

KIC 011200405

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})
011200405-01	OBS	3724.01	4.639579	135.104489	26354.8	3.538	375.2	334.2	1.19	6078	20.74	645.61
011200405-02	OBS	No	4.639635	132.789755	914.2	3.116	12.9	13.7	1.19	6078	4.24	645.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011200405-01	OBS	FP	0.02	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_FEW_MEAS
011200405-02	OBS	FP	0.00	1	1	0	0	IS_SEC_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.

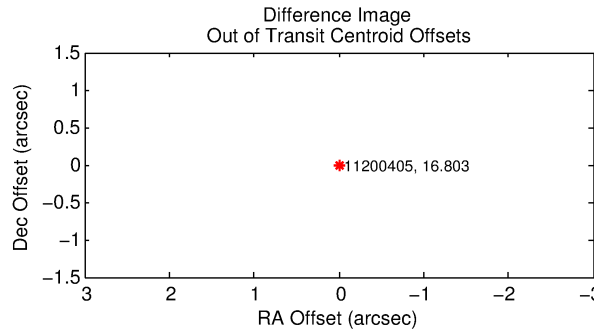
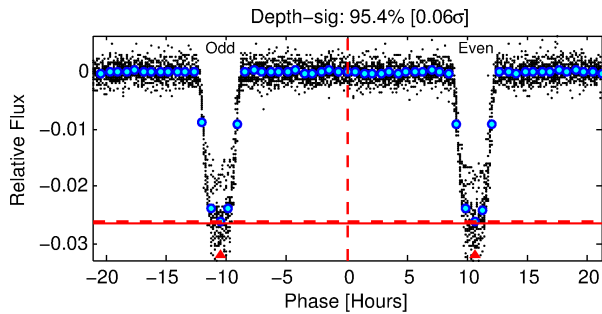
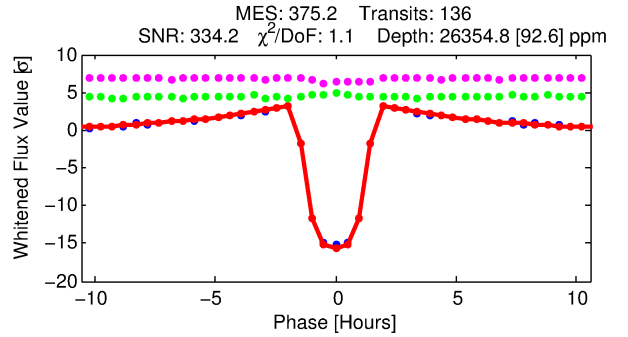
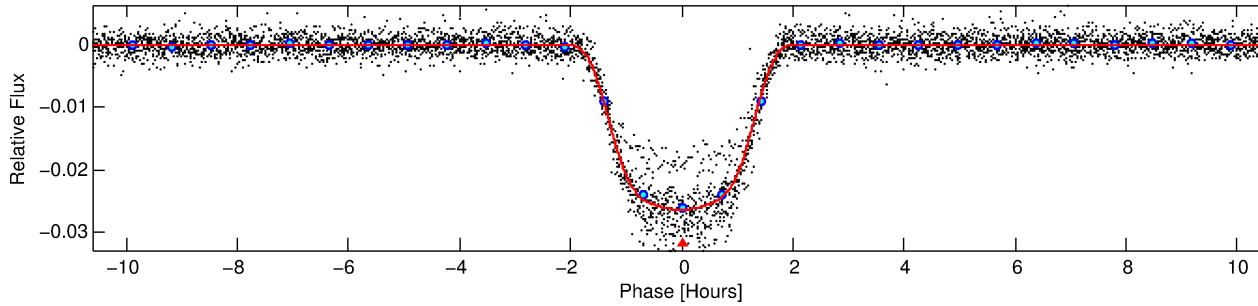
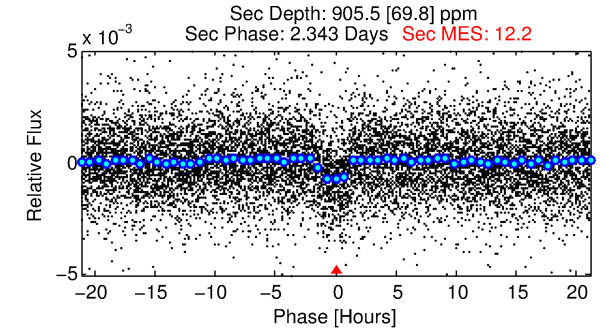
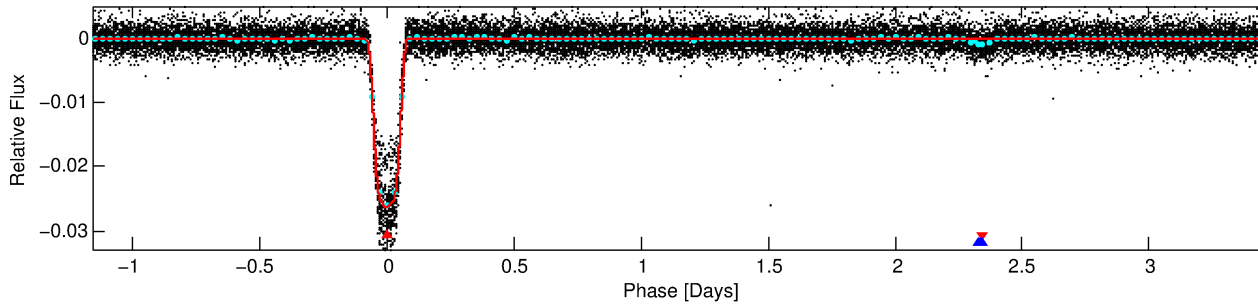
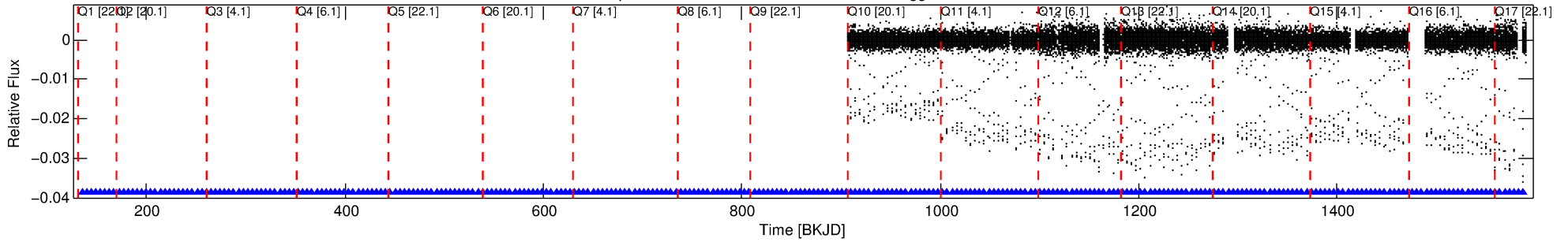
Ephemeris Match Information For 011200405-01

No Significant Match Found

DV One-Page Summary

KIC: 11200405 Candidate: 1 of 2 Period: 4.640 d
KOI: K03724.01 Corr: 0.983

Kp: 16.80 R*: 1.19 Rs Teff: 6078.0 K Logg: 4.22 Fe/H: -0.560



DV Fit Results:

Period = 4.63958 [0.00000] d
Epoch = 135.1045 [0.0003] BKJD
Rp/R* = 0.1592 [0.0005]
a/R* = 9.42 [0.11]
b = 0.68 [0.01]
Seff = 645.61 [305.34]
Teq = 1285 [152] K
Rp = 20.74 [5.79] Re
a = 0.0520 [0.0145] AU
Ag = 3.13 [1.44] [1.48σ]
Teffp = 2642 [101] K [7.44σ]

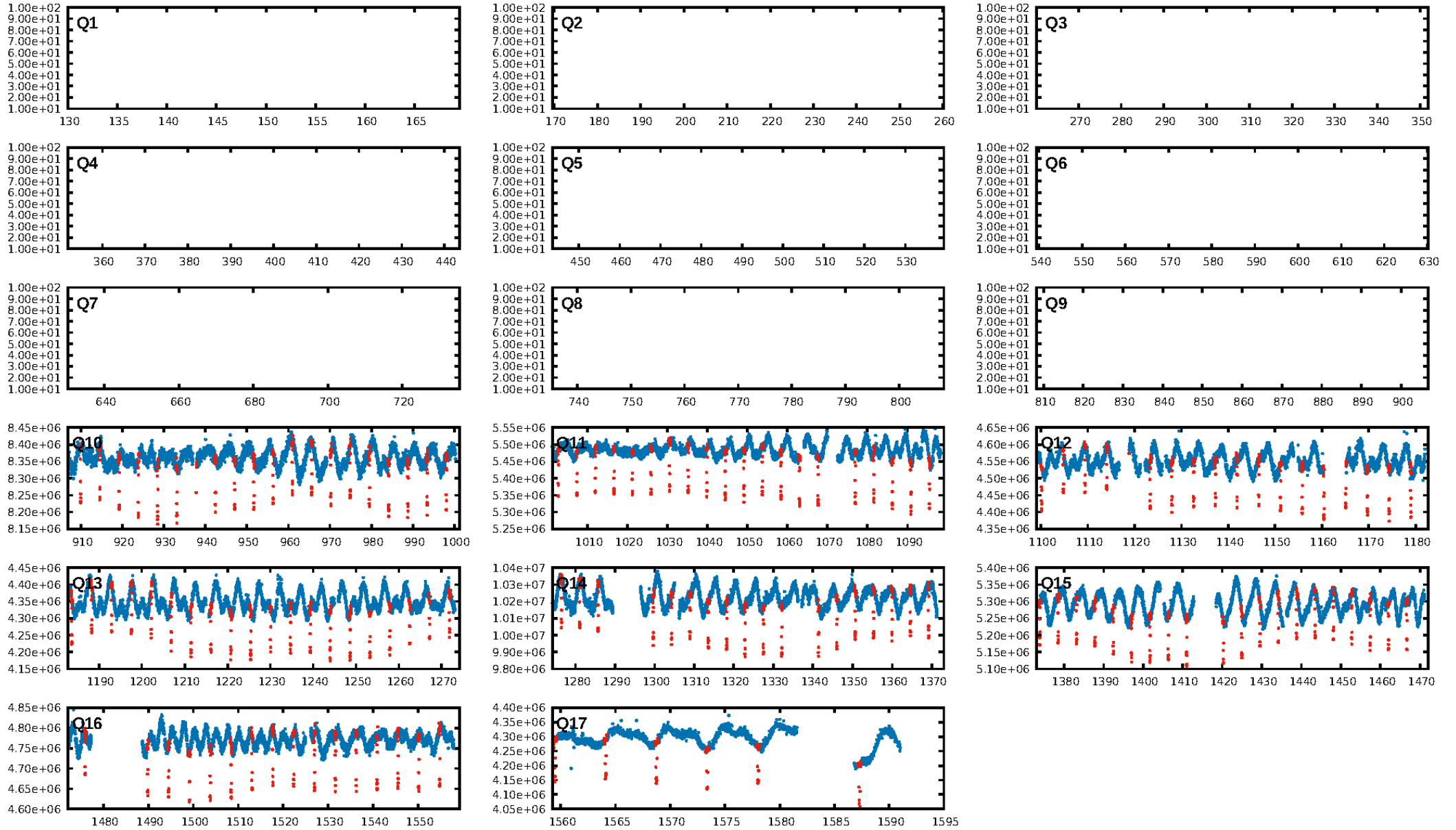
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [130/130]
GhostDiagnostic-chr: 4.742
Centroid-sig: 0.0%
Centroid-so: 4.064 arcsec [1429.55σ]
OotOffset-rm: N/A
KicOffset-rm: 0.270 arcsec [2.47σ]
OotOffset-st: 0/0/0 [0]
KicOffset-st: 2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

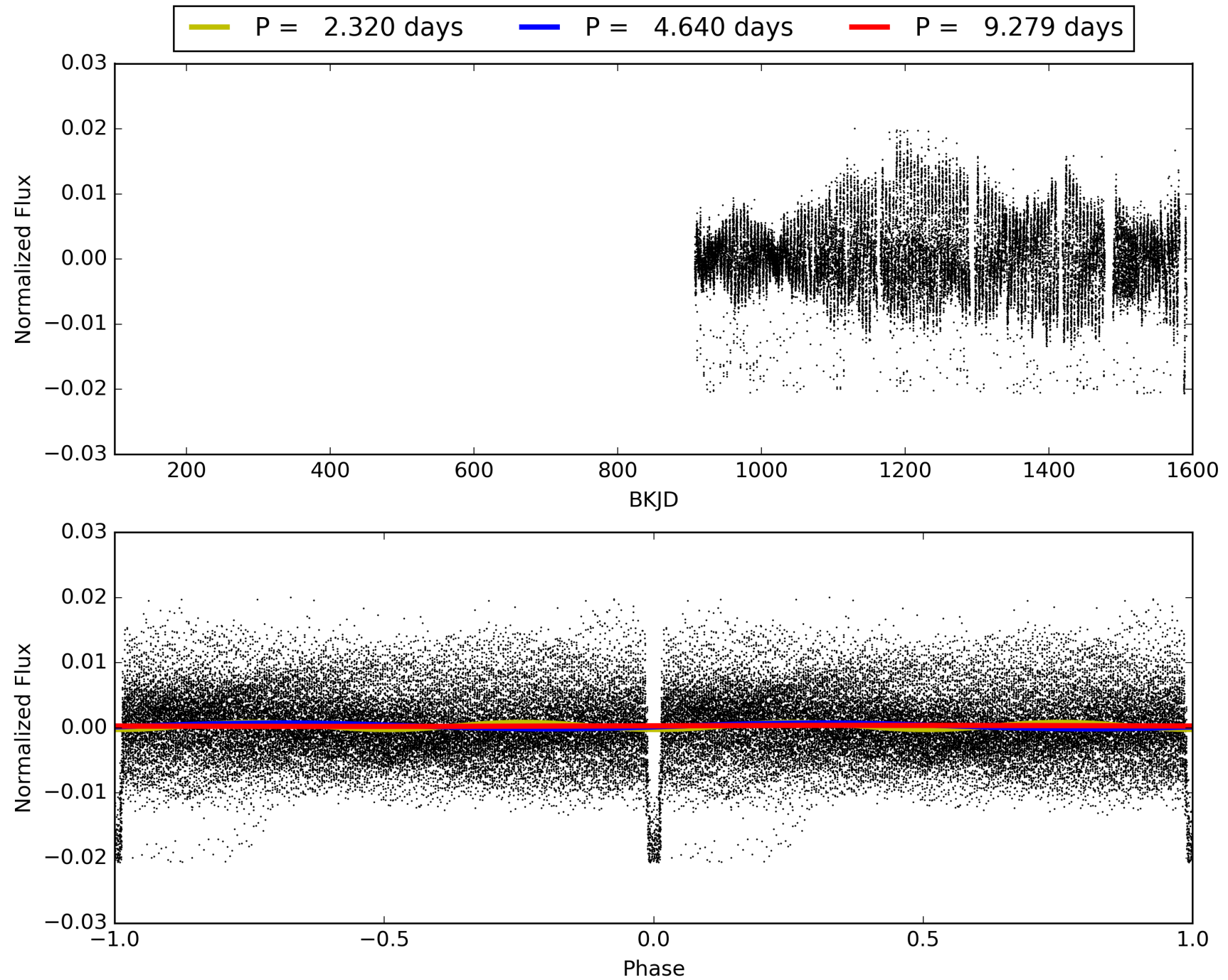
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:29:45 Z

