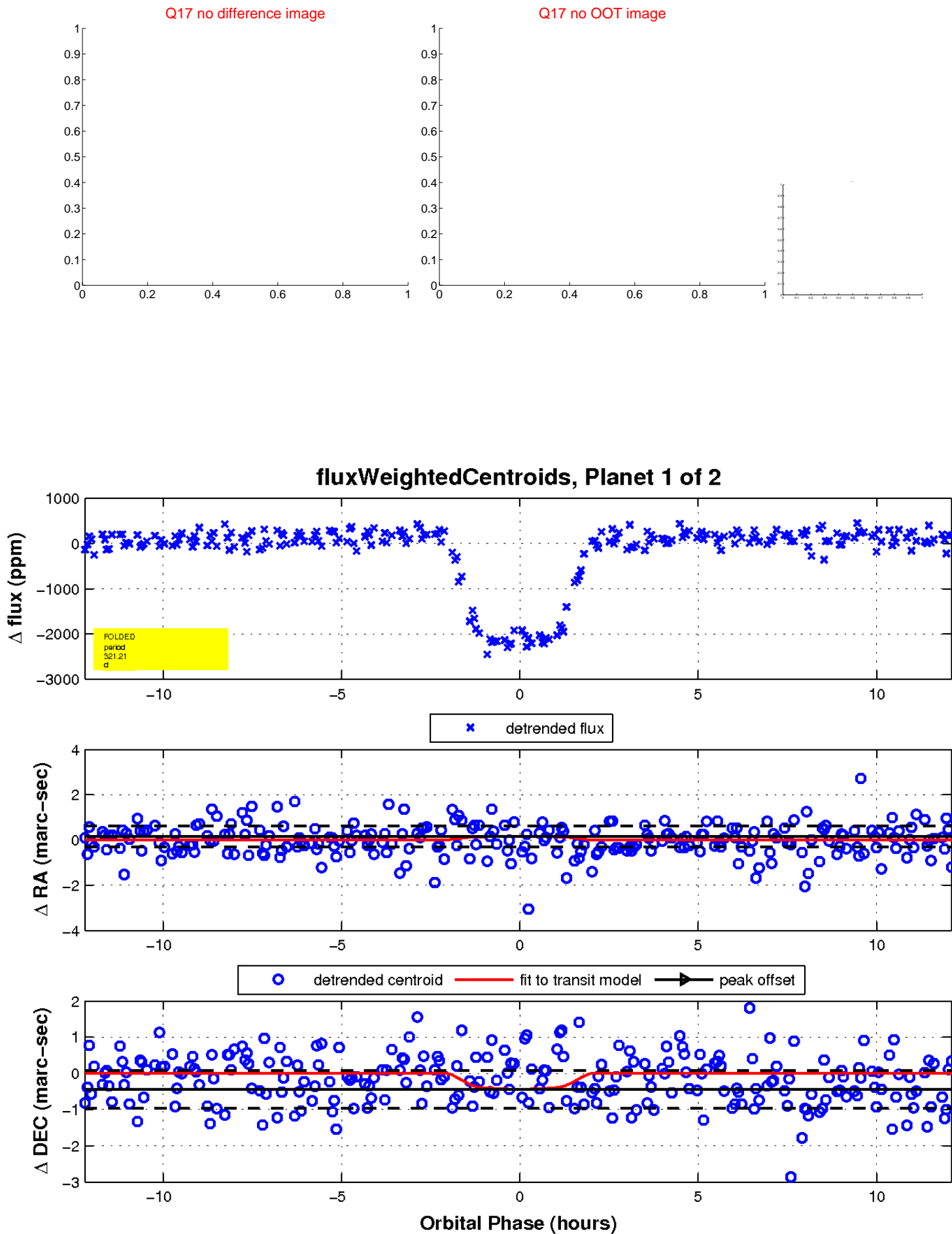
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

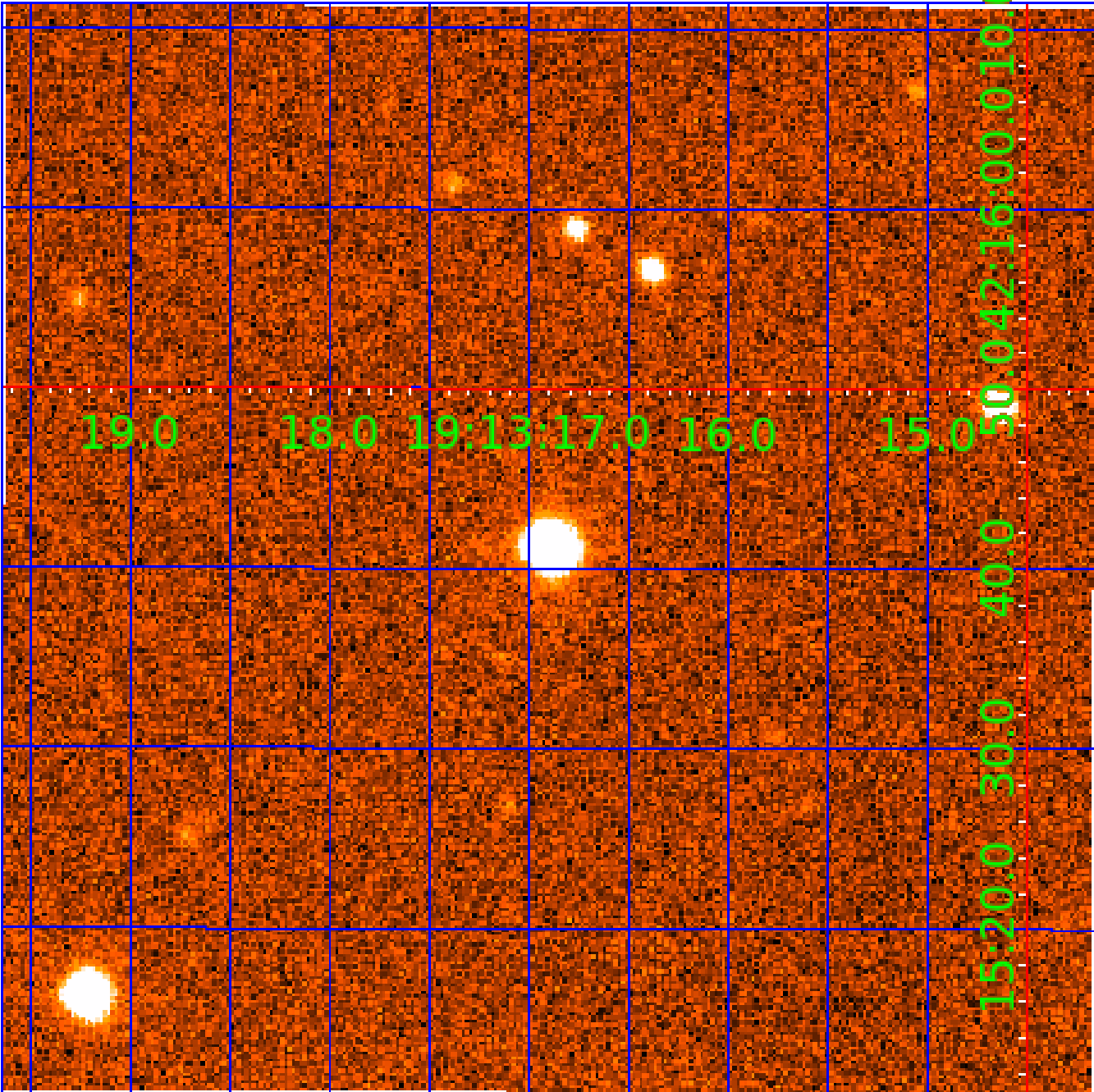


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006766634

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})
006766634-01	OBS	1375.01	321.212145	206.931254	2366.6	4.091	79.7	77.4	1.29	6018	7.33	2.18
006766634-02	OBS	No	321.231187	207.337446	126.9	46.260	7.7	7.9	1.29	6018	1.76	2.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006766634-01	OBS	PC	0.68	0	0	0	0	NO_COMMENT
006766634-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—RESIDUAL_TCE—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 006766634-02