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

TCE 011200405-01, PDC Light Curves

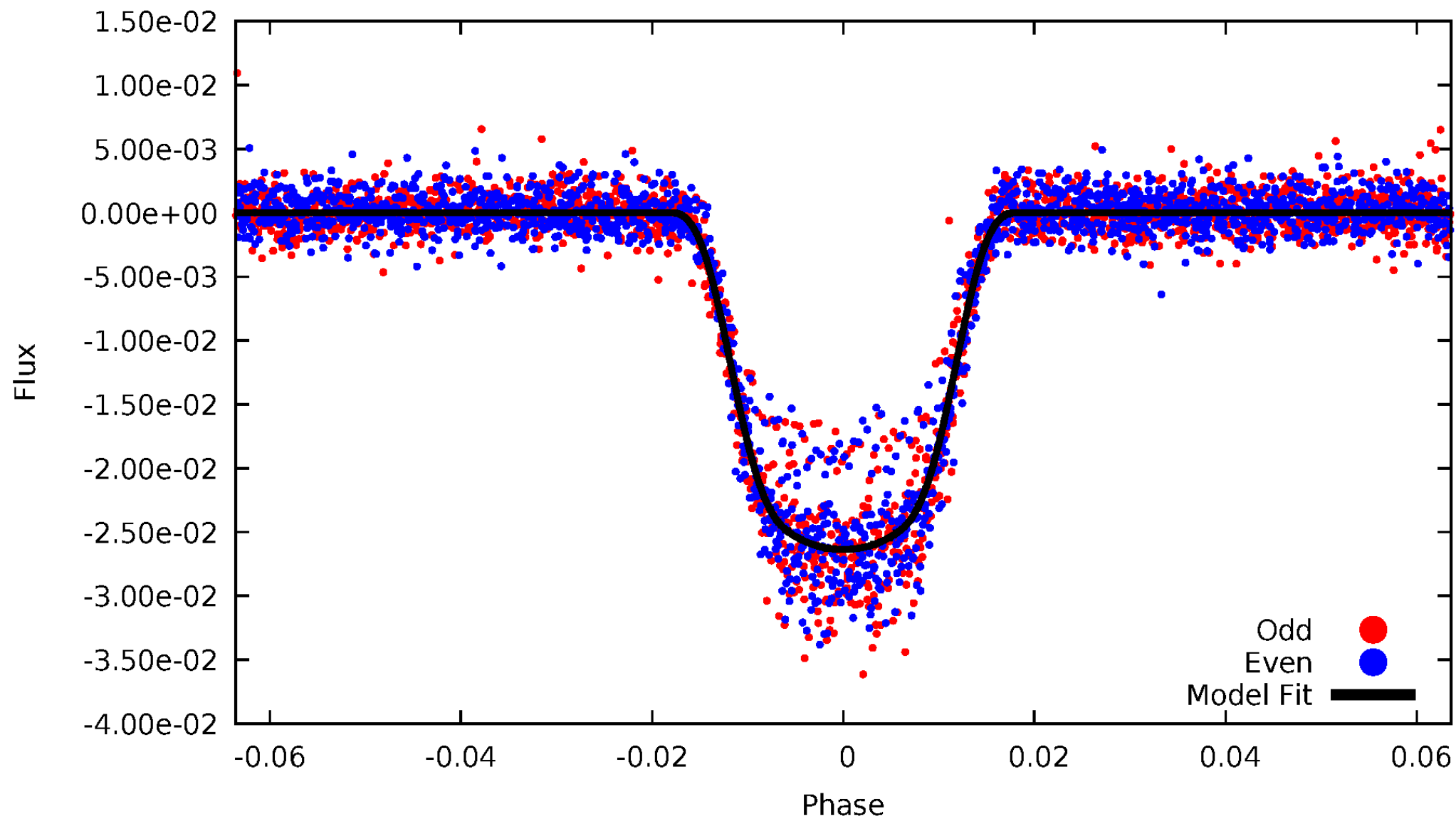


TCE 011200405-01



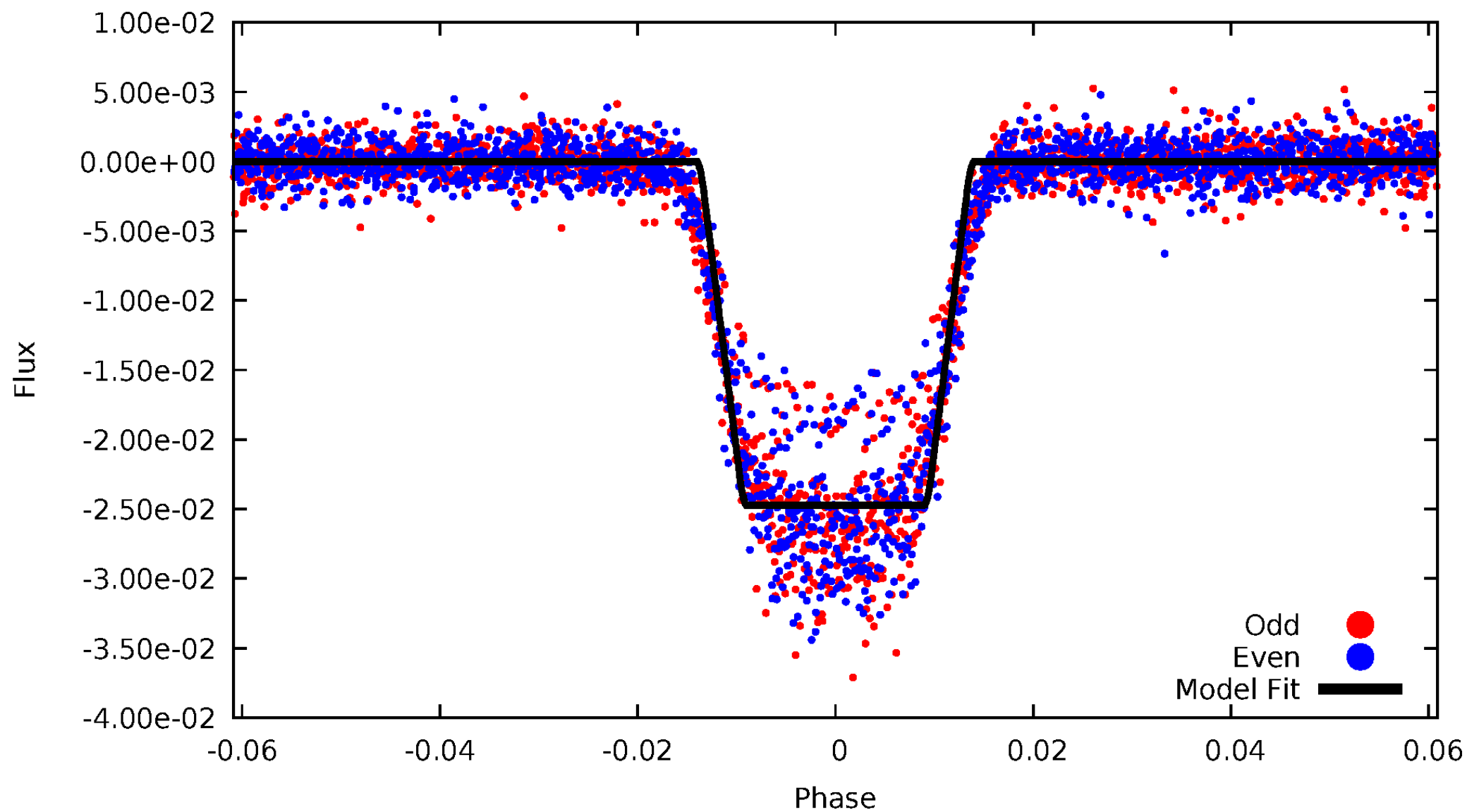
DV Odd/Even

TCE 011200405-01



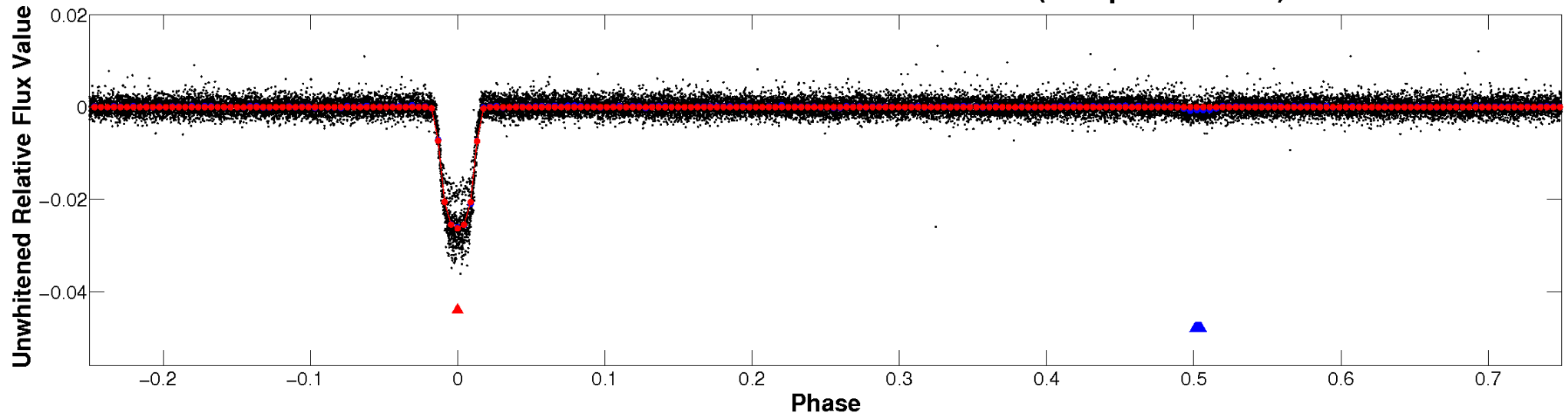
ALT Odd/Even

TCE 011200405-01

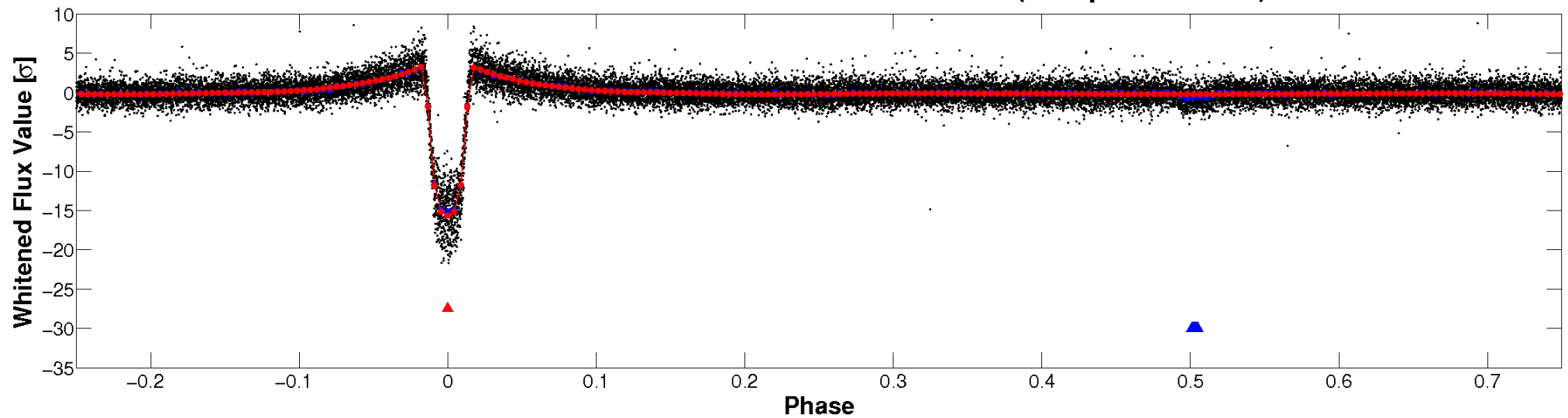


Non-Whitened Vs. Whitened Light Curve

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

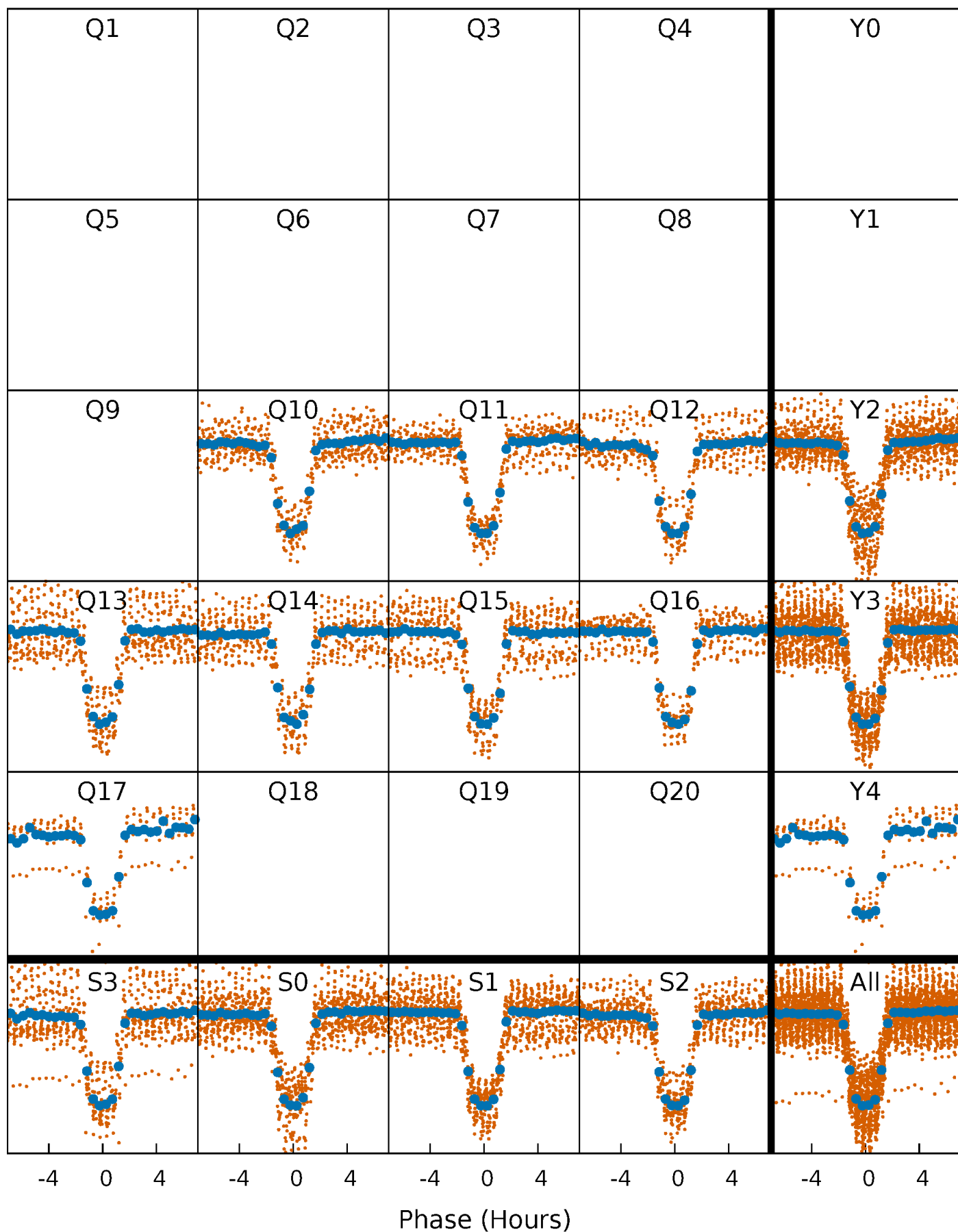


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



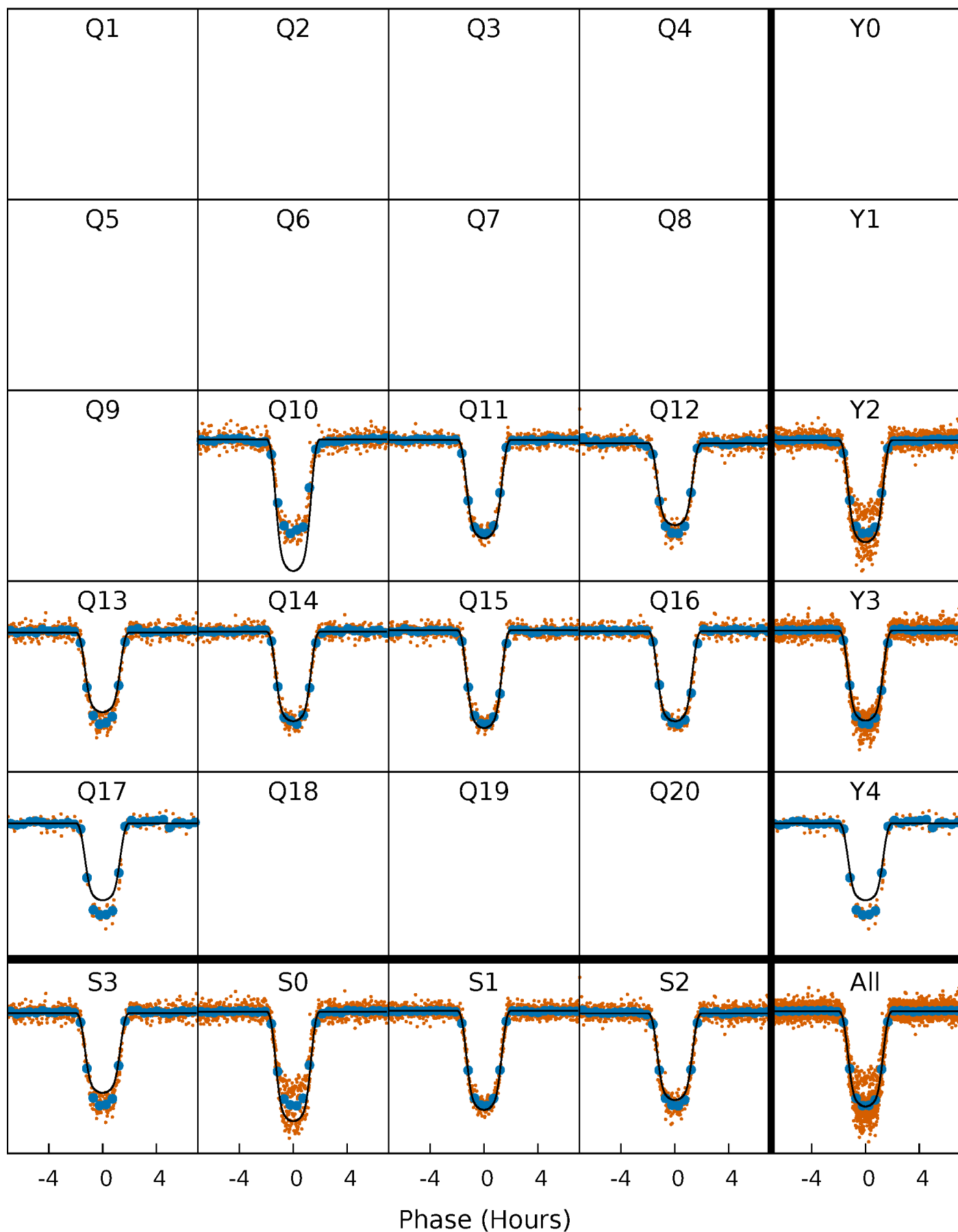
PDC Quarter-Phased Transit Curves

TCE 011200405-01 P= 4.639579 Days $T_0=135.104489$ (BKJD)



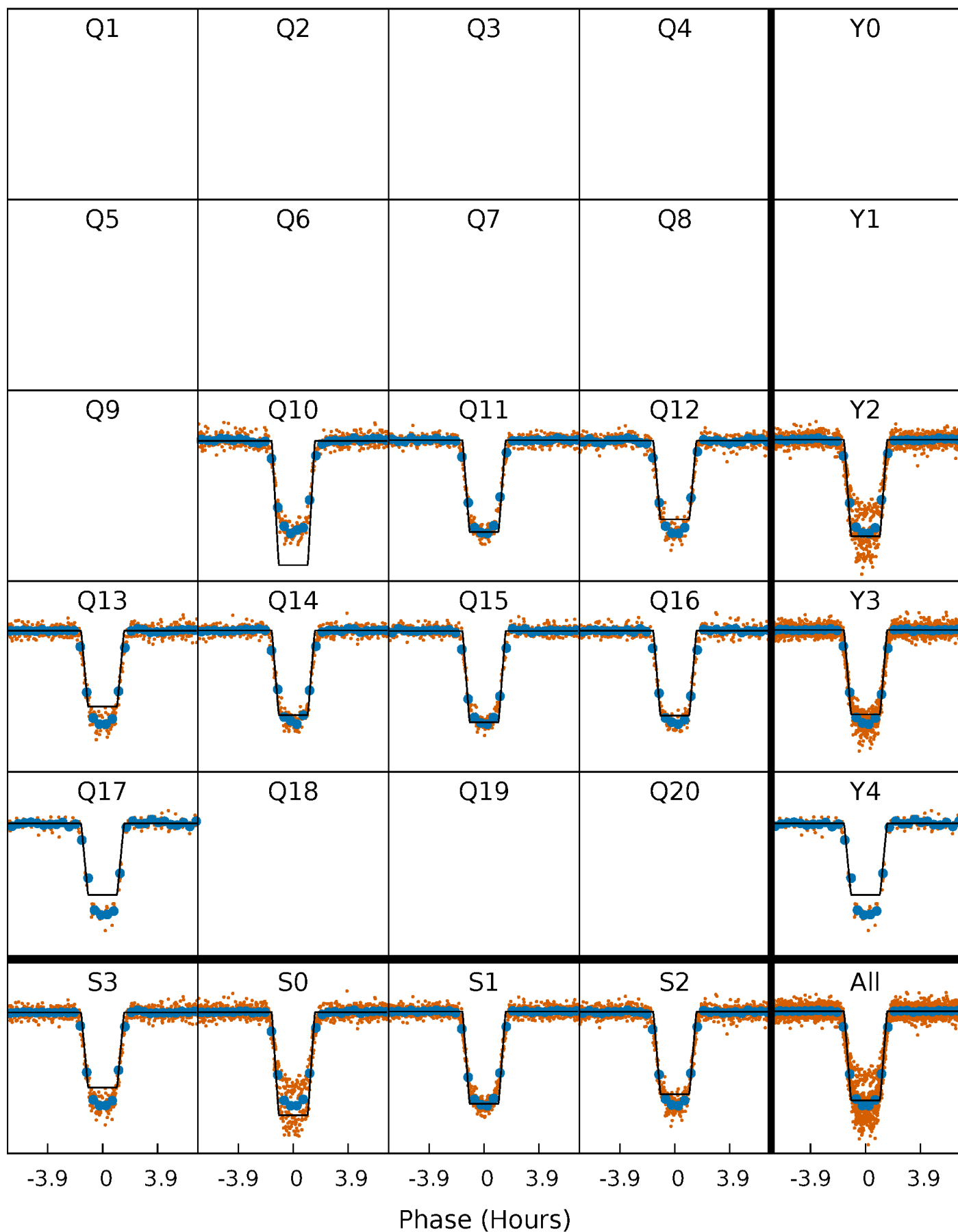
DV Quarter-Phased Transit Curves

TCE 011200405-01 P= 4.639579 Days $T_0=135.104489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

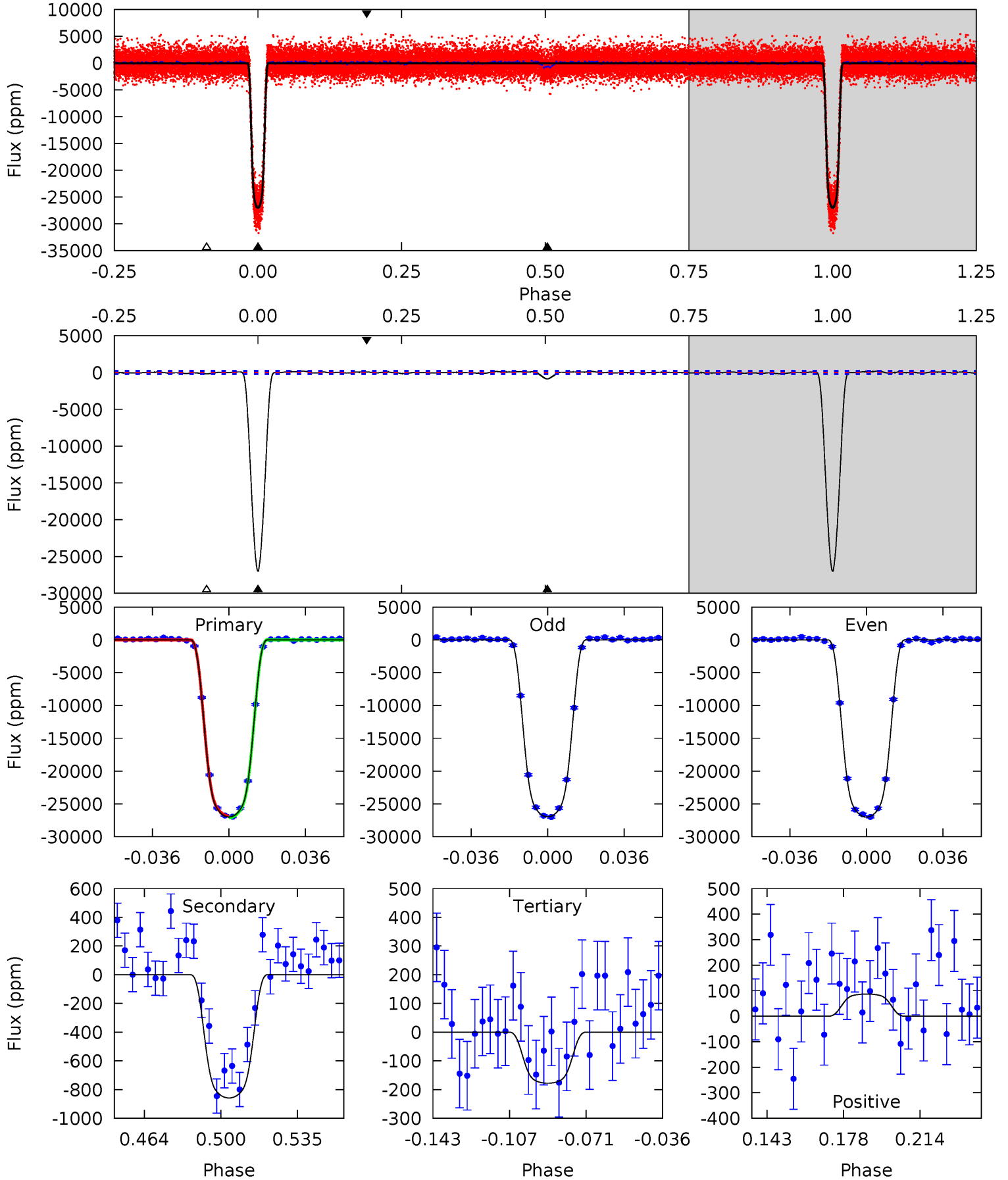
TCE 011200405-01 P= 4.639597 Days $T_0=135.100227$ (BKJD)



DV Model-Shift Uniqueness Test

011200405-01, P = 4.639579 Days, E = 135.104489 Days

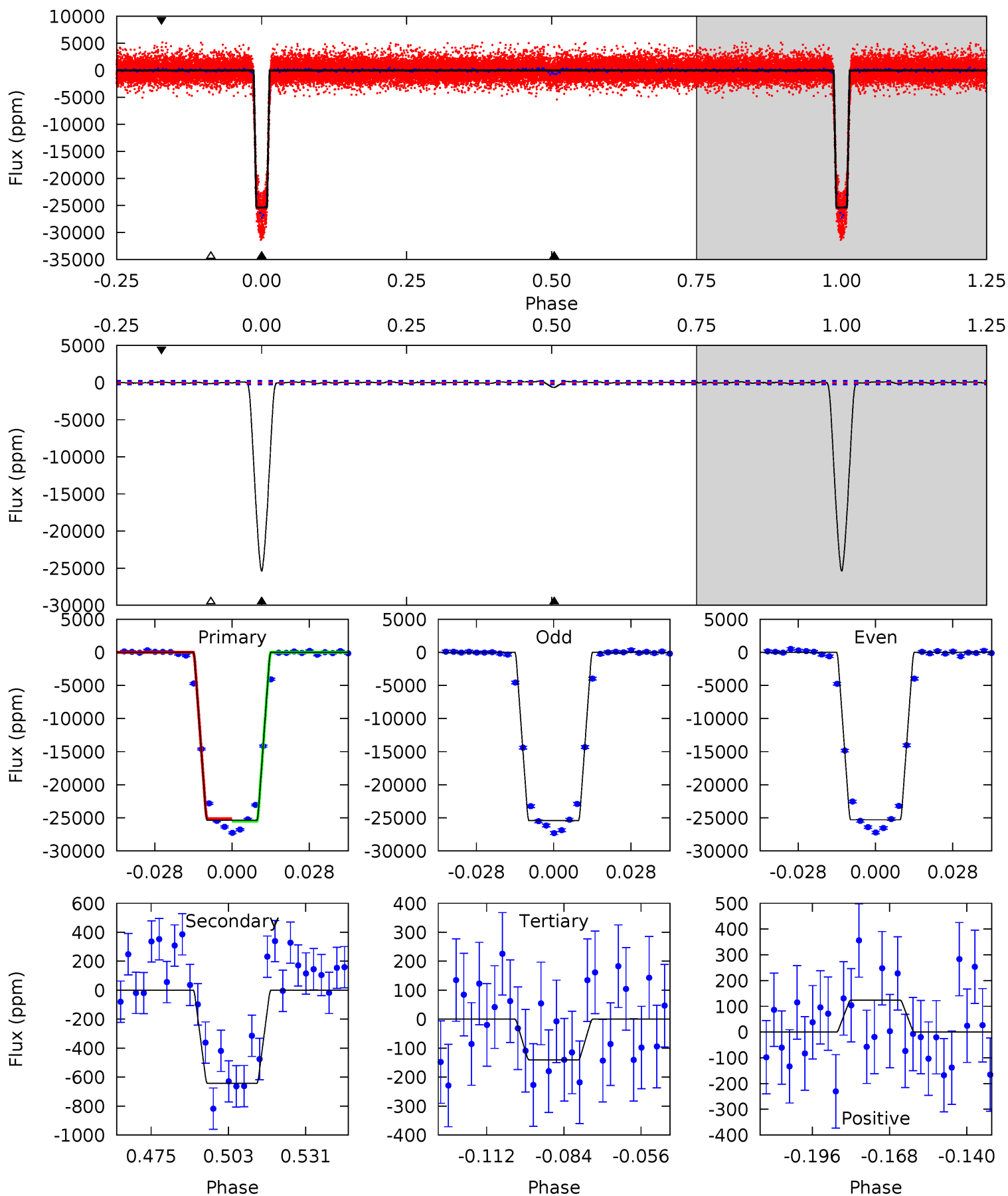
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
618.4	19.7	4.08	1.99	4.78	2.10	1.55	614.3	616.4	15.6	17.7	0.46	0.98	0.01	2.64



Alt Model-Shift Uniqueness Test

011200405-01, P = 4.639597 Days, E = 135.100227 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
516.1	13.1	2.85	2.52	4.83	2.20	1.09	513.3	513.6	10.2	10.6	1.33	0.99	0.01	3.90



Stellar Parameters For KIC 011200405

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6078^{+200}_{-200}	$4.223^{+0.270}_{-0.180}$	$-0.560^{+0.300}_{-0.300}$	$1.194^{+0.333}_{-0.333}$	$0.868^{+0.119}_{-0.079}$	$0.718^{+1.132}_{-0.334}$
	+3%/-3%	+6%/-4%	+54%/-54%	+28%/-28%	+14%/-9%	+158%/-47%
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 011200405-01 / KOI 3724.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-858 ± 44	$20.87^{+3.34}_{-3.47}$	1797^{+136}_{-161}	3152^{+66}_{-67}	$2.980^{+1.255}_{-0.757}$
Alt.	-643 ± 49	$20.51^{+3.24}_{-3.43}$	1780^{+155}_{-141}	3025^{+63}_{-75}	$2.331^{+0.929}_{-0.617}$

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

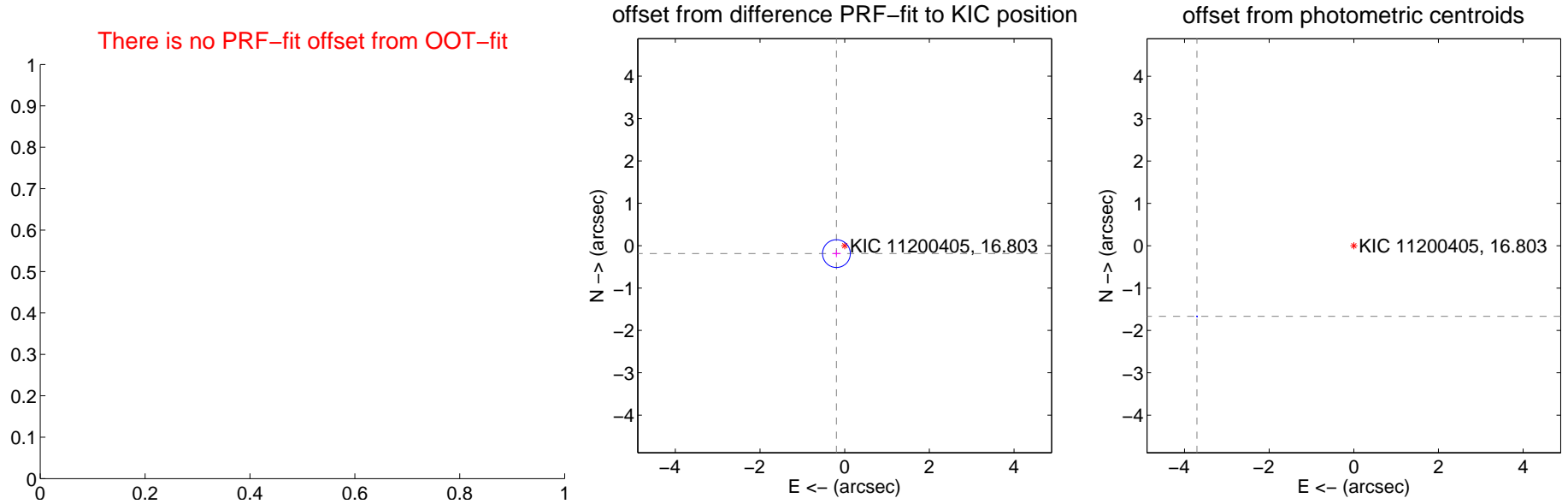
DV Centroid Data

Supplemental centroid analysis for 011200405-01. Kepler magnitude: 16.80. Transit SNR 334.17

There are 8 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	0.270 ± 0.109	2.47	0.195 ± 0.101	-0.187 ± 0.084
photometric centroid source offset	4.06 ± 0.00	1429.55	3.71 ± 0.00	-1.67 ± 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.