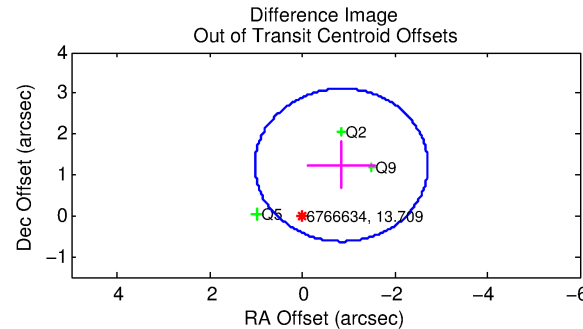
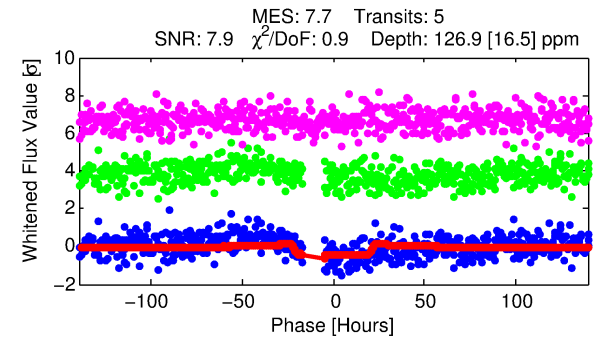
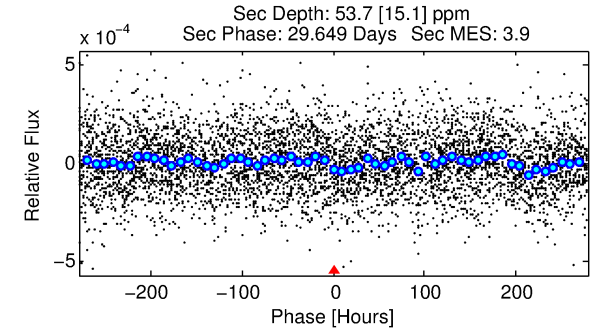
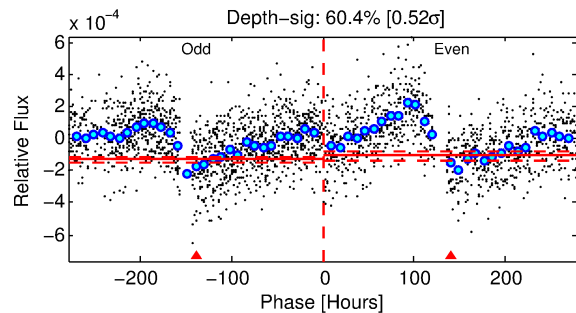
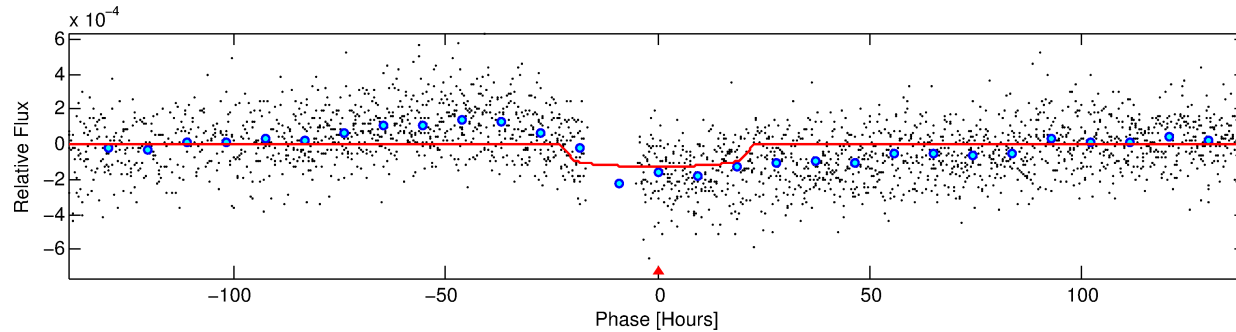
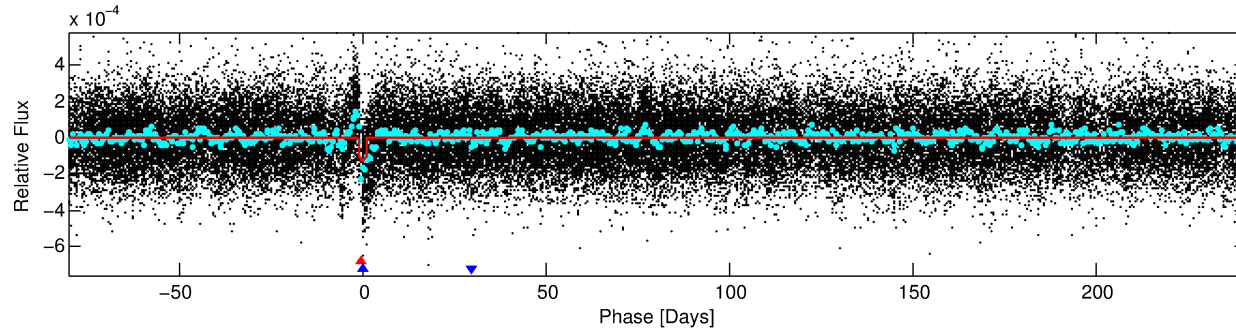
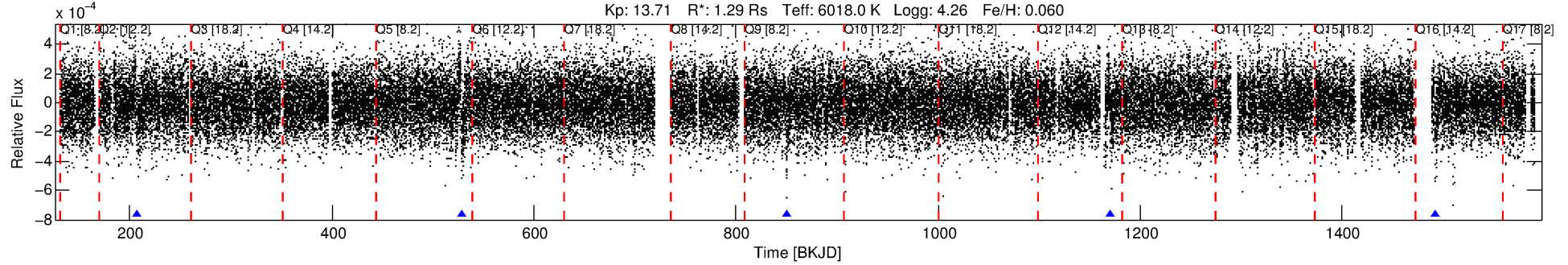
No Significant Match Found

DV One-Page Summary

KIC: 6766634 Candidate: 2 of 2 Period: 321.231 d

KOI: K01375 Corr: No Ephemeris Match

Kp: 13.71 R*: 1.29 Rs Teff: 6018.0 K Logg: 4.26 Fe/H: 0.060



DV Fit Results:

Period = 321.23119 [0.02091] d
Epoch = 207.3374 [0.0530] BKJD
Rp/R* = 0.0125 [0.0013]
a/R* = 21.85 [8.14]
b = 0.93 [0.06]
Seff = 2.18 [0.54]
Teq = 310 [19] K
Rp = 1.76 [0.33] Re
a = 0.9449 [0.1420] AU
Ag = 8549.15 [3593.59] [2.38σ]
Teff = 4605 [411] K [10.45σ]

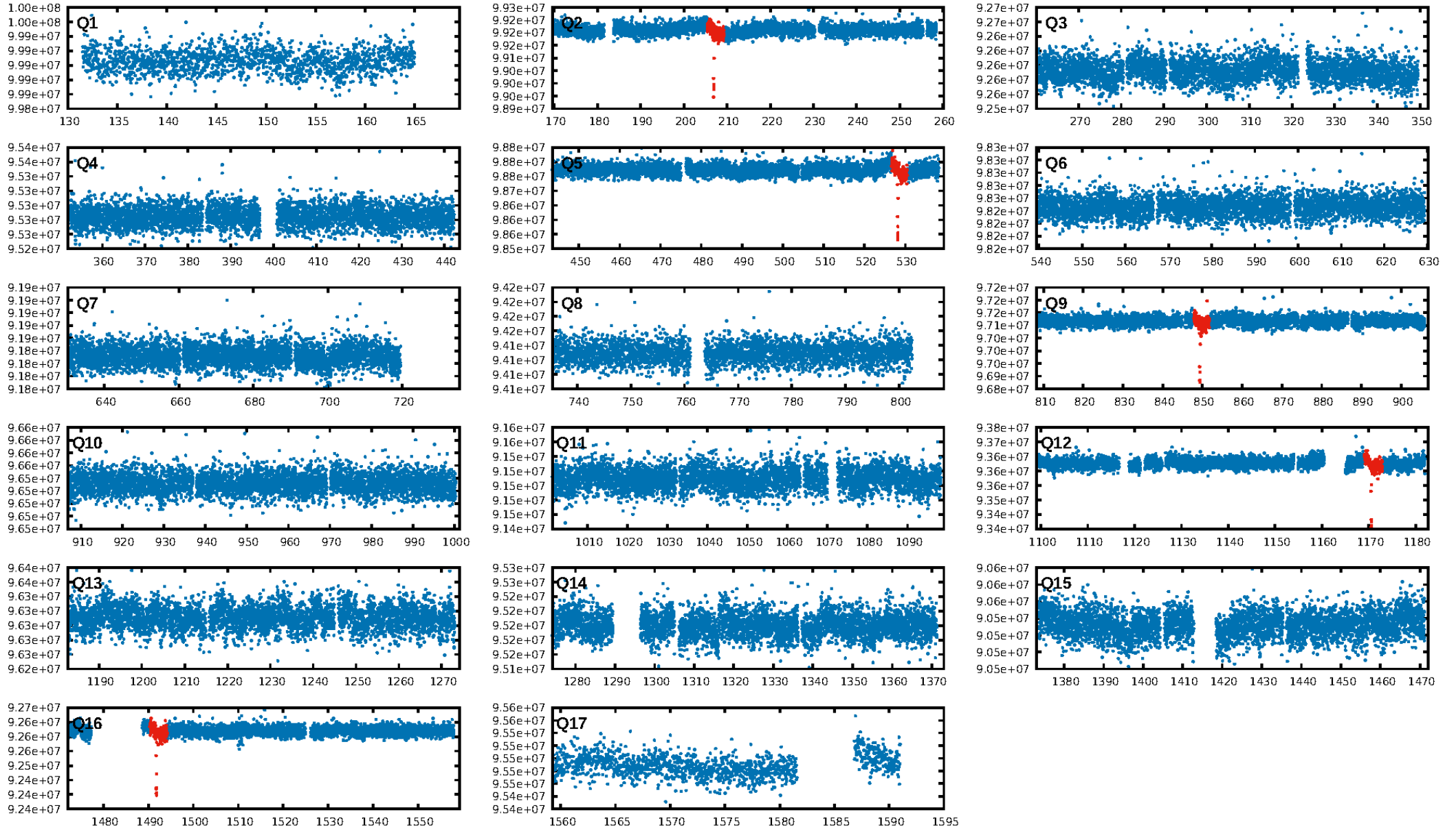
DV Diagnostic Results:

ShortPeriod-sig: 0.8% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 79.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.14e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 24.05
Centroid-sig: 1.4%
Centroid-so: 1.769 arcsec [1.69σ]
OotOffset-rm: 1.499 arcsec [2.40σ]
KicOffset-rm: 1.583 arcsec [2.24σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

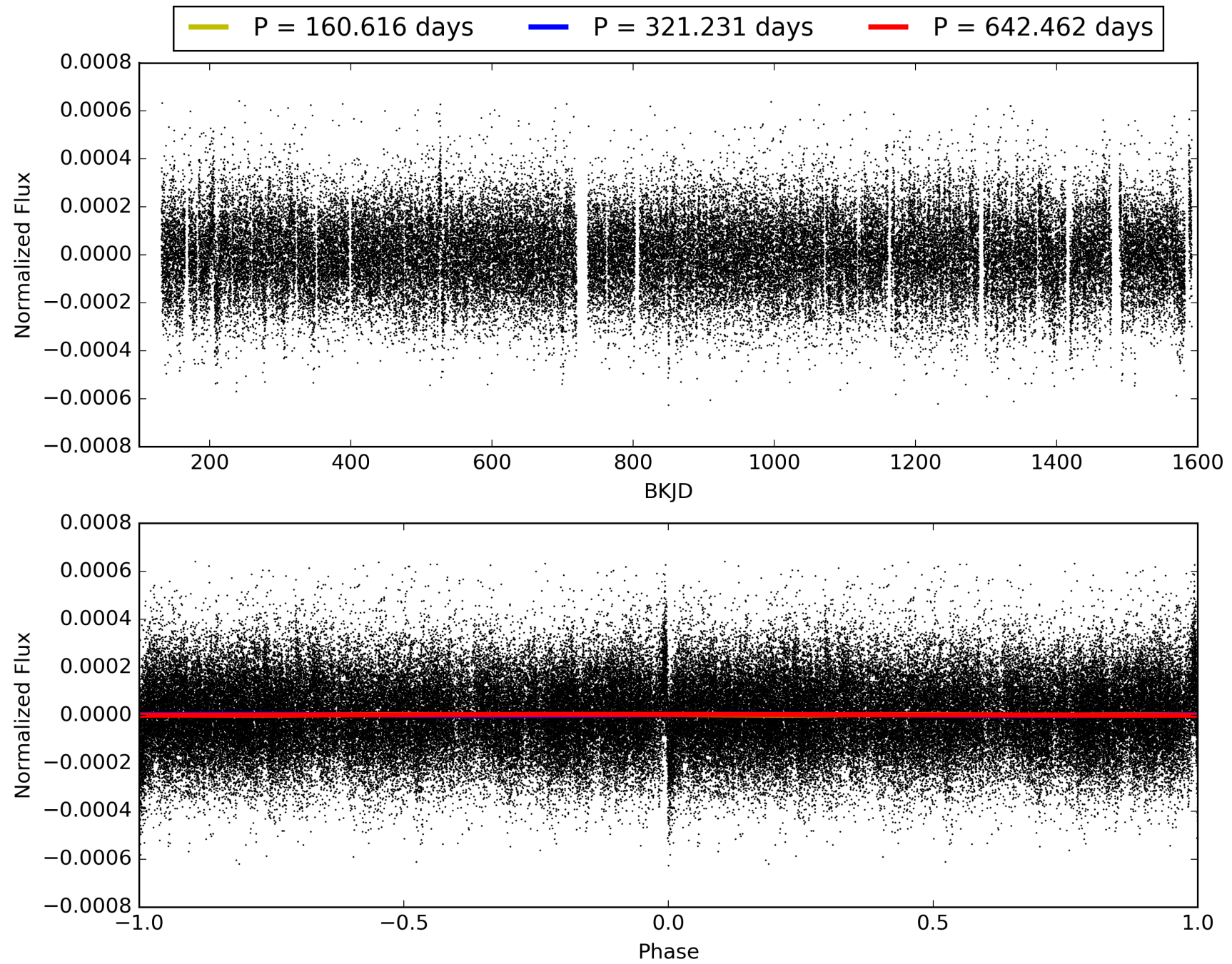
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:13:38 Z