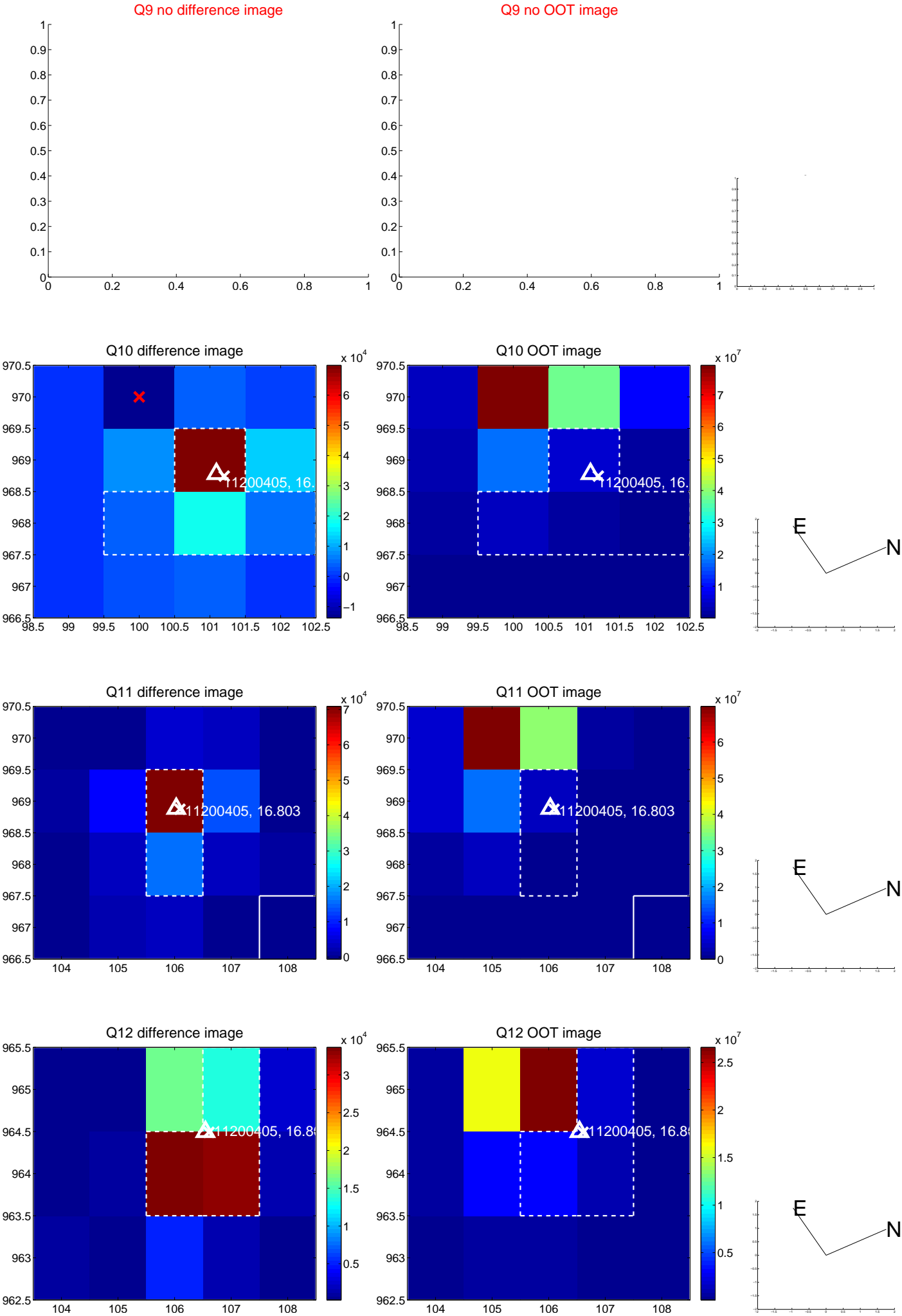
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



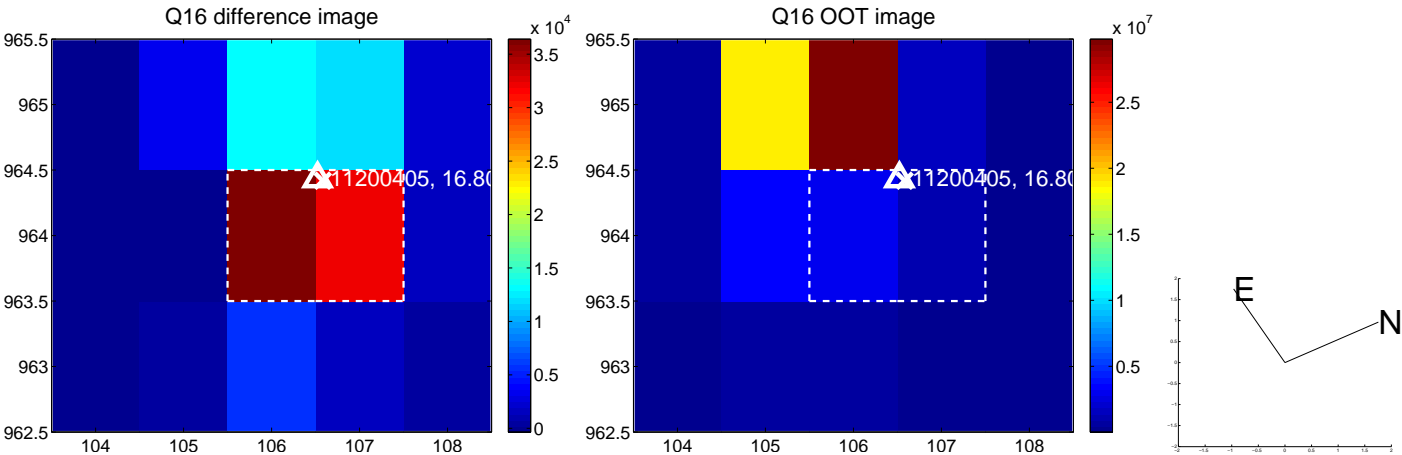
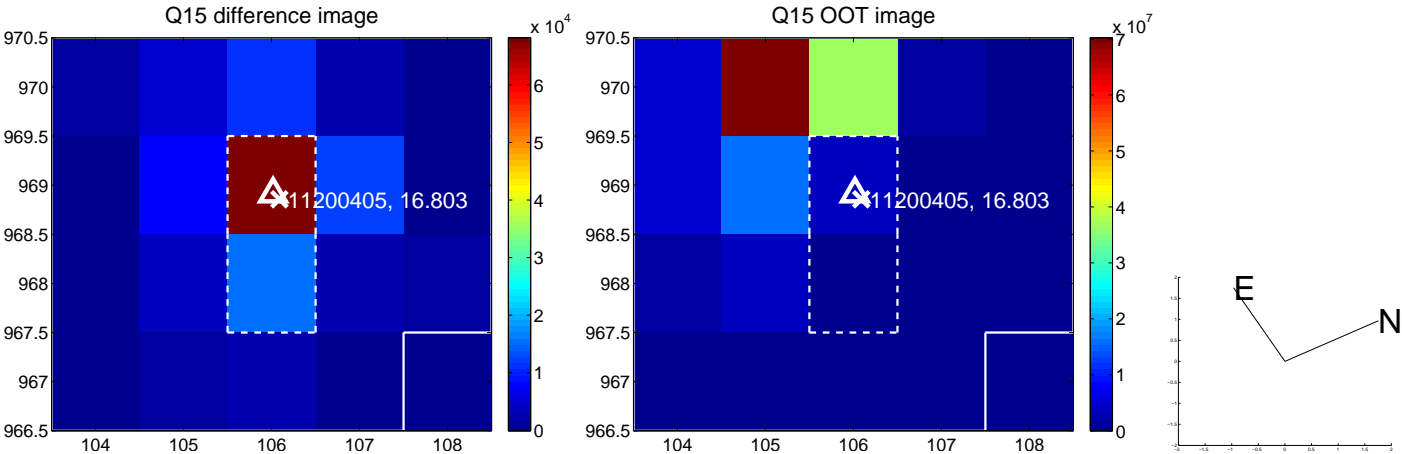
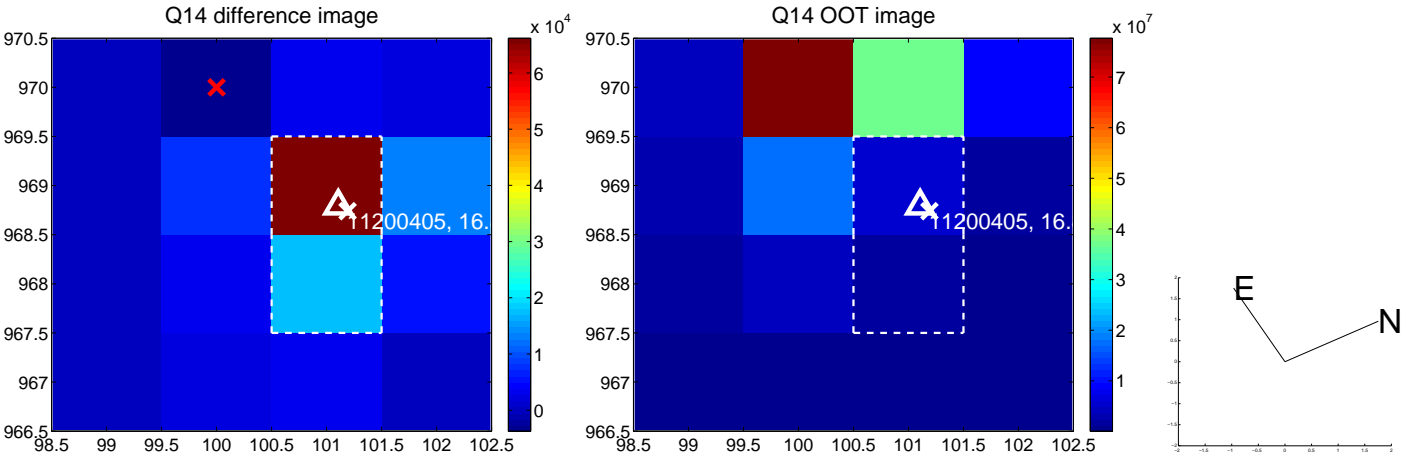
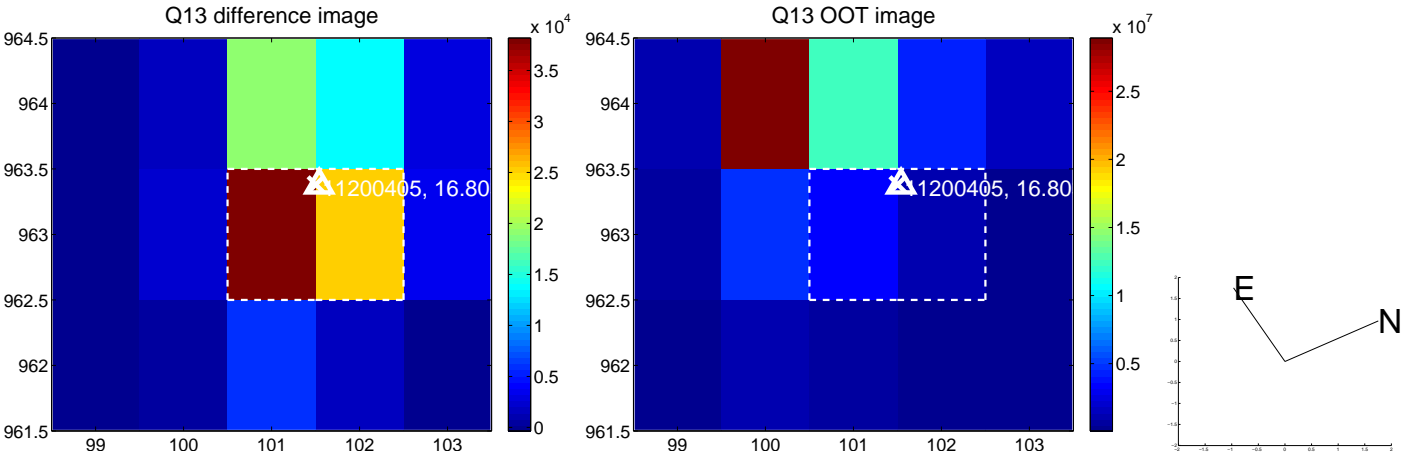
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



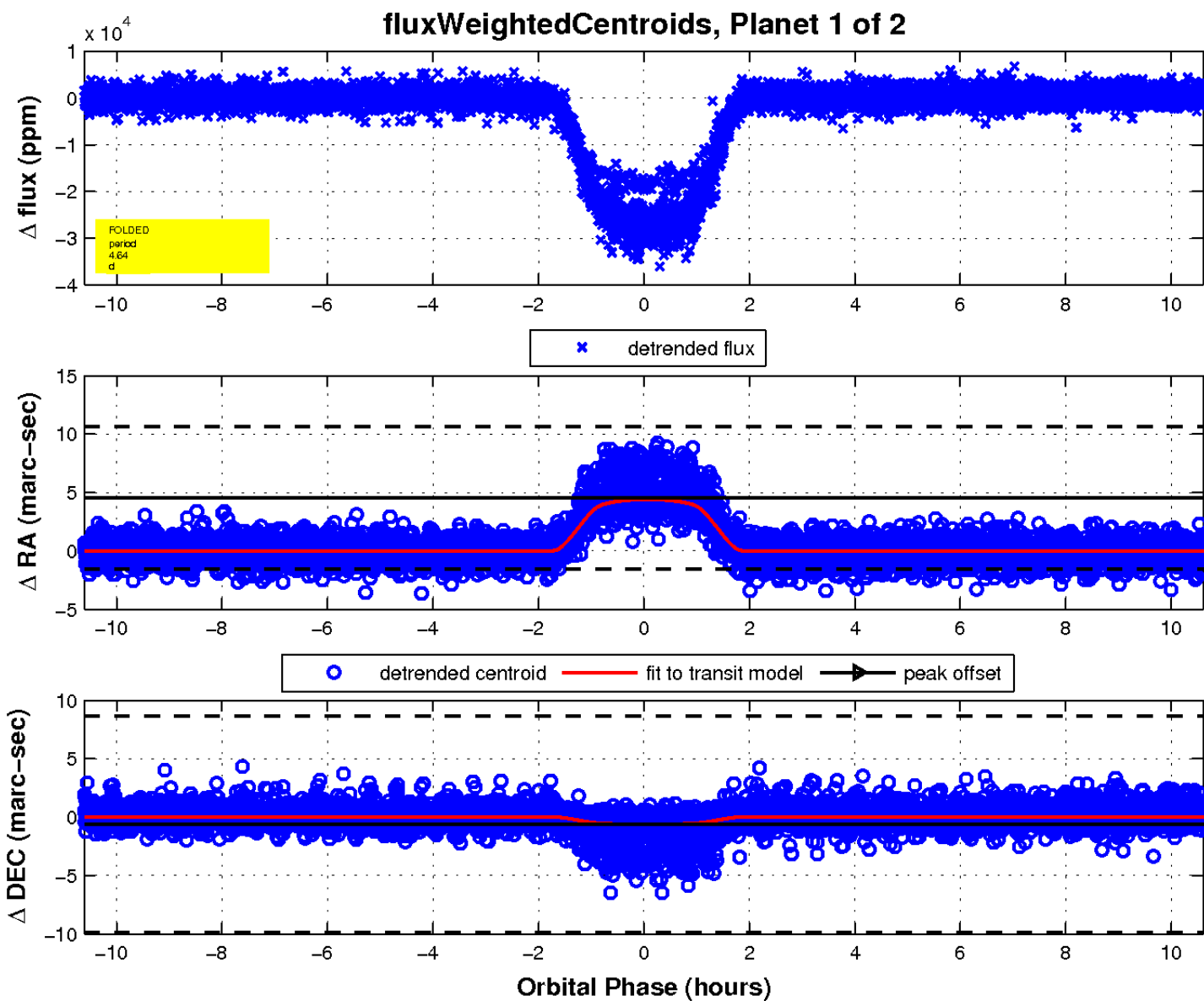
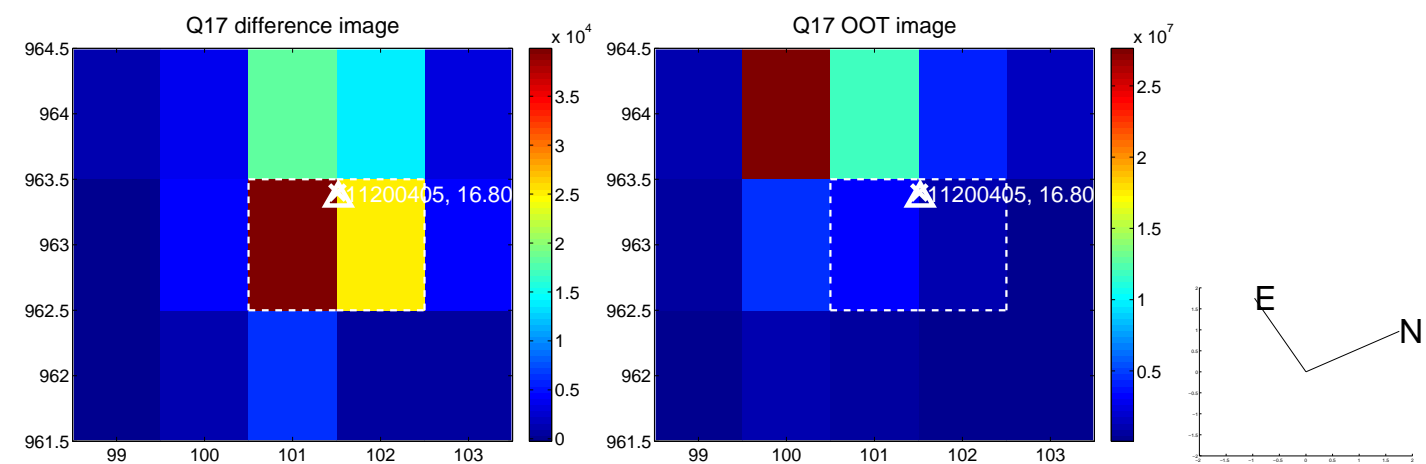
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

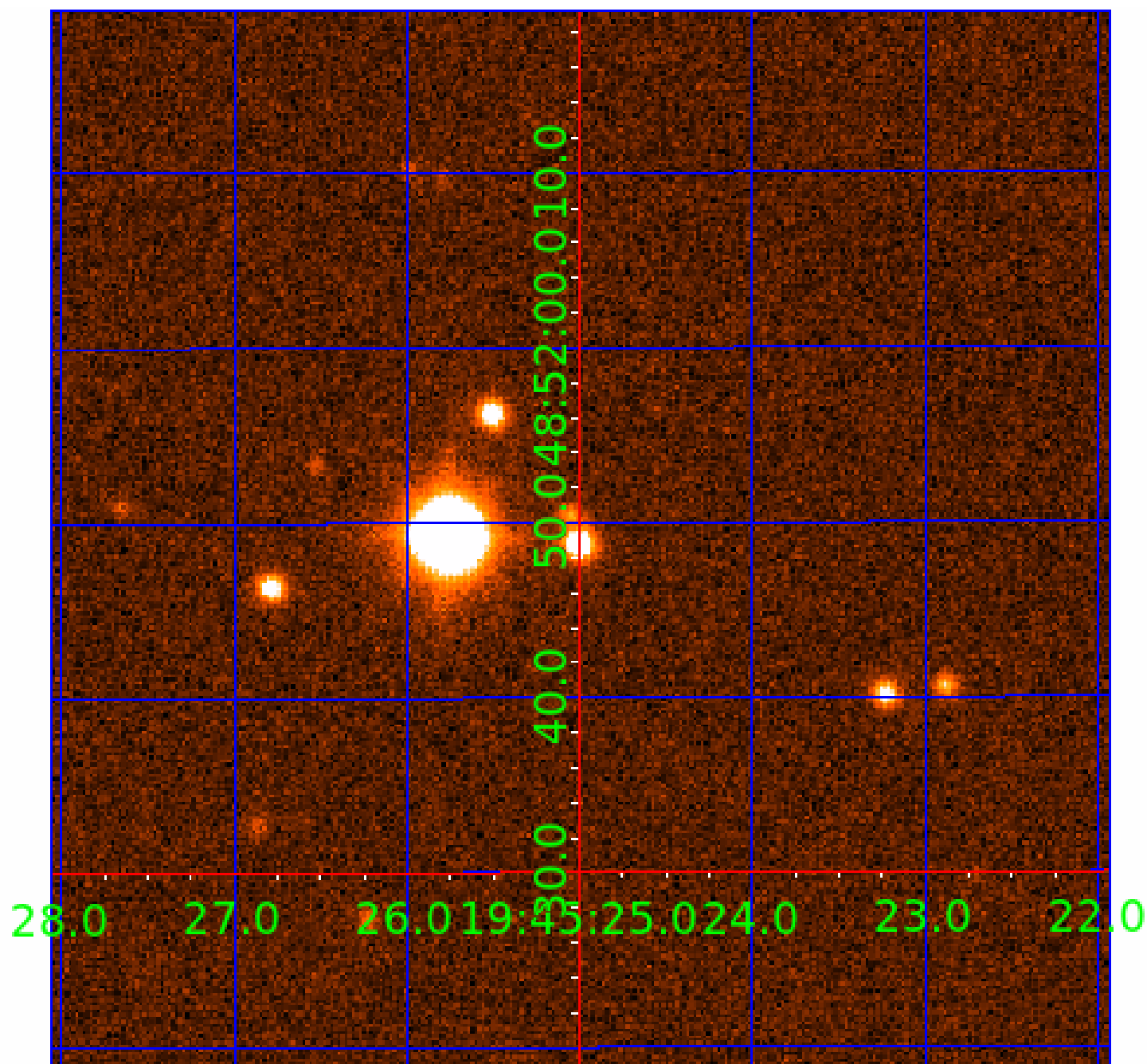


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011200405

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})
011200405-01	OBS	3724.01	4.639579	135.104489	26354.8	3.538	375.2	334.2	1.19	6078	20.74	645.61
011200405-02	OBS	No	4.639635	132.789755	914.2	3.116	12.9	13.7	1.19	6078	4.24	645.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011200405-01	OBS	FP	0.02	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_FEW_MEAS
011200405-02	OBS	FP	0.00	1	1	0	0	IS_SEC_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.

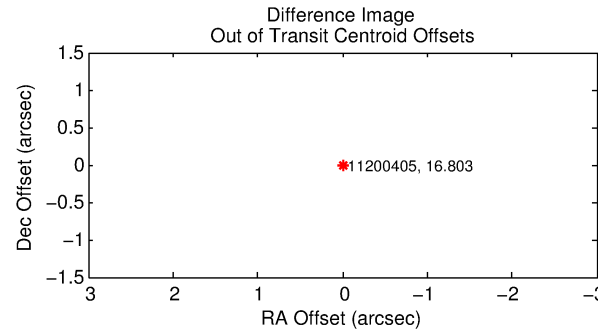
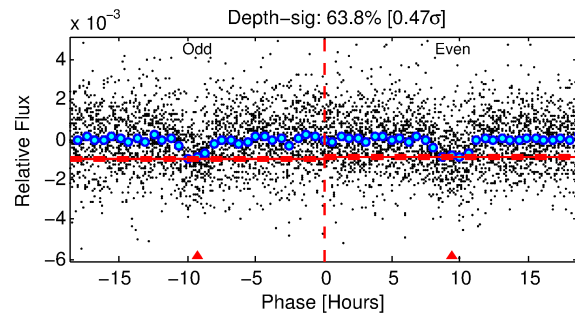
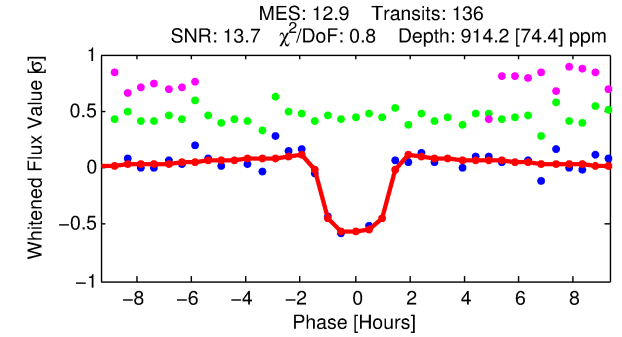
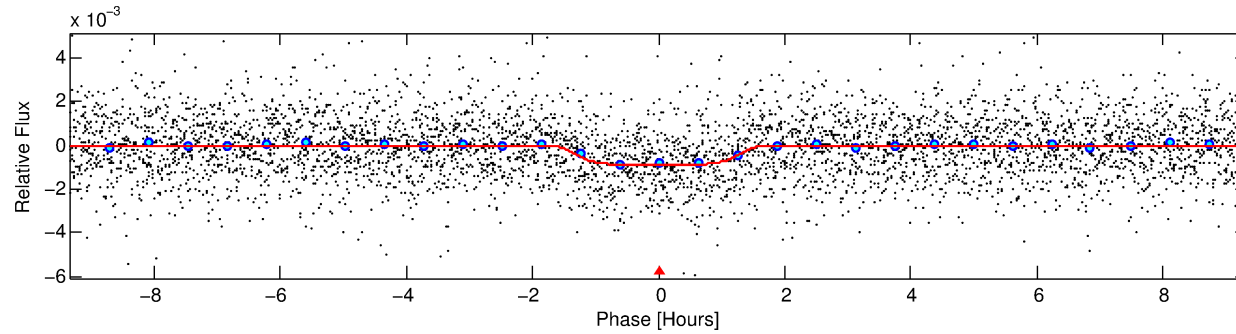
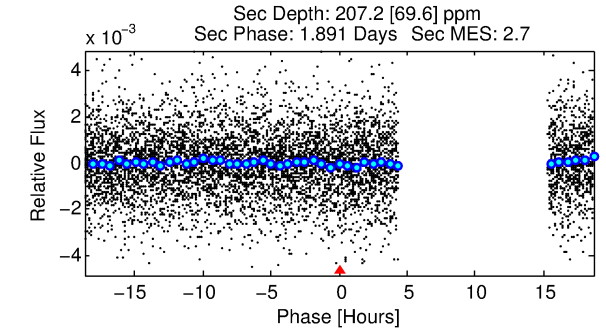
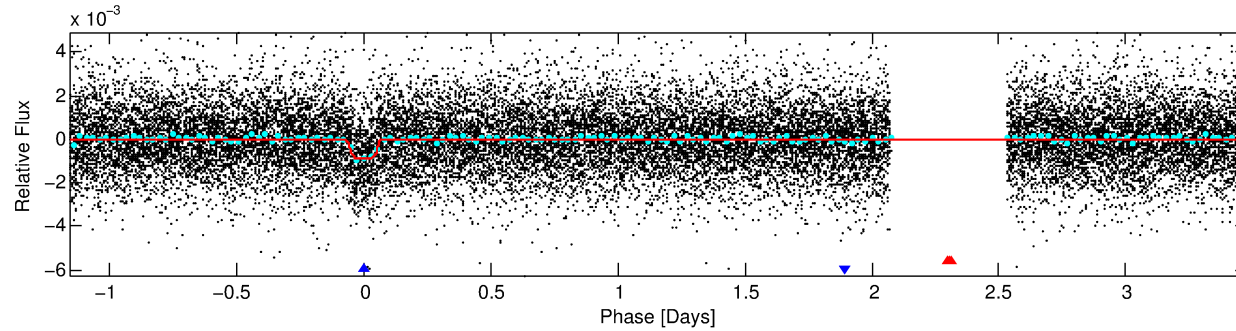
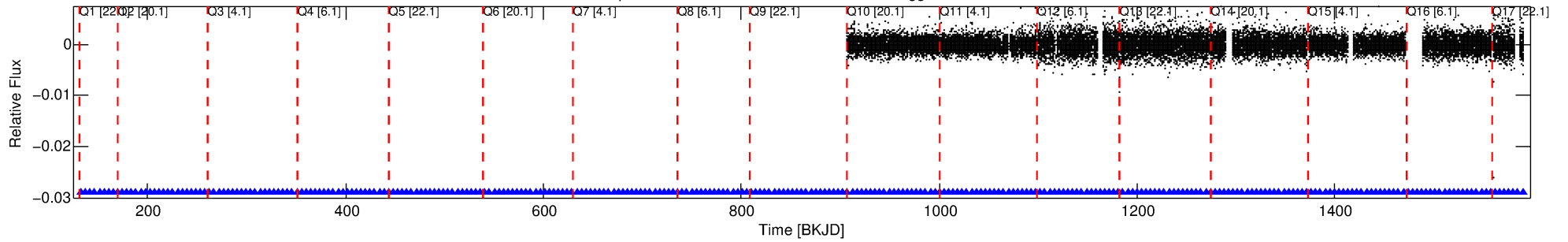
Ephemeris Match Information For 011200405-02

No Significant Match Found

DV One-Page Summary

KIC: 11200405 Candidate: 2 of 2 Period: 4.640 d
KOI: K03724 Corr: No Ephemeris Match