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

TCE 006766634-02, PDC Light Curves

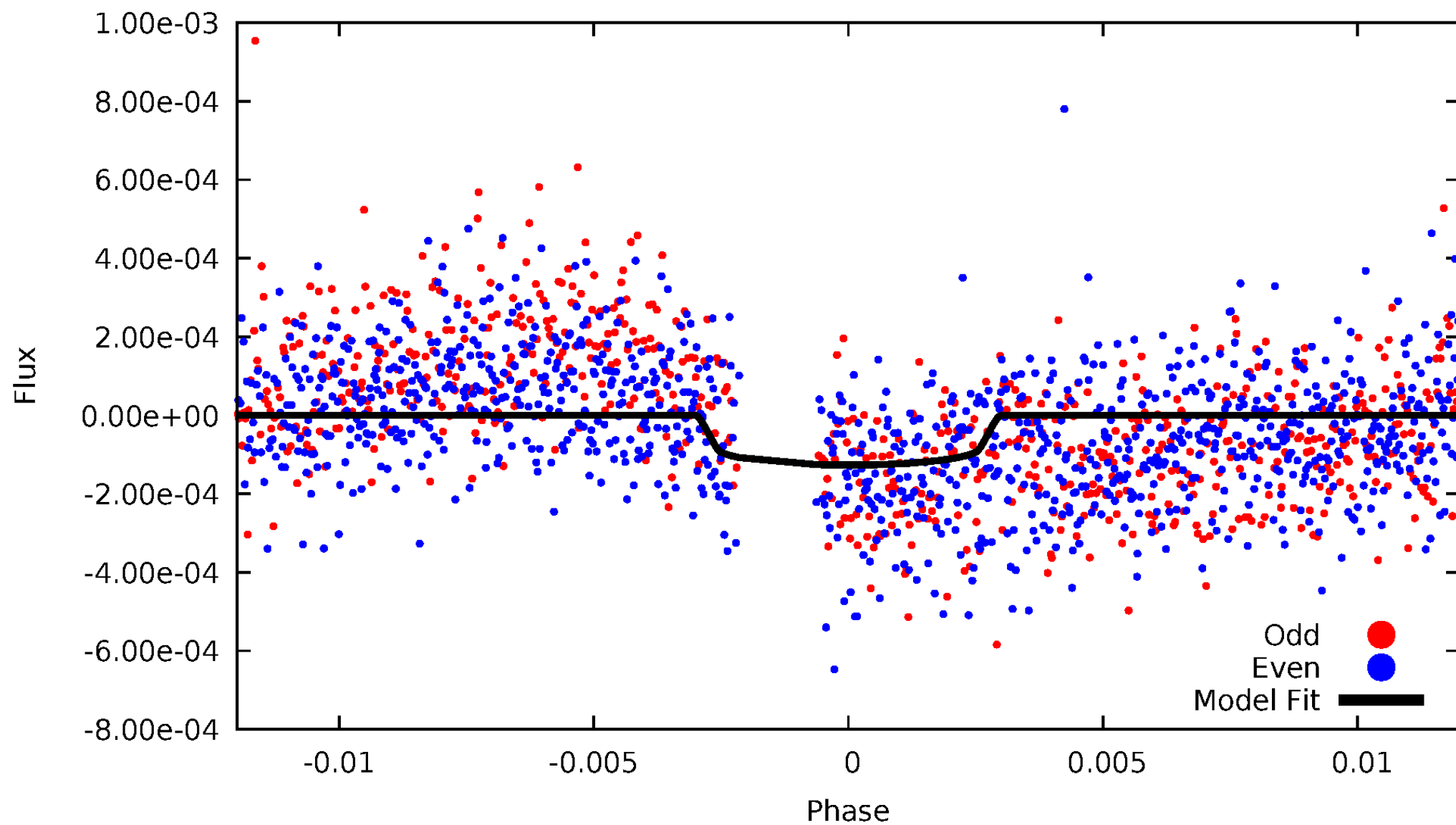


TCE 006766634-02



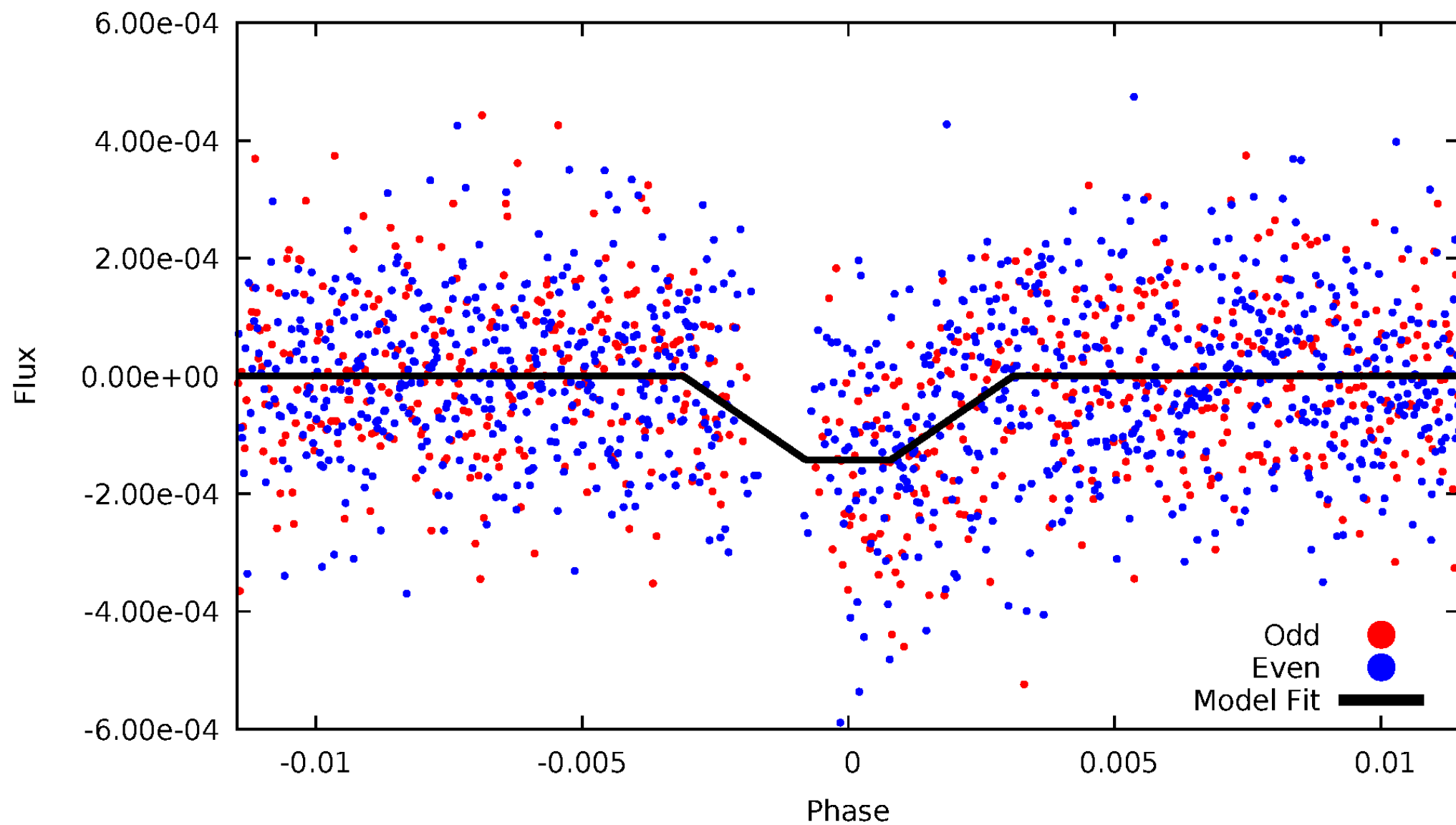
DV Odd/Even

TCE 006766634-02



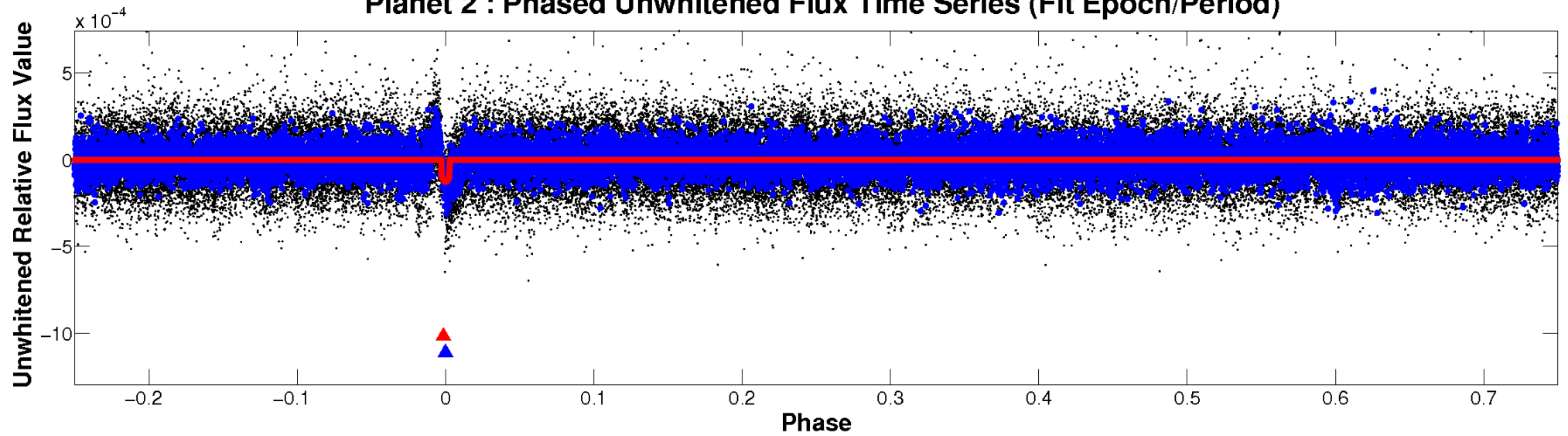
ALT Odd/Even

TCE 006766634-02

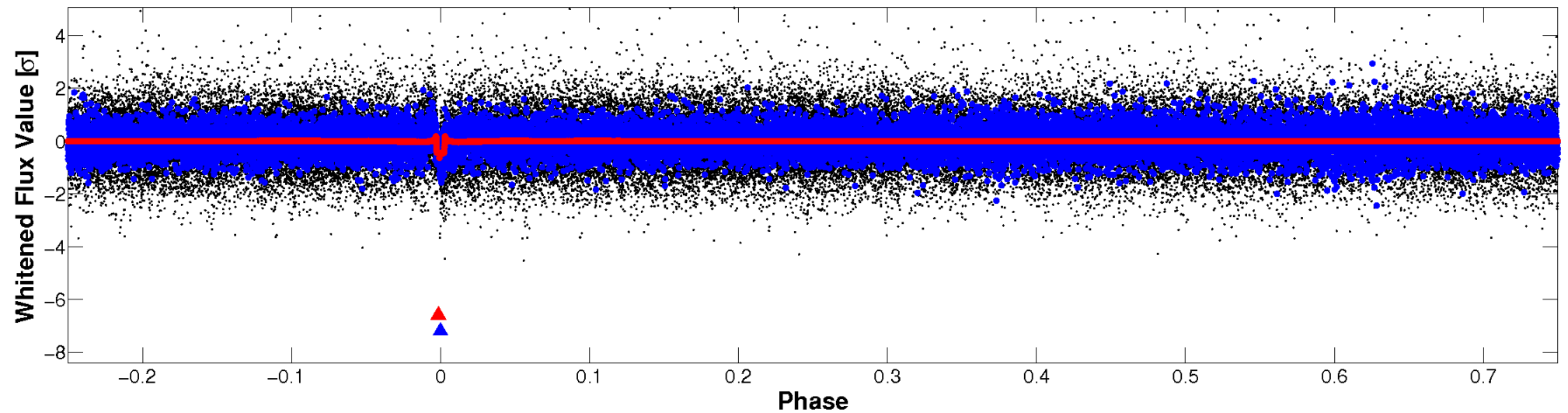