Kp: 16.80 R*: 1.19 Rs Teff: 6078.0 K Logg: 4.22 Fe/H: -0.560



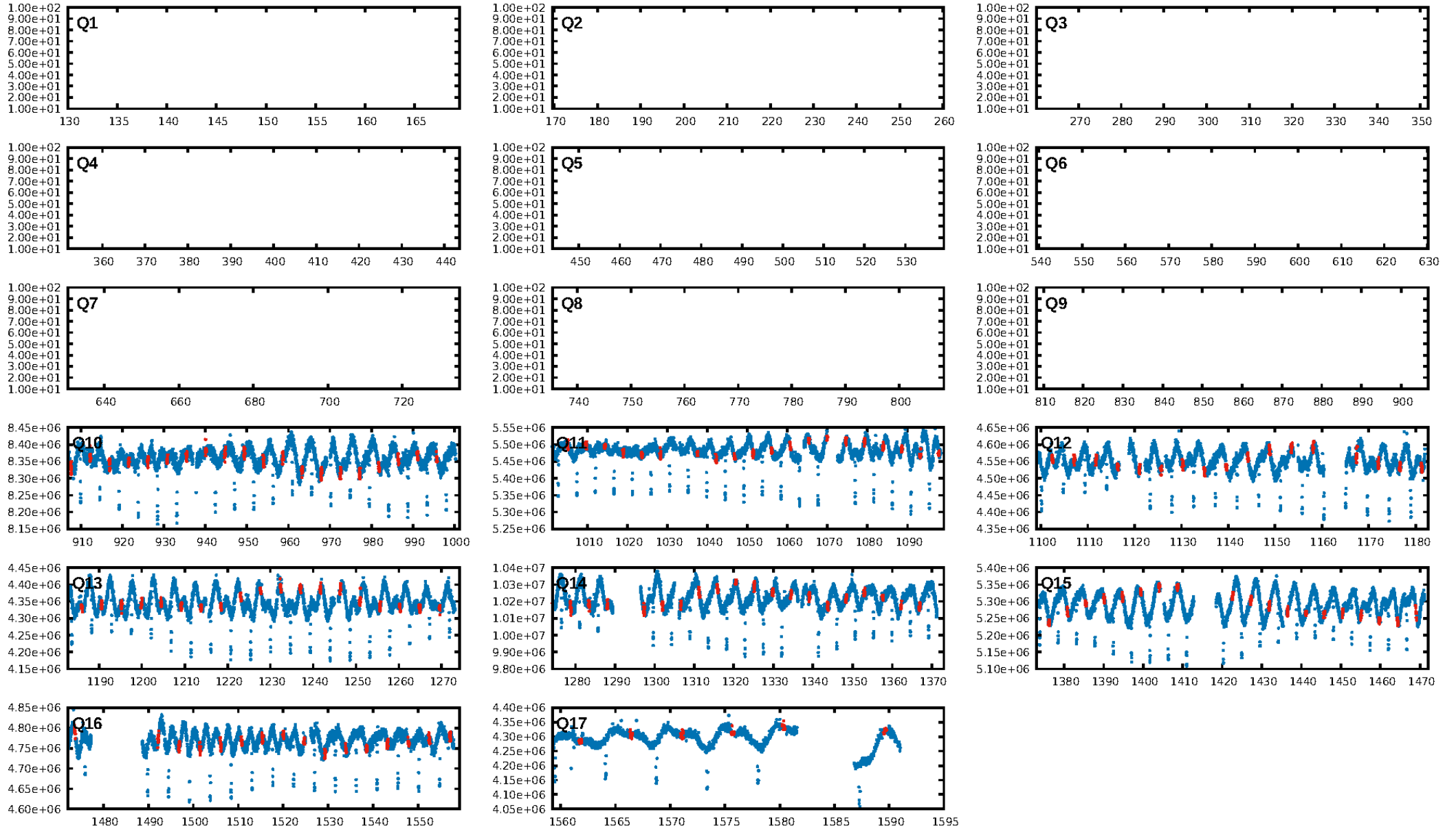
DV Fit Results:

Period = 4.63963 [0.00002] d
Epoch = 132.7898 [0.0040] BKJD
Rp/R* = 0.0325 [0.0041]
a/R* = 5.83 [3.61]
b = 0.90 [0.14]
Seff = 645.60 [305.33]
Teq = 1285 [152] K
Rp = 4.24 [1.30] Re
a = 0.0520 [0.0145] AU
Ag = 17.13 [10.62] [1.52σ]
Teffp = 4043 [446] K [5.85σ]

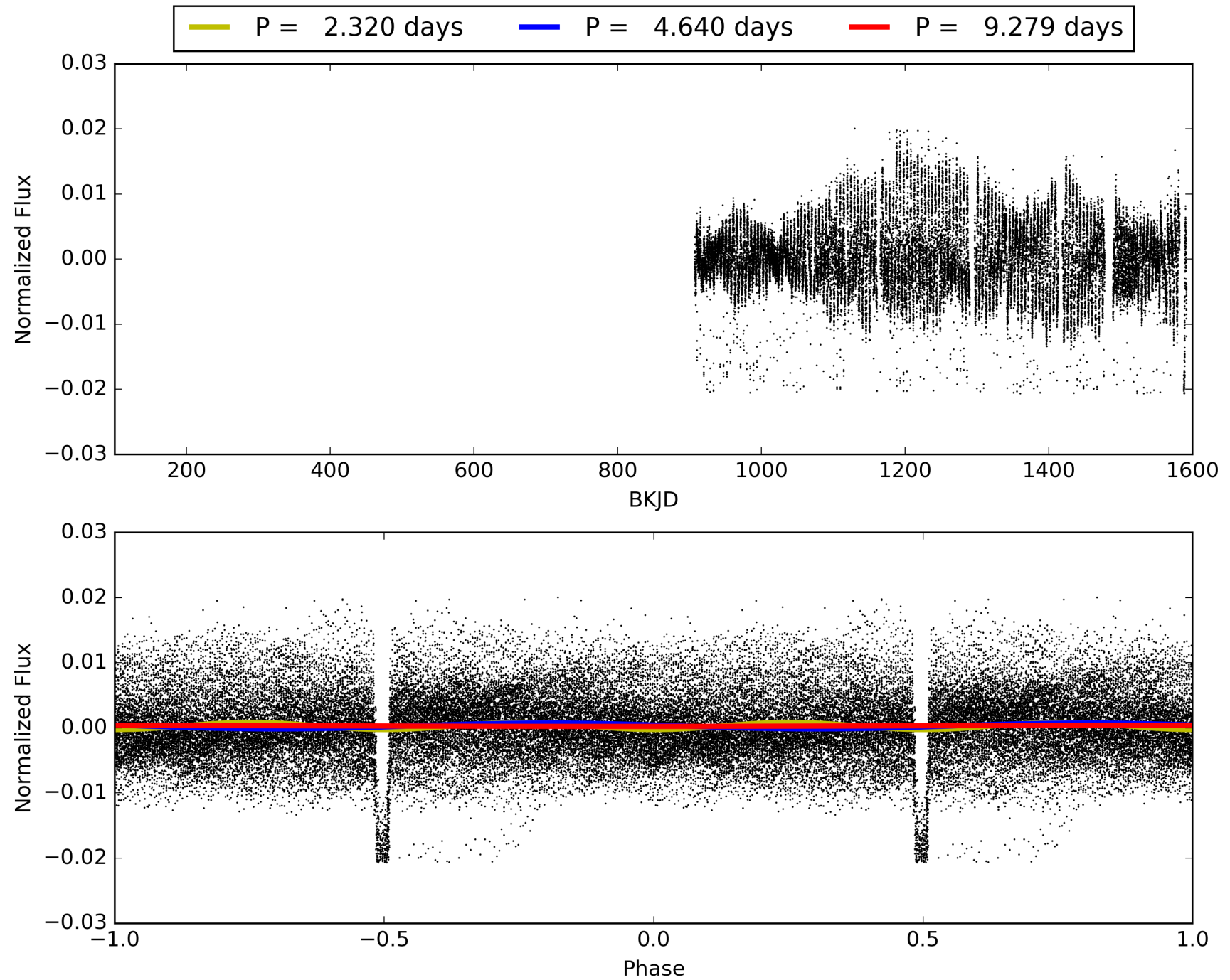
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.44e-38
RollingBand-fgt: 1.00 [130/130]
GhostDiagnostic-chr: -7.306
Centroid-sig: 0.7%
Centroid-so: 4.044 arcsec [50.98σ]
OotOffset-rm: N/A
KicOffset-rm: 2.156 arcsec [2.11σ]
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 1/2/2/1 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 011200405-02, PDC Light Curves

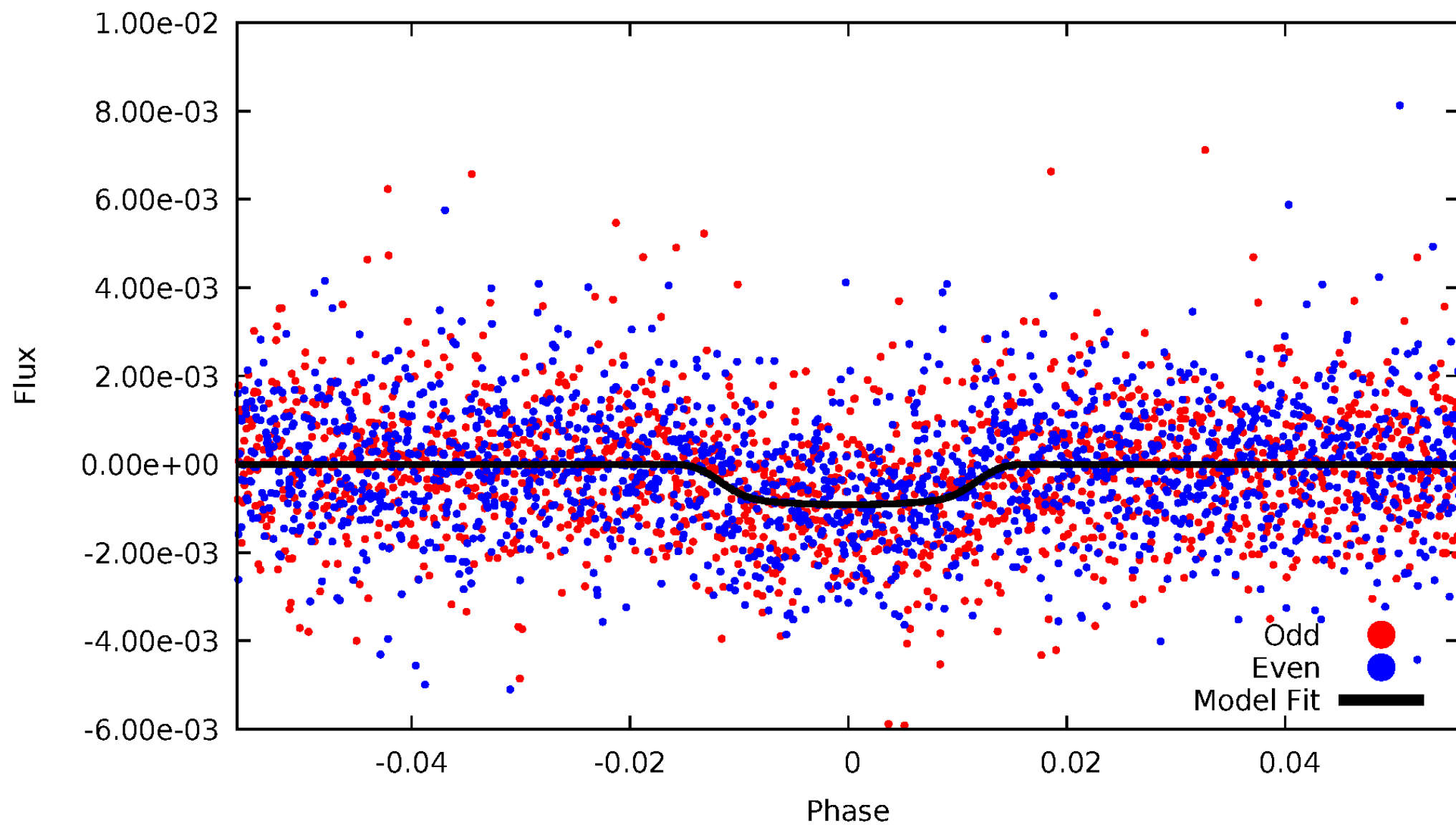


TCE 011200405-02



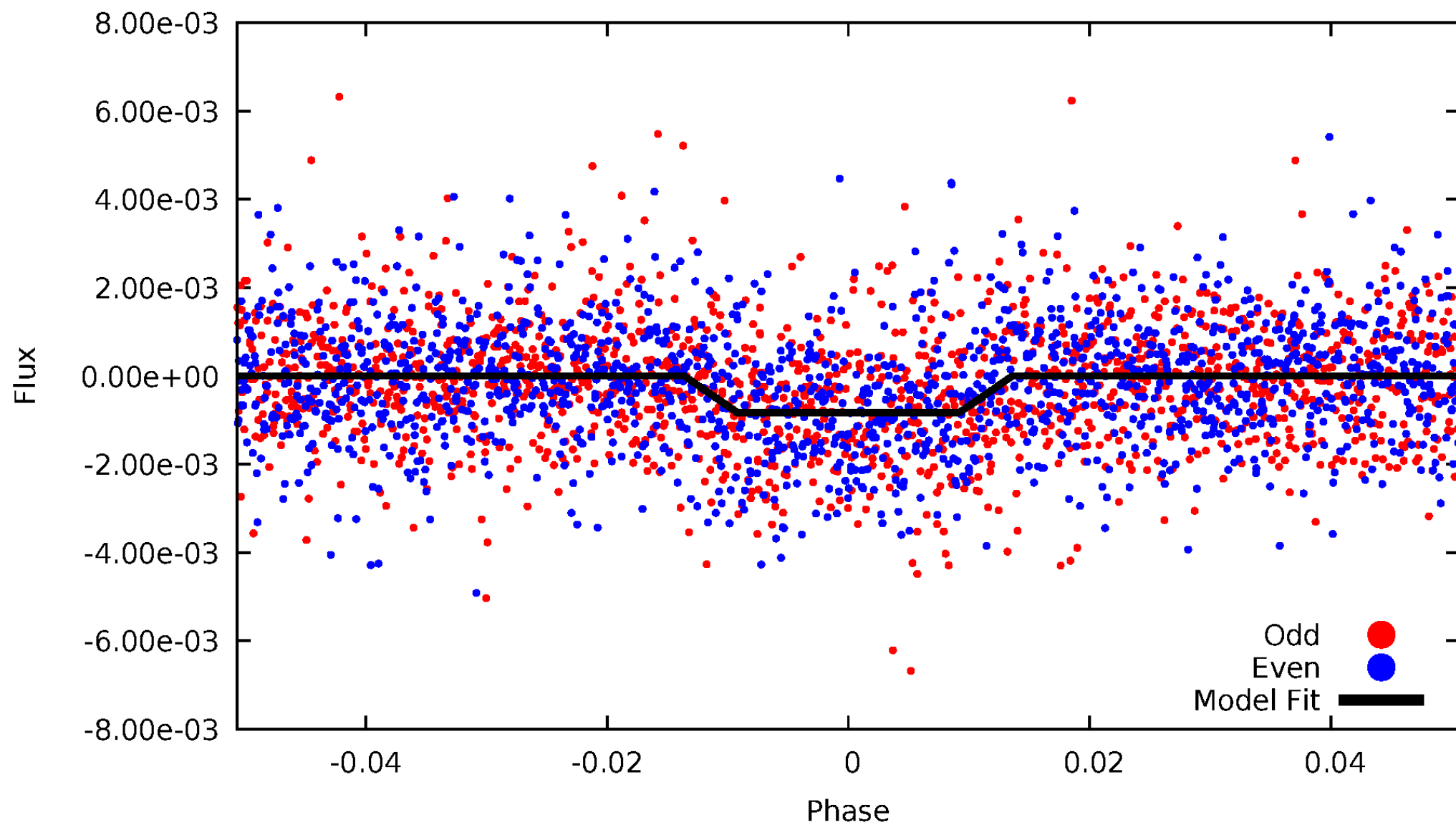
DV Odd/Even

TCE 011200405-02



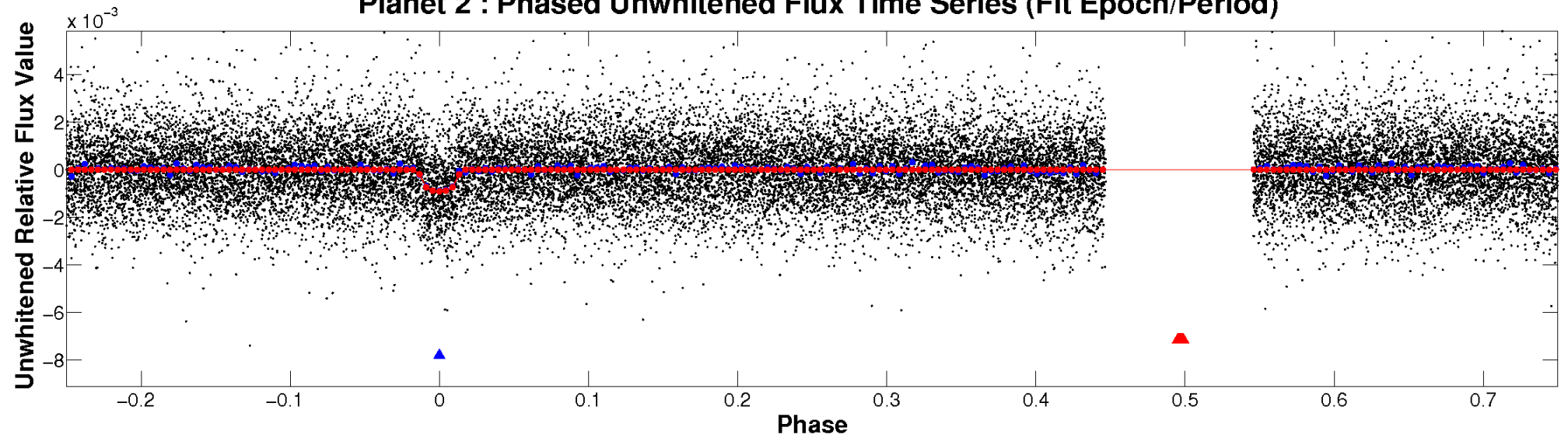
ALT Odd/Even

TCE 011200405-02

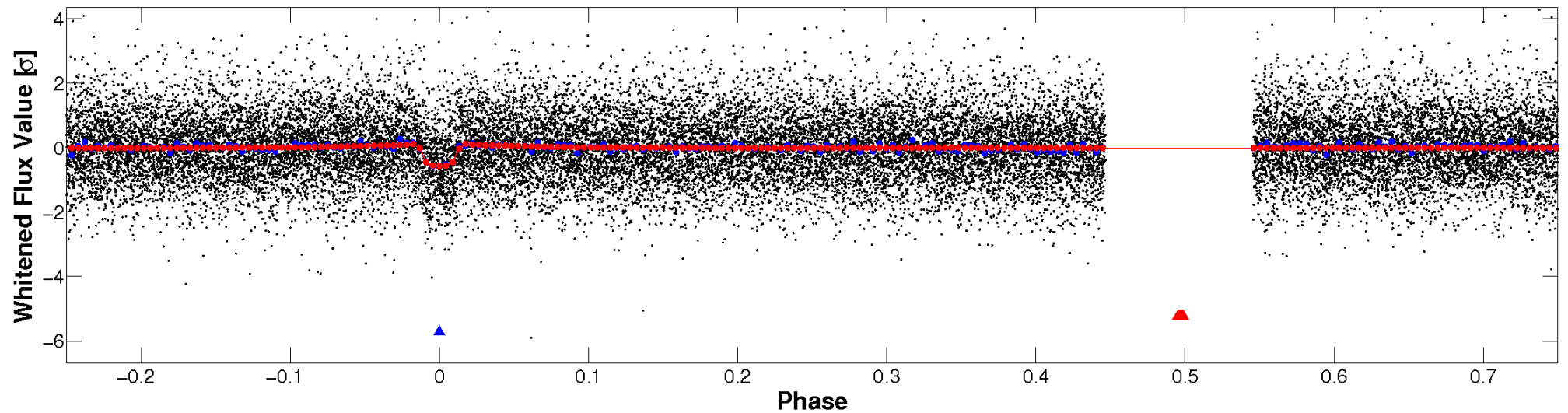


Non-Whitened Vs. Whitened Light Curve

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

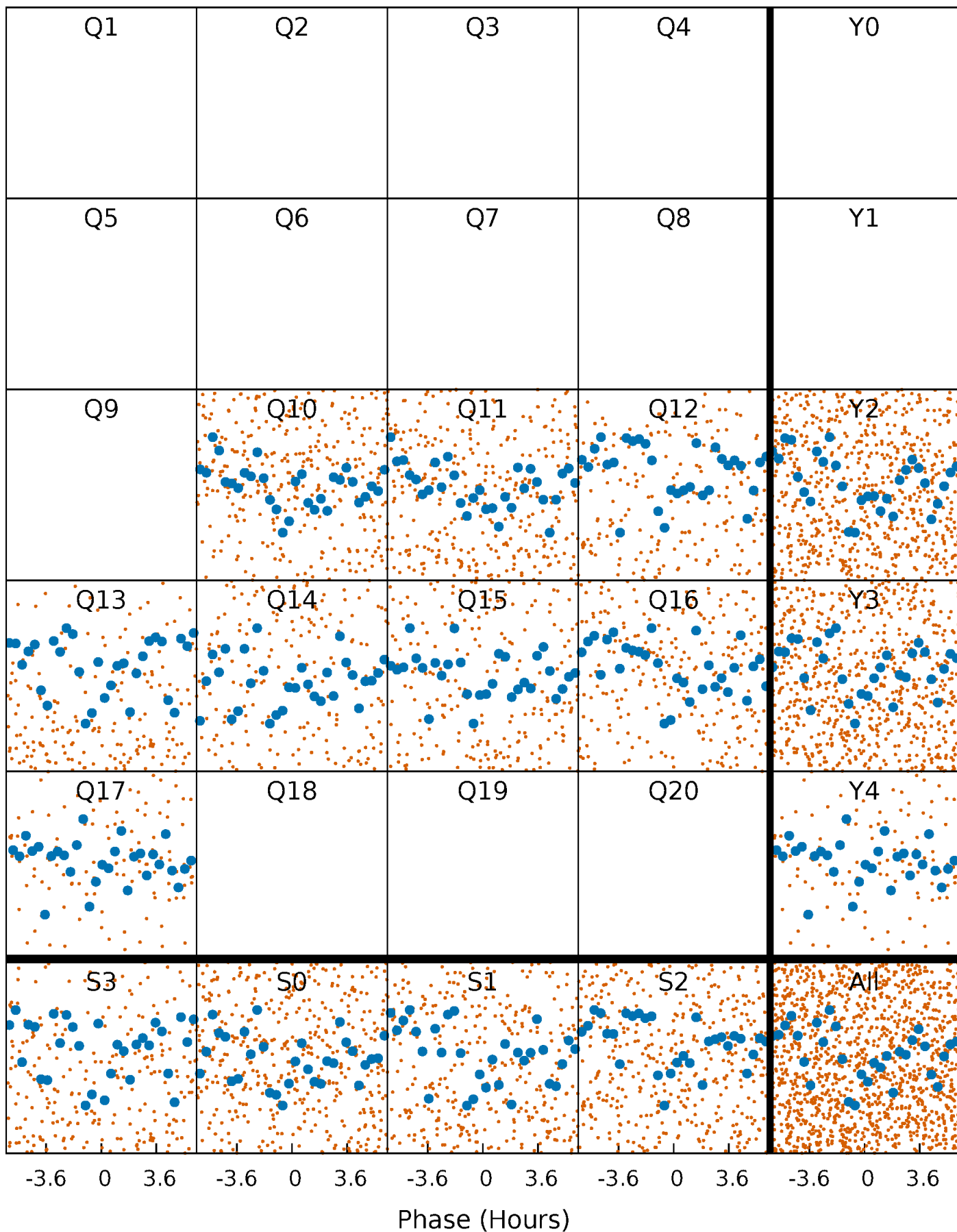


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



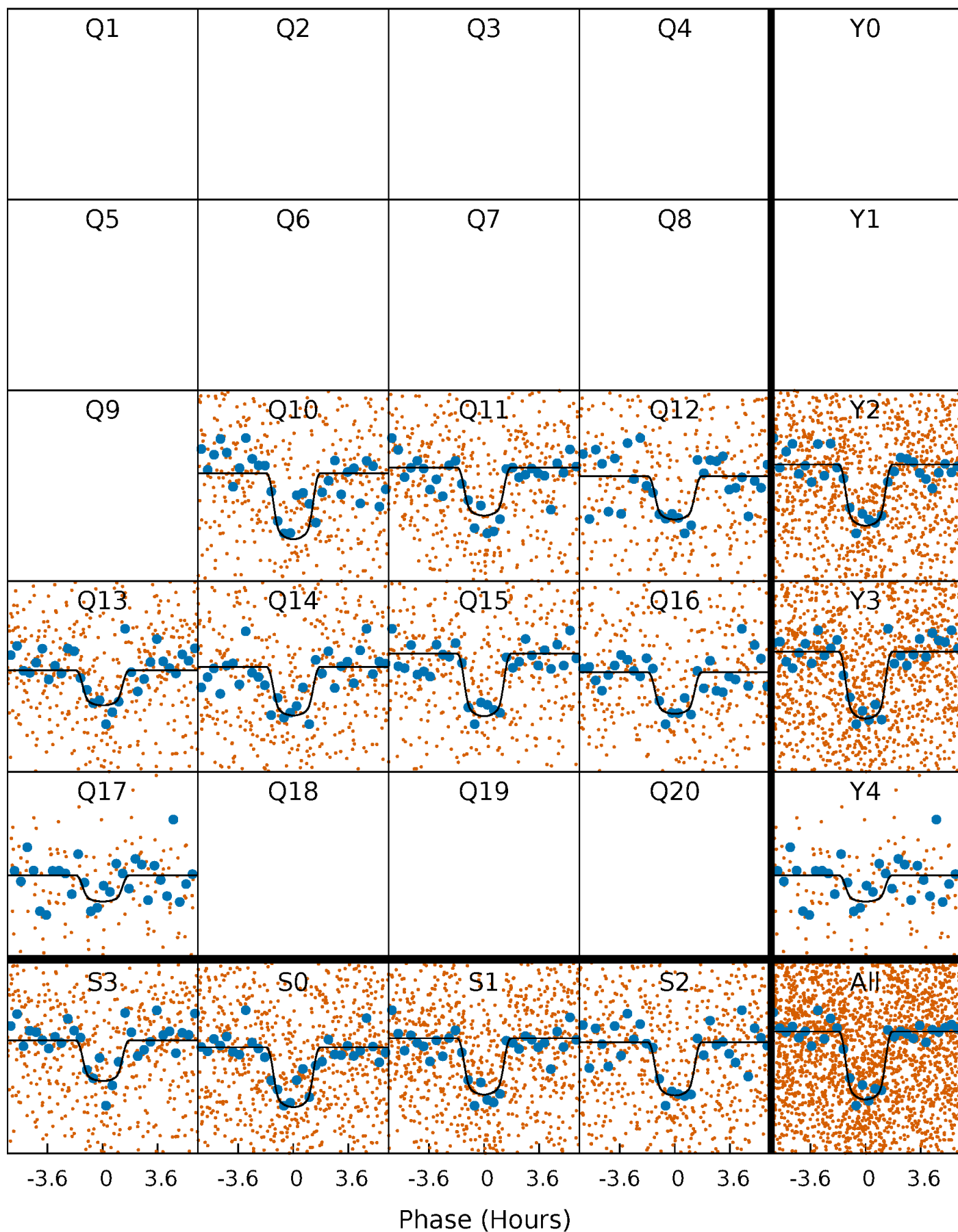
PDC Quarter-Phased Transit Curves

TCE 011200405-02 P= 4.639635 Days $T_0=132.789755$ (BKJD)



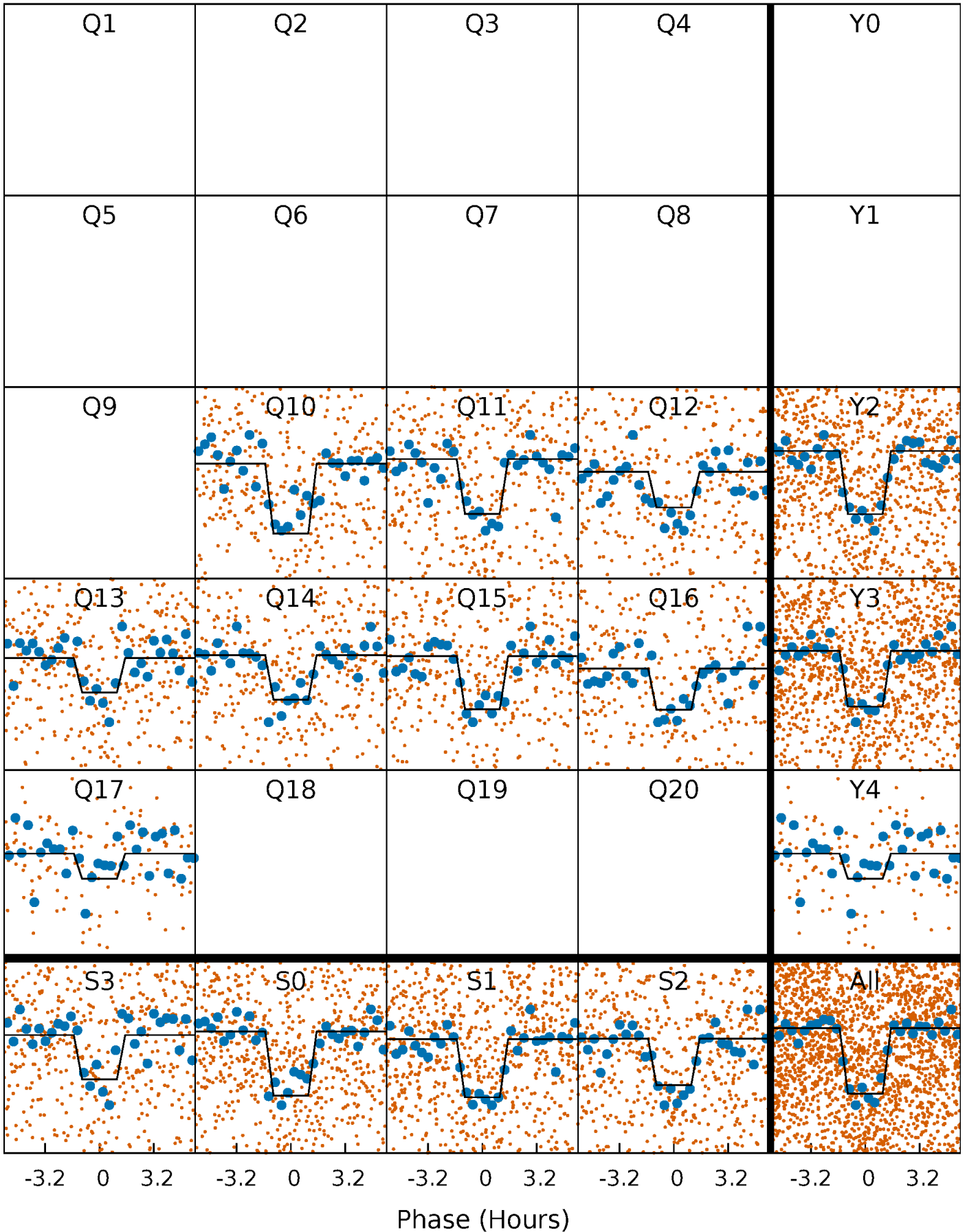
DV Quarter-Phased Transit Curves

TCE 011200405-02 P= 4.639635 Days $T_0=132.789755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