Non-Whitened Vs. Whitened Light Curve

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

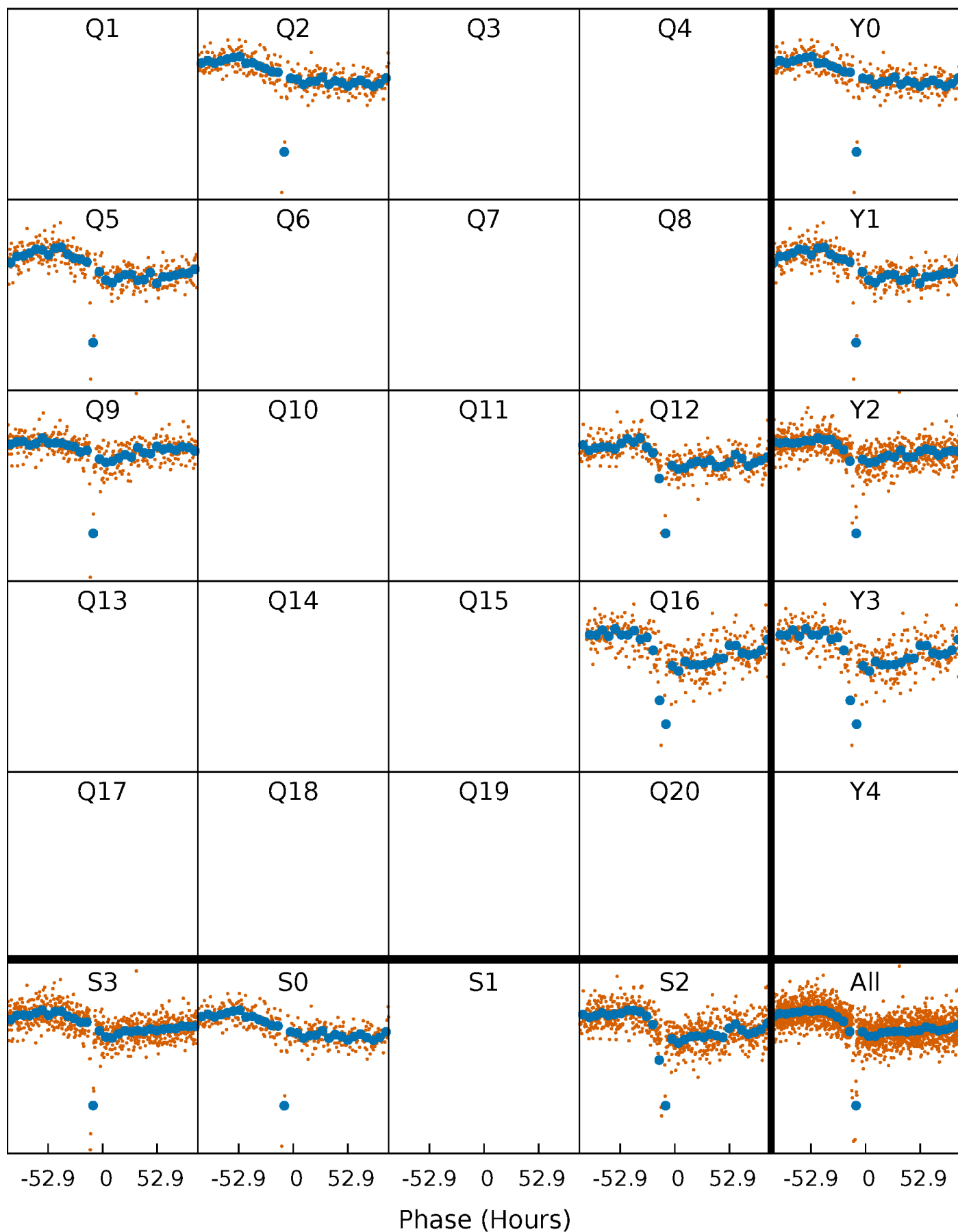


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



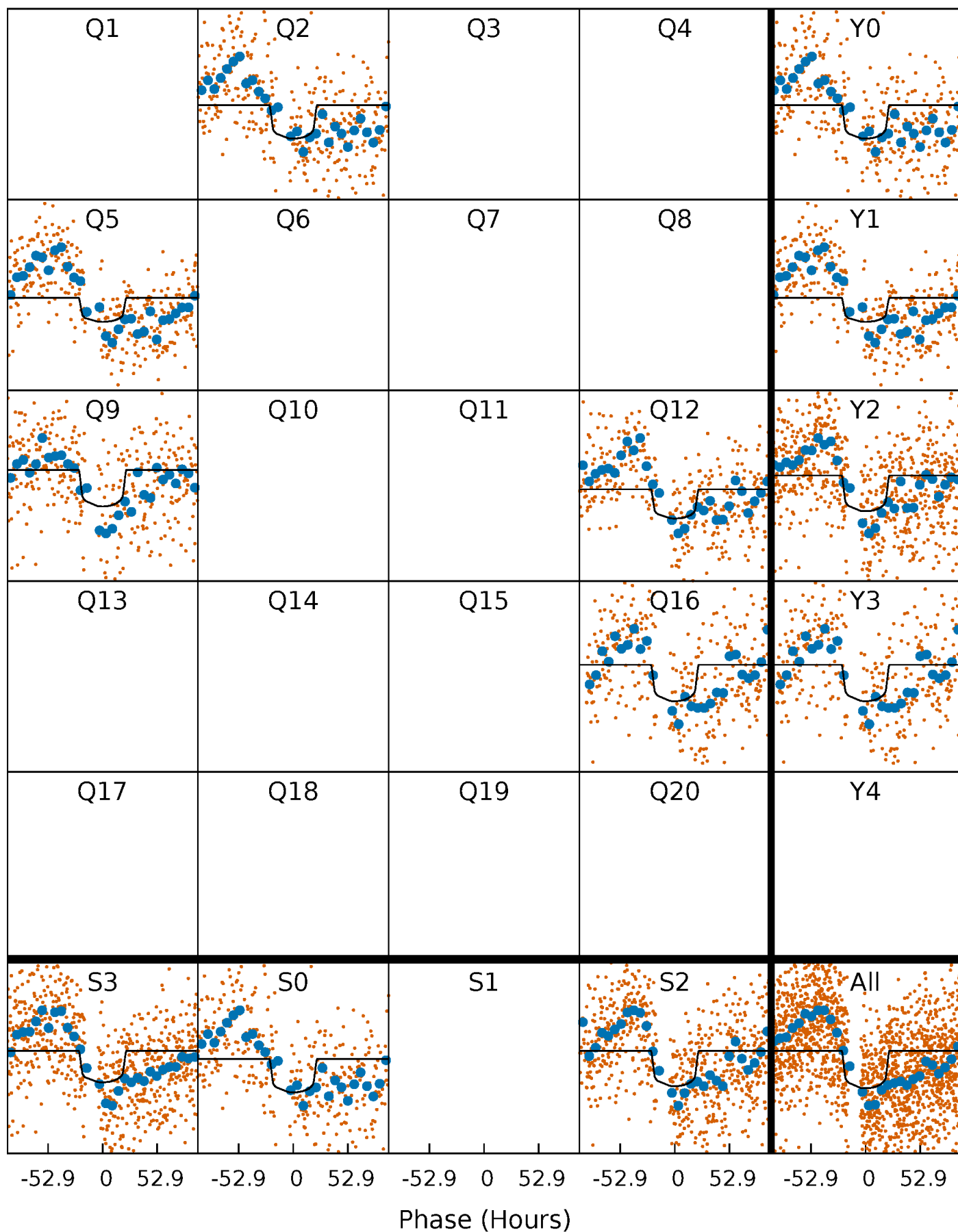
PDC Quarter-Phased Transit Curves

TCE 006766634-02 P=321.231187 Days $T_0=207.337446$ (BKJD)



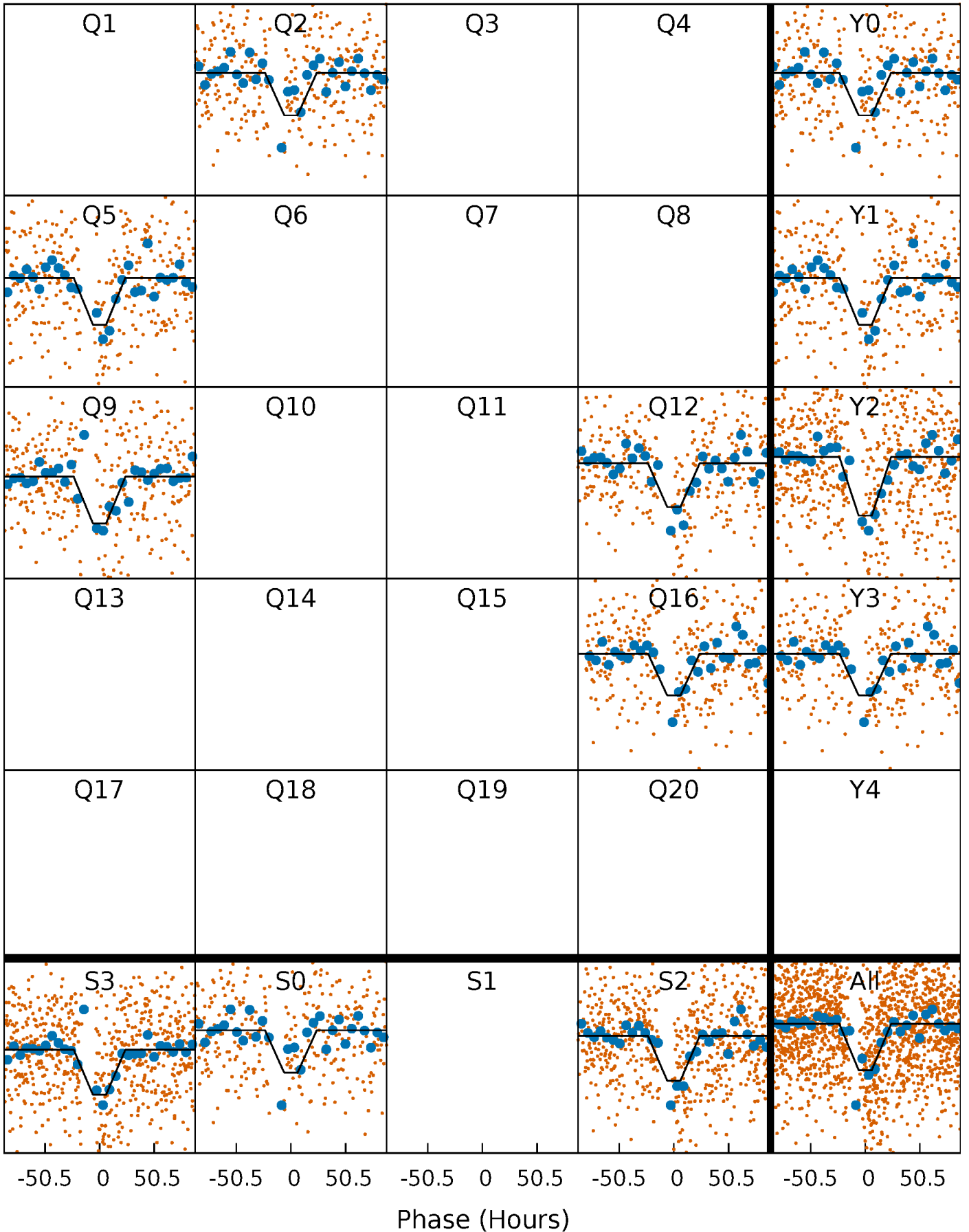
DV Quarter-Phased Transit Curves

TCE 006766634-02 P=321.231187 Days $T_0=207.337446$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

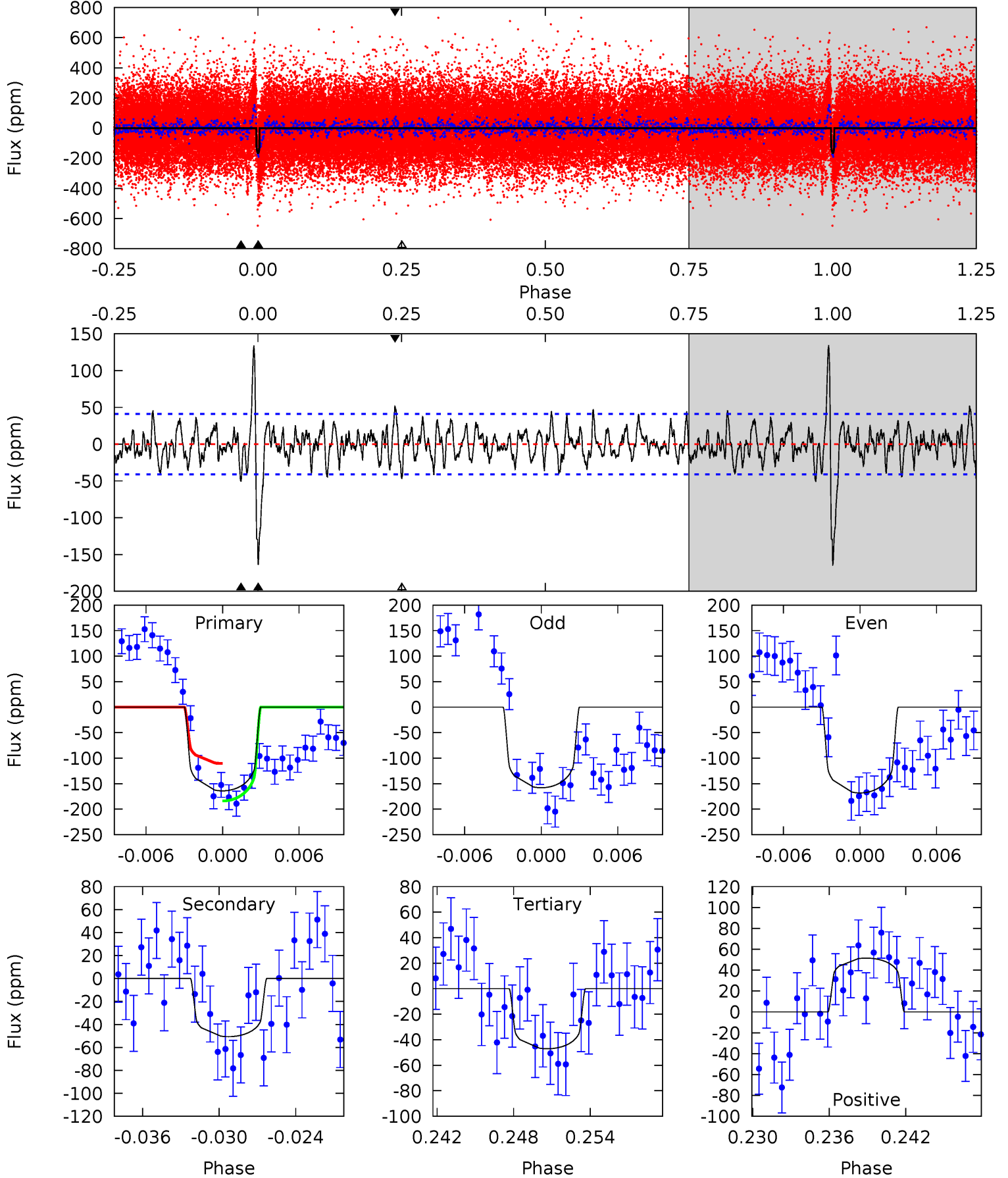
TCE 006766634-02 P=321.147451 Days $T_0=207.465009$ (BKJD)



DV Model-Shift Uniqueness Test

006766634-02, P = 321.231187 Days, E = 207.337446 Days

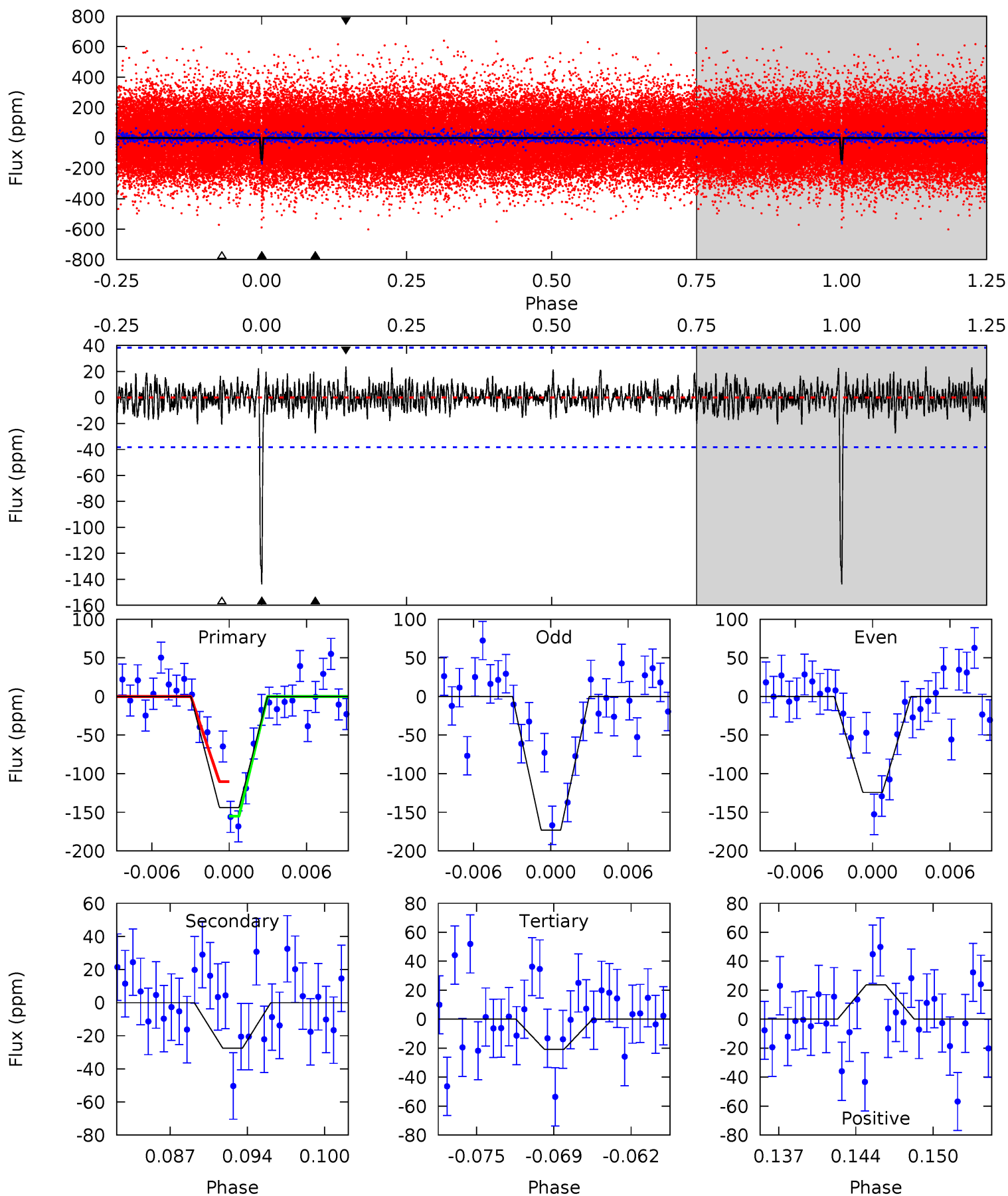
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	6.33	5.89	6.45	5.12	2.75	2.41	14.6	14.1	0.45	-0.11	0.63	0.99	0.45	4.28



Alt Model-Shift Uniqueness Test

006766634-02, P = 321.147451 Days, E = 207.465009 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	3.68	2.78	3.16	5.12	2.73	0.90	16.4	16.0	0.90	0.52	3.20	0.95	0.14	2.79



Stellar Parameters For KIC 006766634

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6018^{+120}_{-120}	$4.257^{+0.137}_{-0.112}$	$0.060^{+0.150}_{-0.150}$	$1.286^{+0.207}_{-0.207}$	$1.090^{+0.100}_{-0.082}$	$0.722^{+0.452}_{-0.235}$
	+2%/-2%	+3%/-3%	+250%/-250%	+16%/-16%	+9%/-8%	+63%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 006766634-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-51 ± 8	$1.76^{+0.24}_{-0.24}$	432^{+19}_{-19}	4672^{+282}_{-237}	8171^{+3102}_{-2237}
Alt.	-28 ± 8	$1.68^{+0.26}_{-0.24}$	433^{+19}_{-20}	4232^{+279}_{-280}	4772^{+2186}_{-1671}

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 $A_{obs} \gg 1.0$

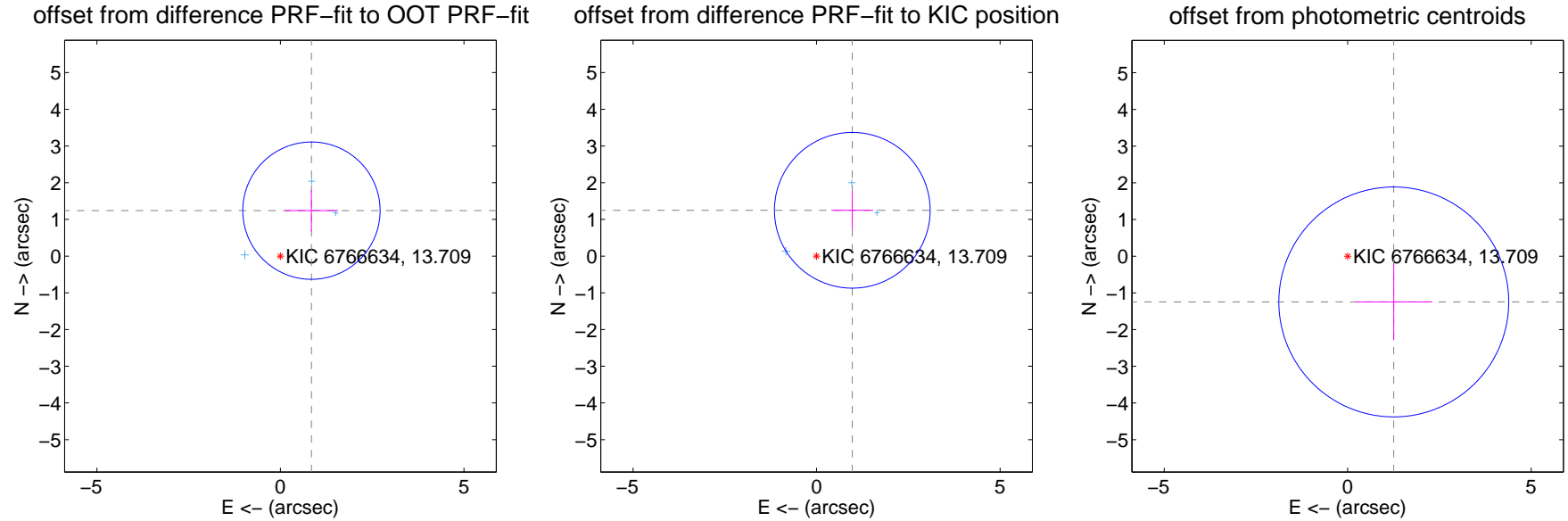
DV Centroid Data

Supplemental centroid analysis for 006766634-02. Kepler magnitude: 13.71. Transit SNR 7.87

There are 3 quarters with good PRF difference image offsets

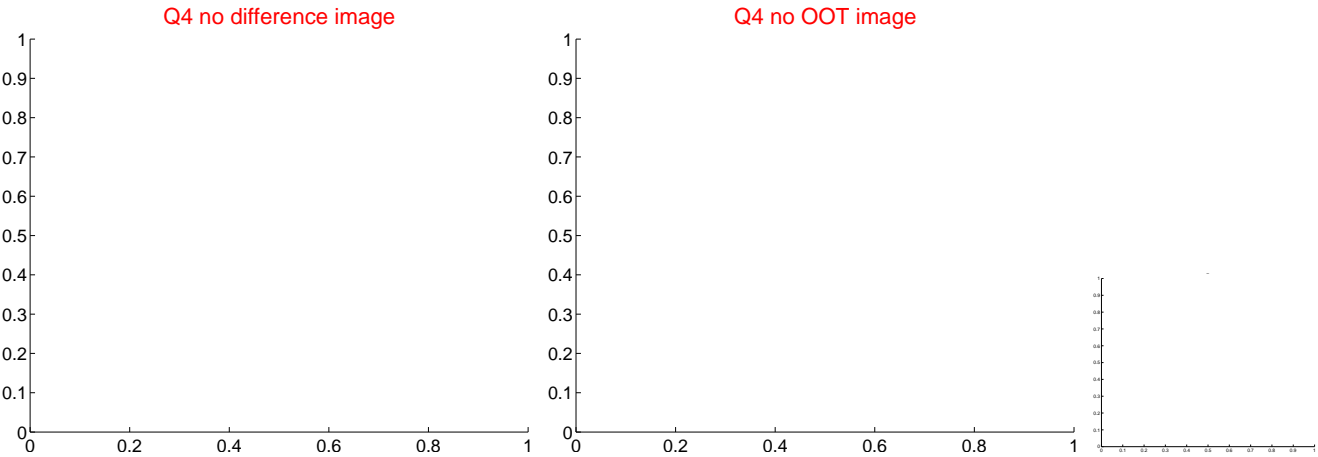
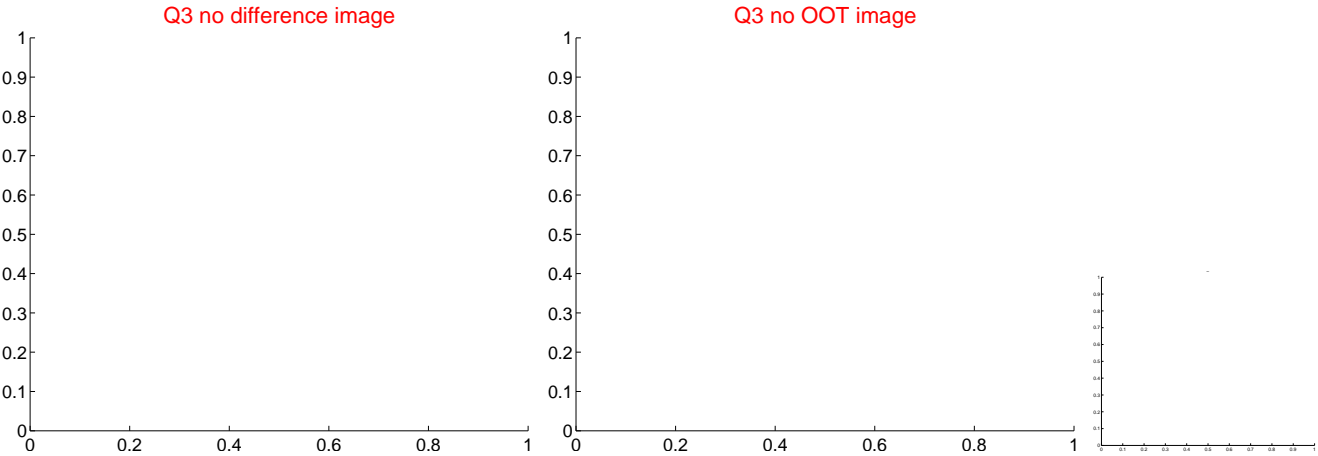
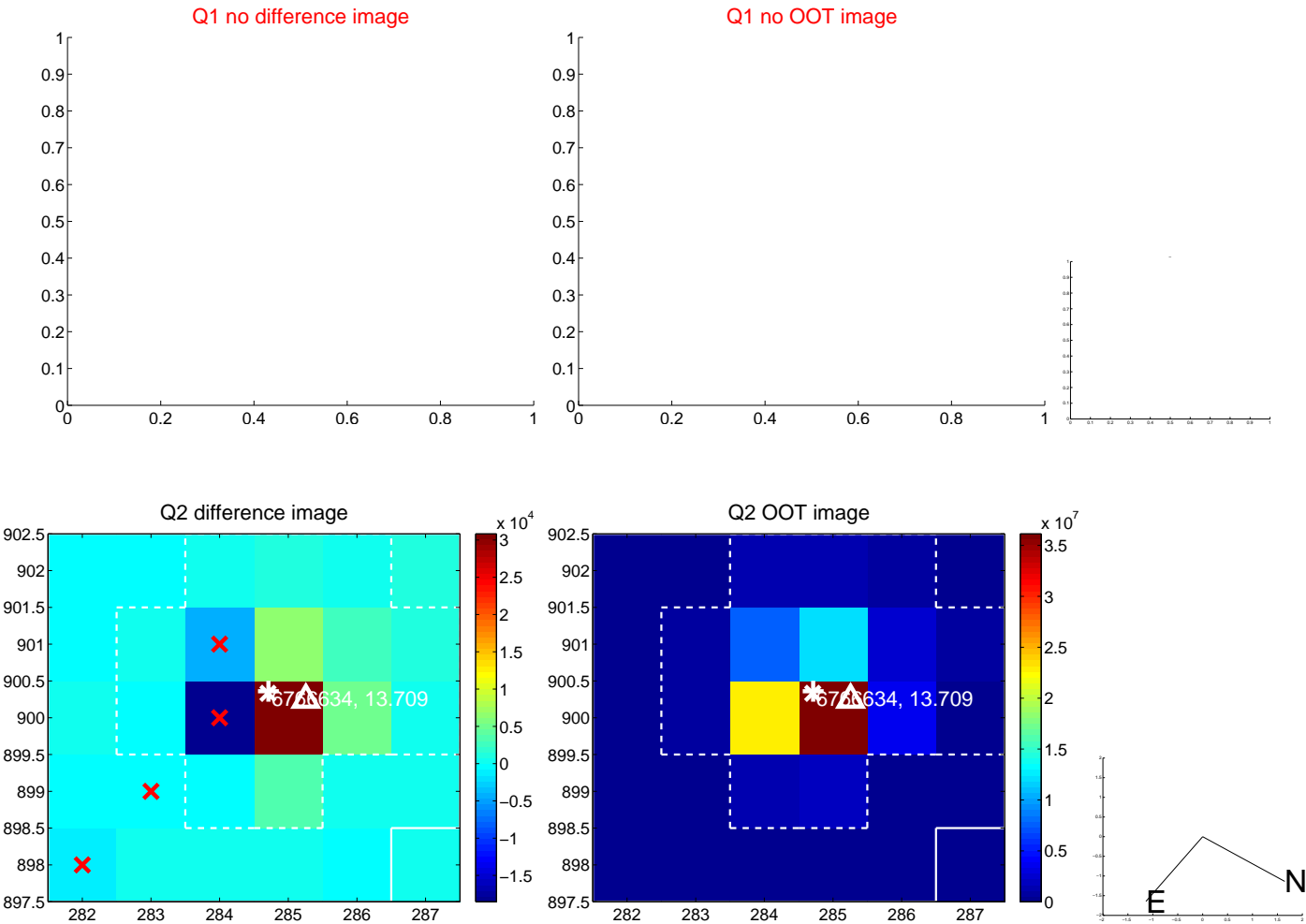
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.499 ± 0.624	2.40	-0.844 ± 0.726	1.239 ± 0.570
PRF-fit source offset from KIC position	1.583 ± 0.707	2.24	-0.973 ± 0.571	1.249 ± 0.517
photometric centroid source offset	1.77 ± 1.04	1.69	-1.26 ± 1.05	-1.25 ± 1.04

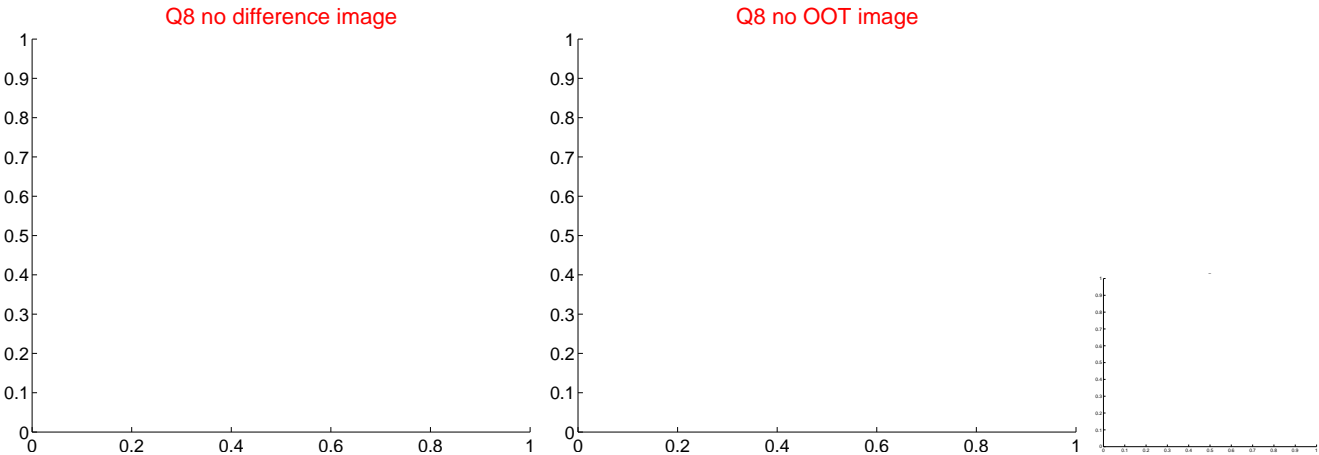
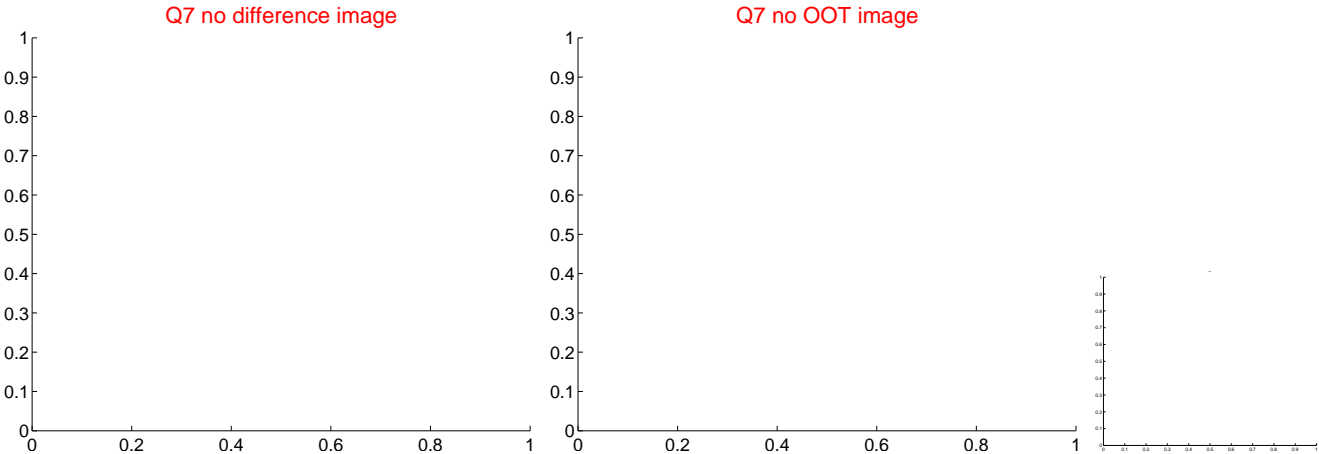
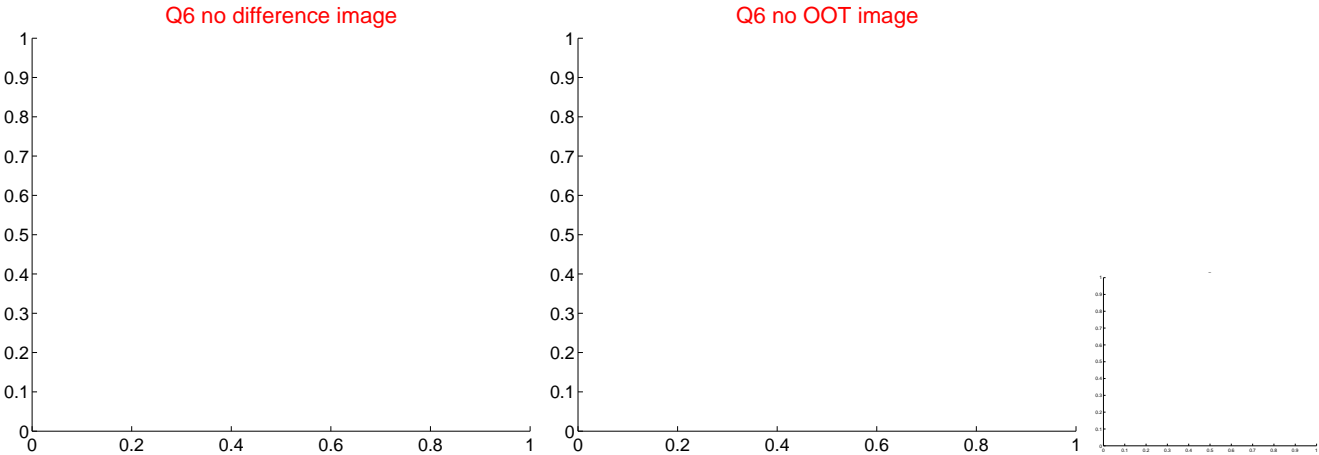
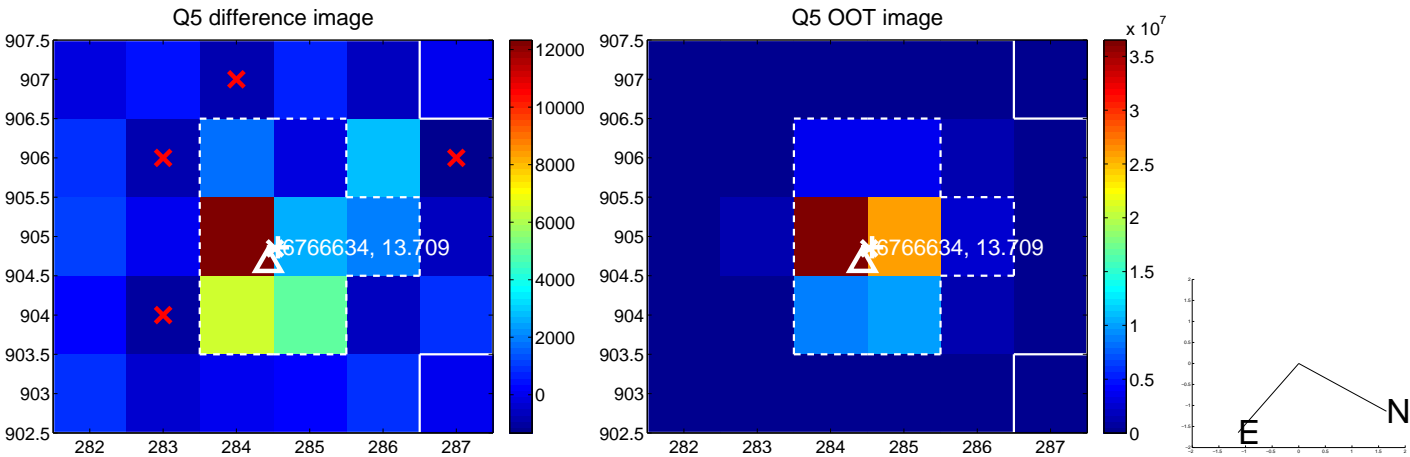


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

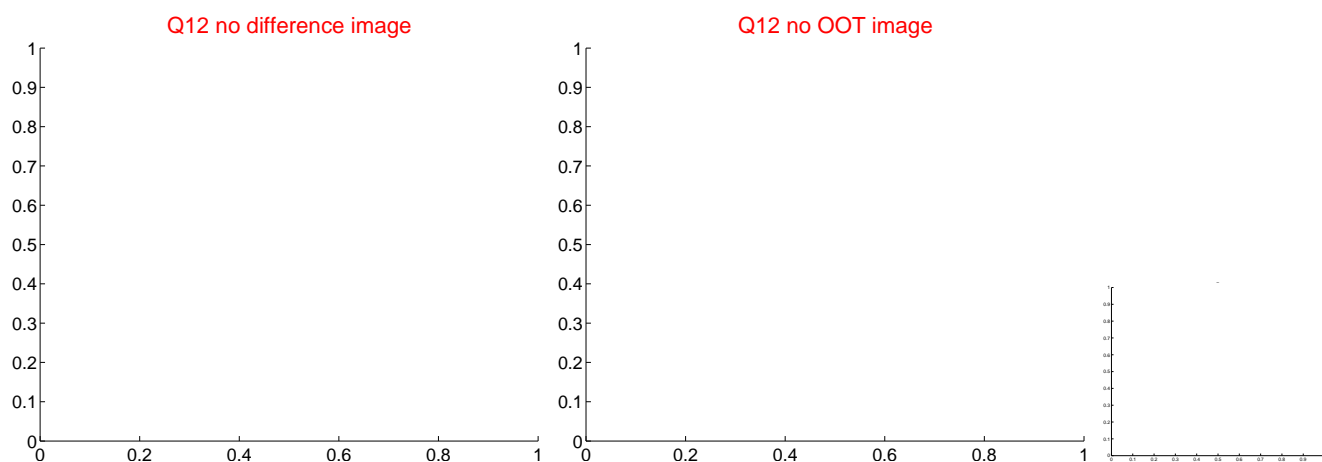
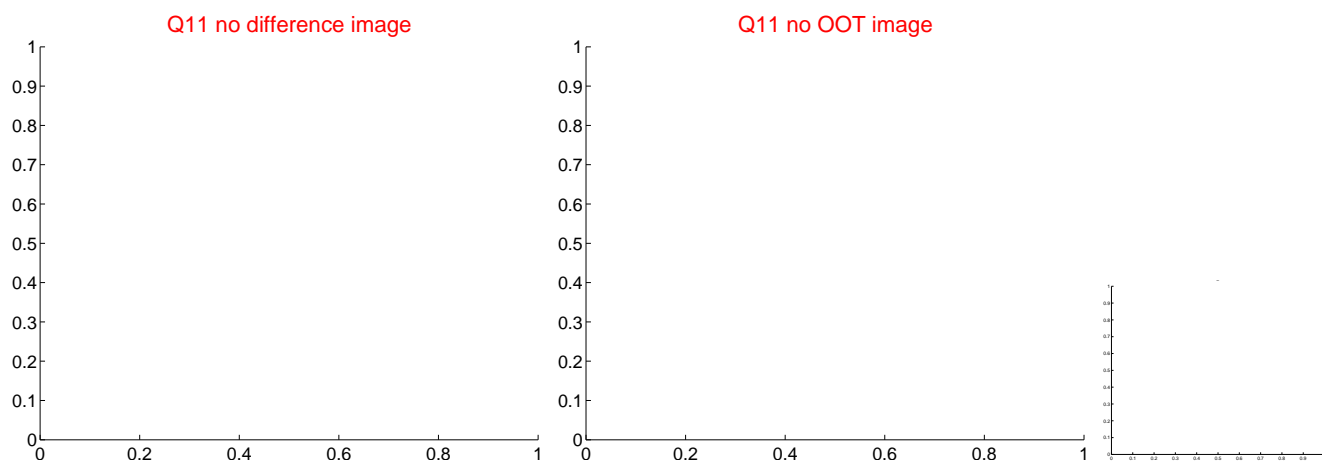
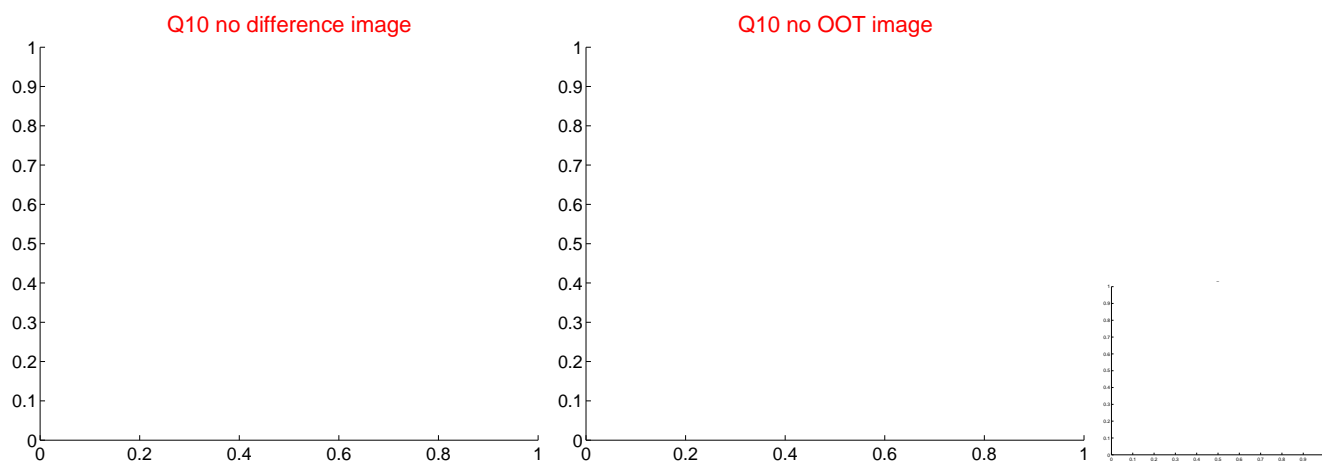
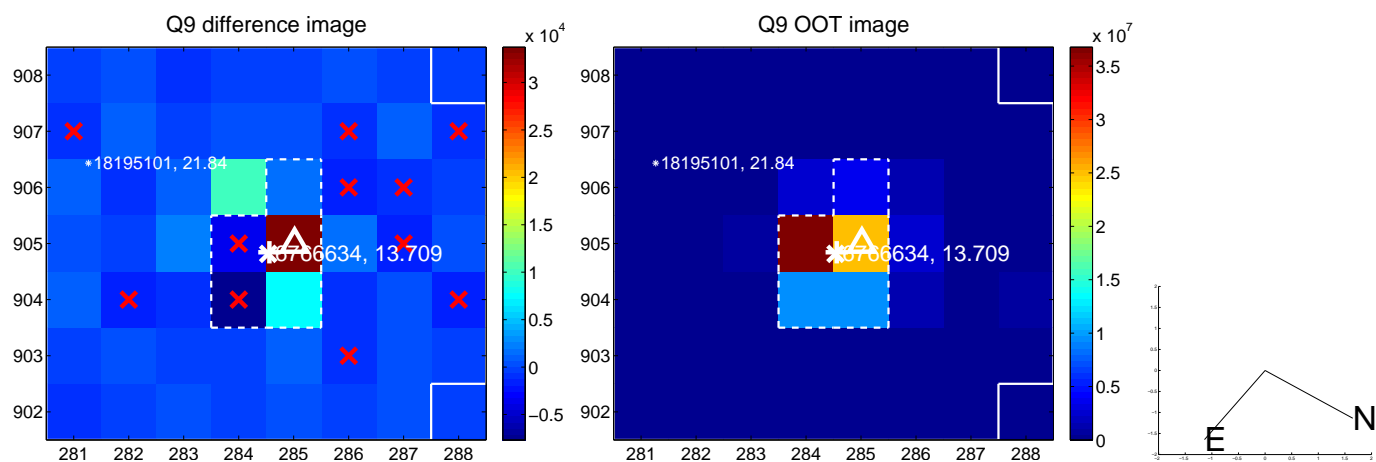
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



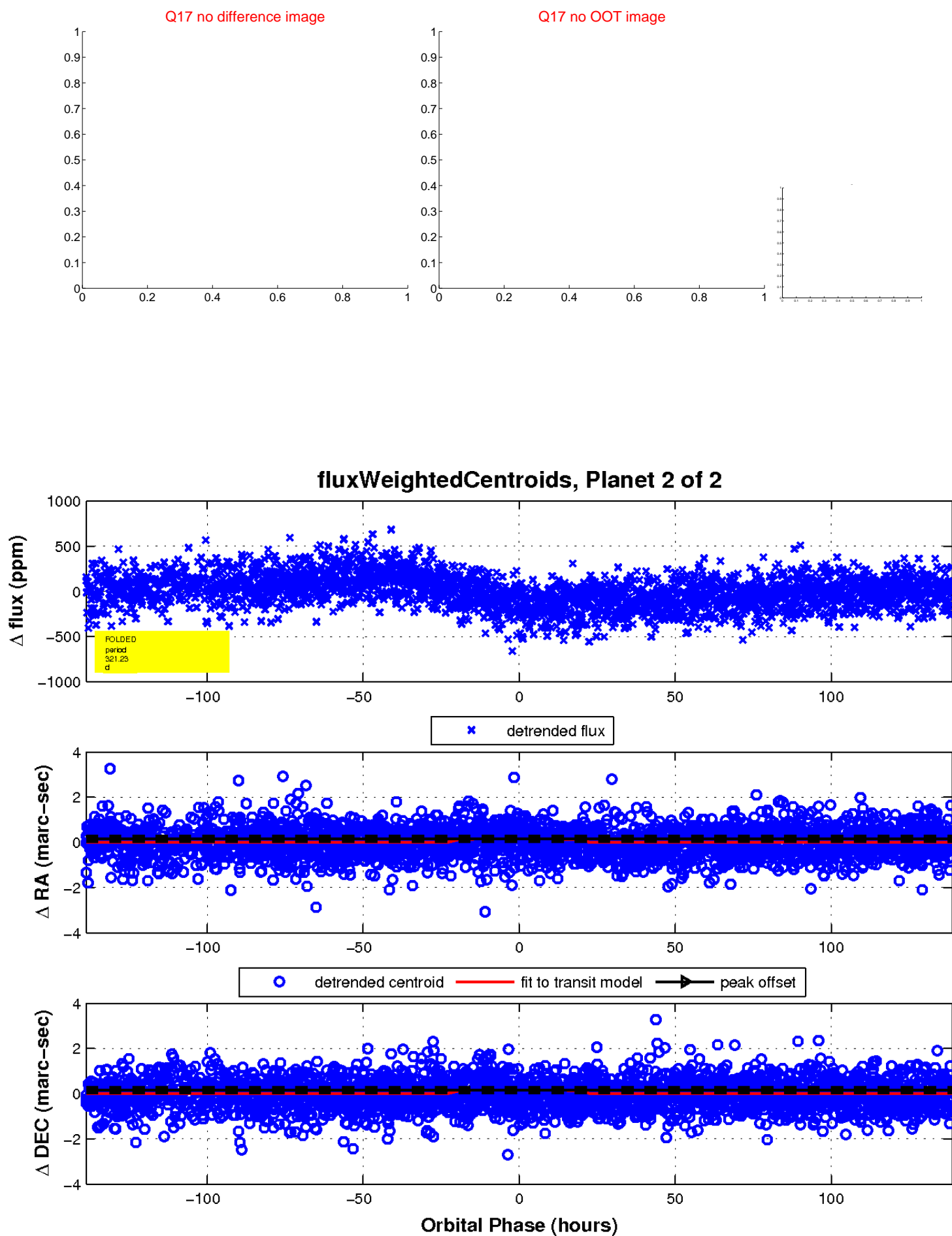
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



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



UKIRT Image

Declination