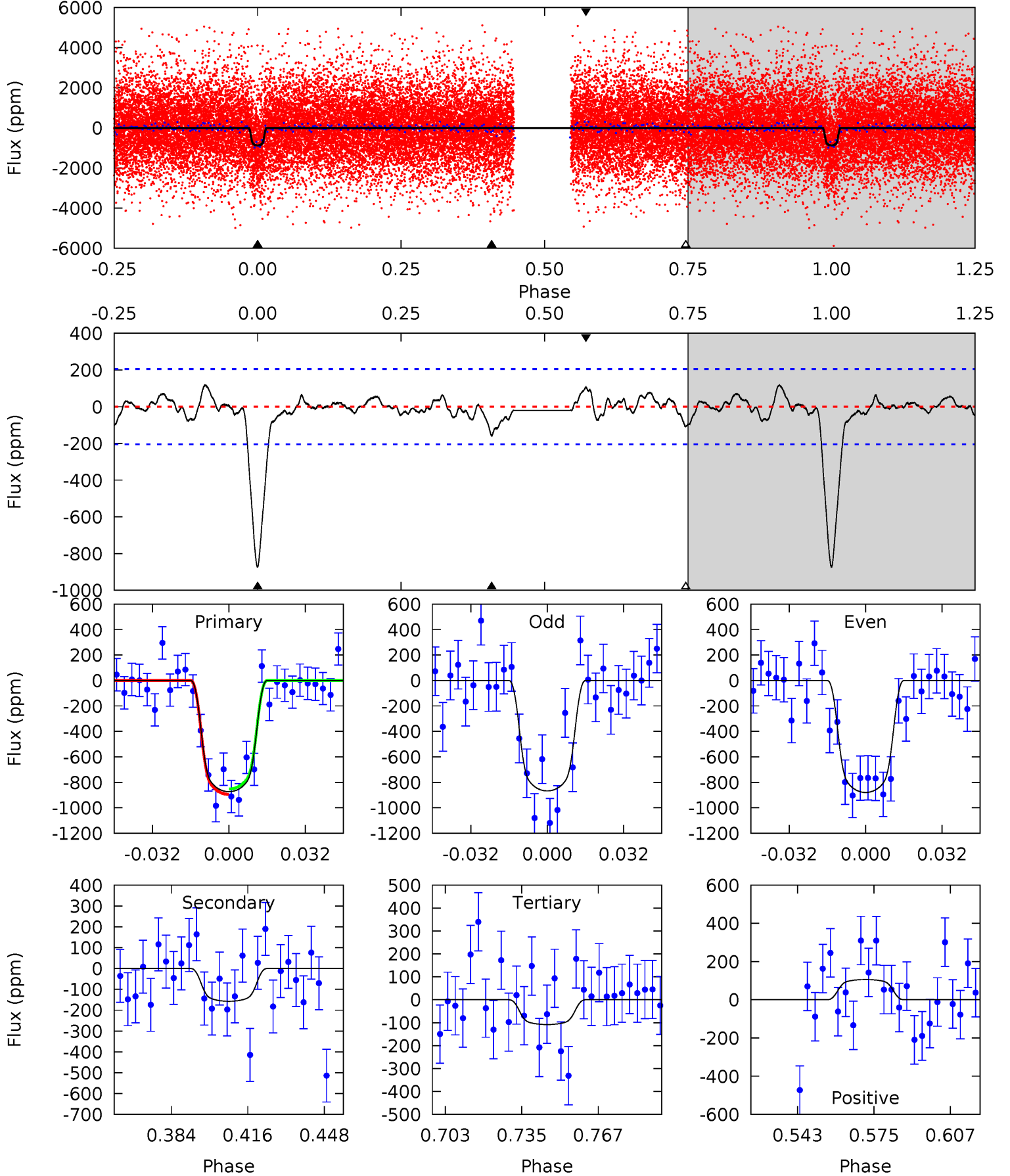
TCE 011200405-02 P= 4.639664 Days $T_0=132.783099$ (BKJD)



DV Model-Shift Uniqueness Test

011200405-02, P = 4.639635 Days, E = 132.789755 Days

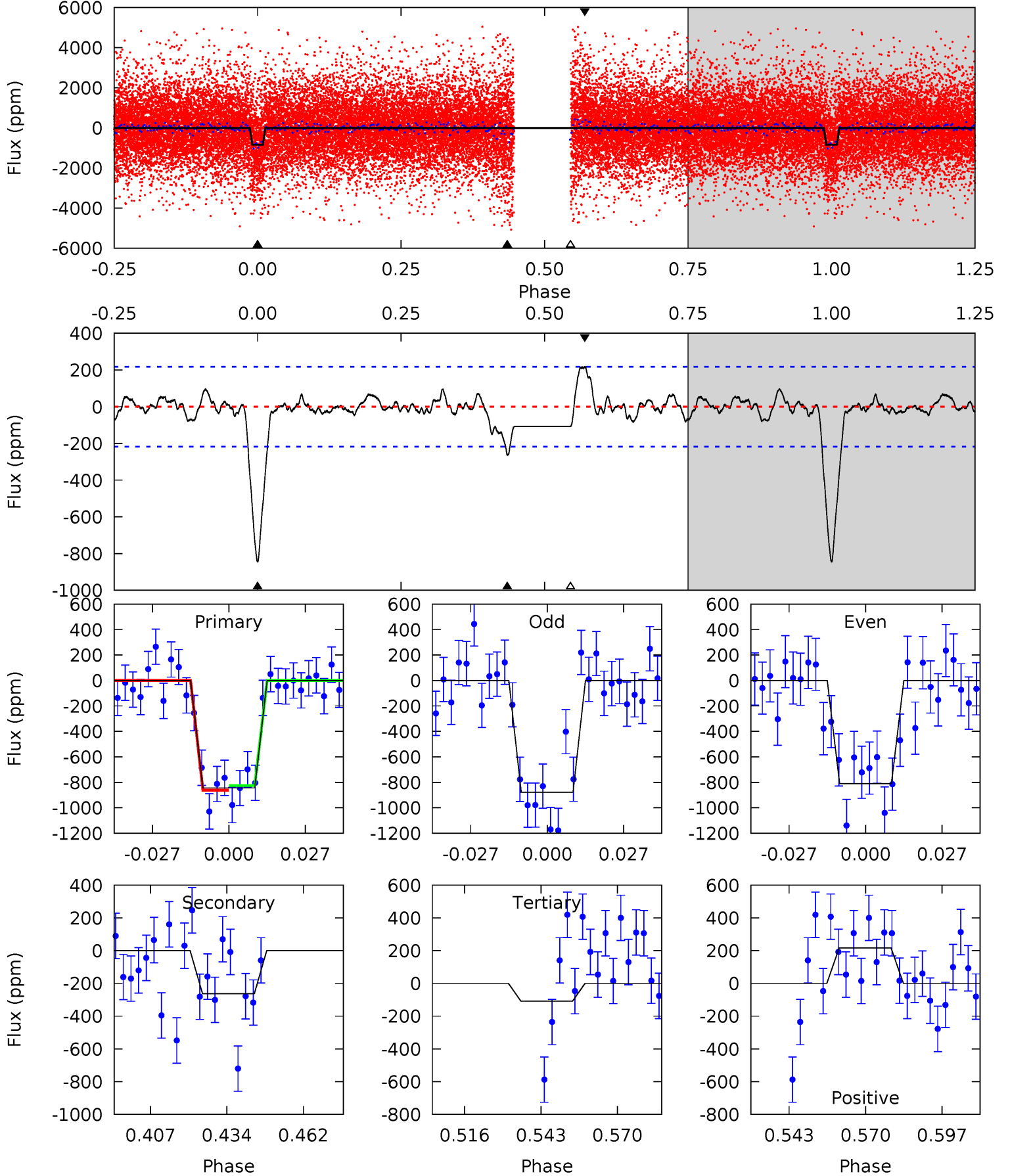
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	3.68	2.53	2.47	4.80	2.14	0.95	17.9	17.9	1.15	1.21	0.14	0.99	0.12	0.50



Alt Model-Shift Uniqueness Test

011200405-02, P = 4.639664 Days, E = 132.783099 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	5.83	2.39	4.81	4.83	2.21	1.08	16.3	13.9	3.44	1.02	0.75	1.09	0.20	0.41



Stellar Parameters For KIC 011200405

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6078^{+200}_{-200}	$4.223^{+0.270}_{-0.180}$	$-0.560^{+0.300}_{-0.300}$	$1.194^{+0.333}_{-0.333}$	$0.868^{+0.119}_{-0.079}$	$0.718^{+1.132}_{-0.334}$
	+3%/-3%	+6%/-4%	+54%/-54%	+28%/-28%	+14%/-9%	+158%/-47%
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 011200405-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-157 ± 43	$4.15^{+0.91}_{-0.78}$	1780^{+147}_{-152}	4057^{+306}_{-326}	13^{+9}_{-5}
Alt.	-263 ± 45	$3.71^{+0.82}_{-0.79}$	1783^{+138}_{-161}	4671^{+400}_{-318}	29^{+18}_{-11}

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

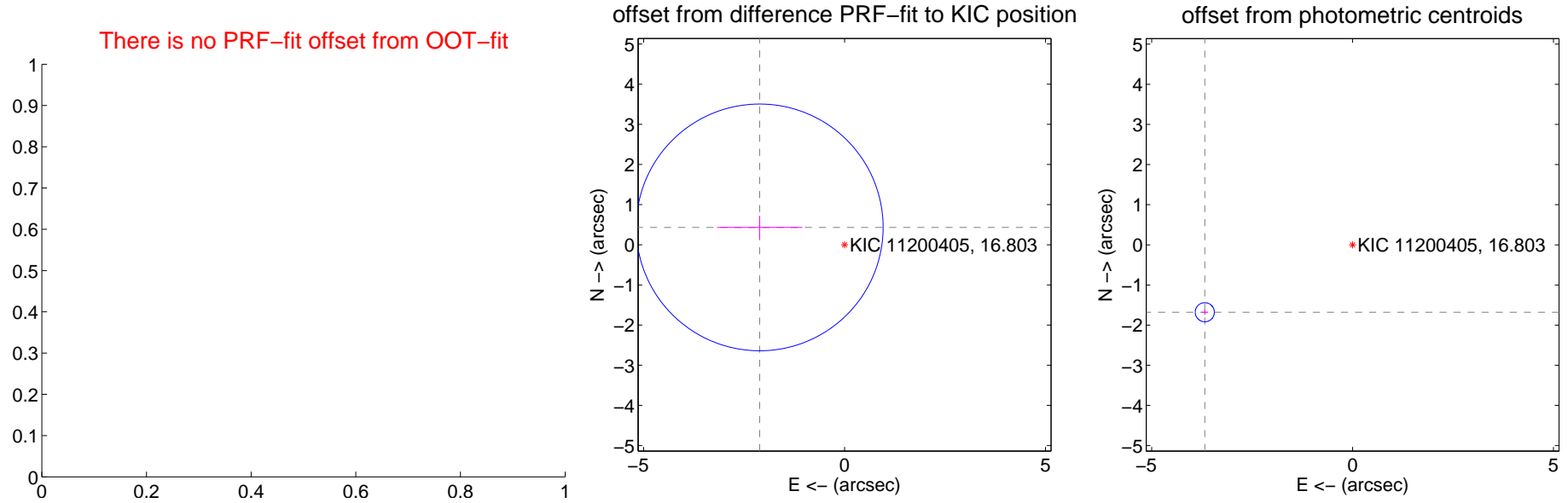
DV Centroid Data

Supplemental centroid analysis for 011200405-02. Kepler magnitude: 16.80. Transit SNR 13.72

There are 5 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	2.156 ± 1.024	2.11	2.113 ± 1.063	0.432 ± 0.289
photometric centroid source offset	4.04 ± 0.08	50.98	3.68 ± 0.08	-1.68 ± 0.07



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.



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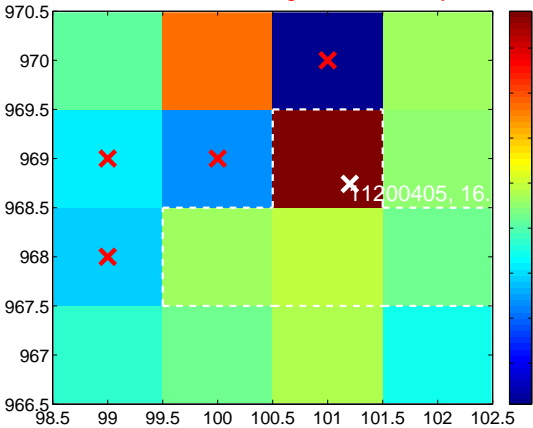
Q9 no difference image



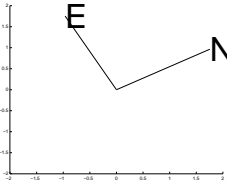
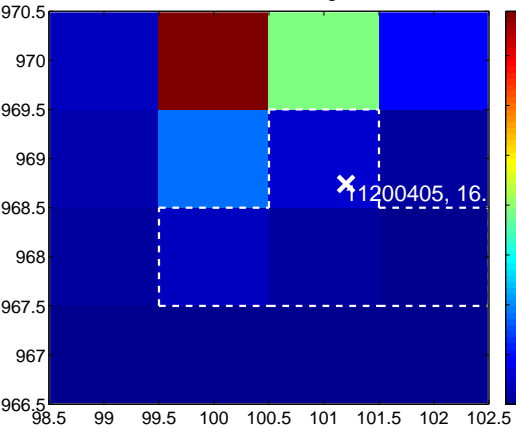
Q9 no OOT image



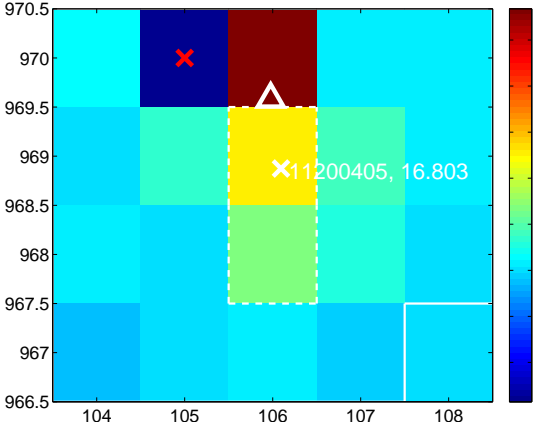
Q10 difference image. Poor Quality



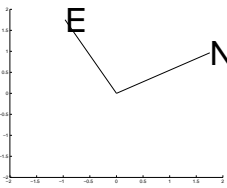
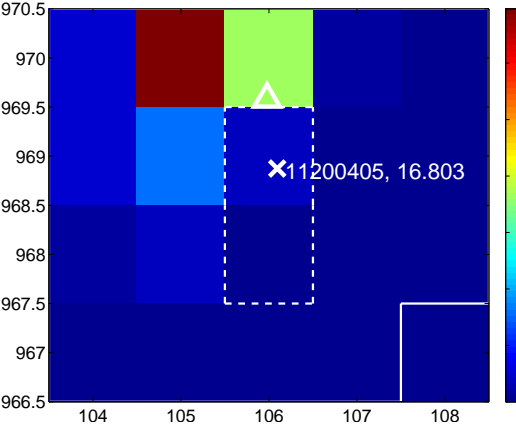
Q10 OOT image



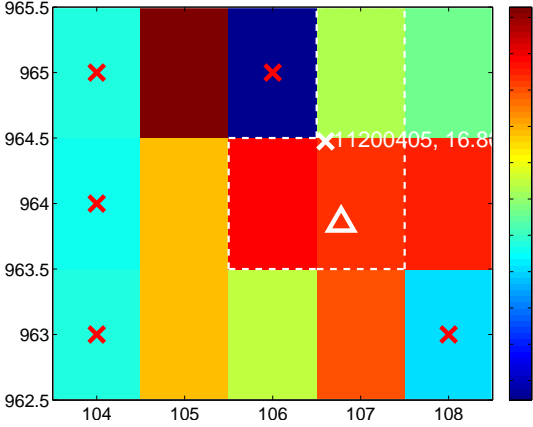
Q11 difference image



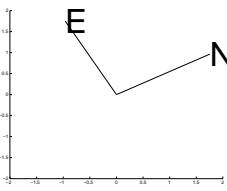
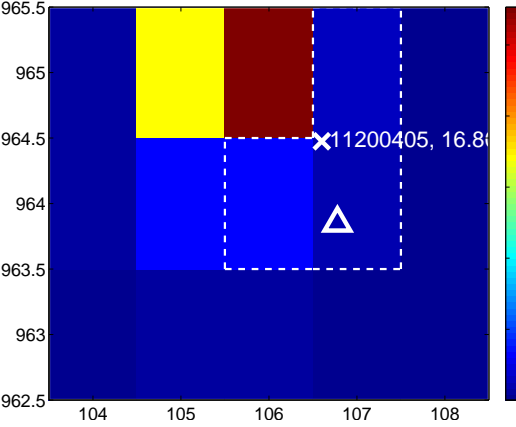
Q11 OOT image



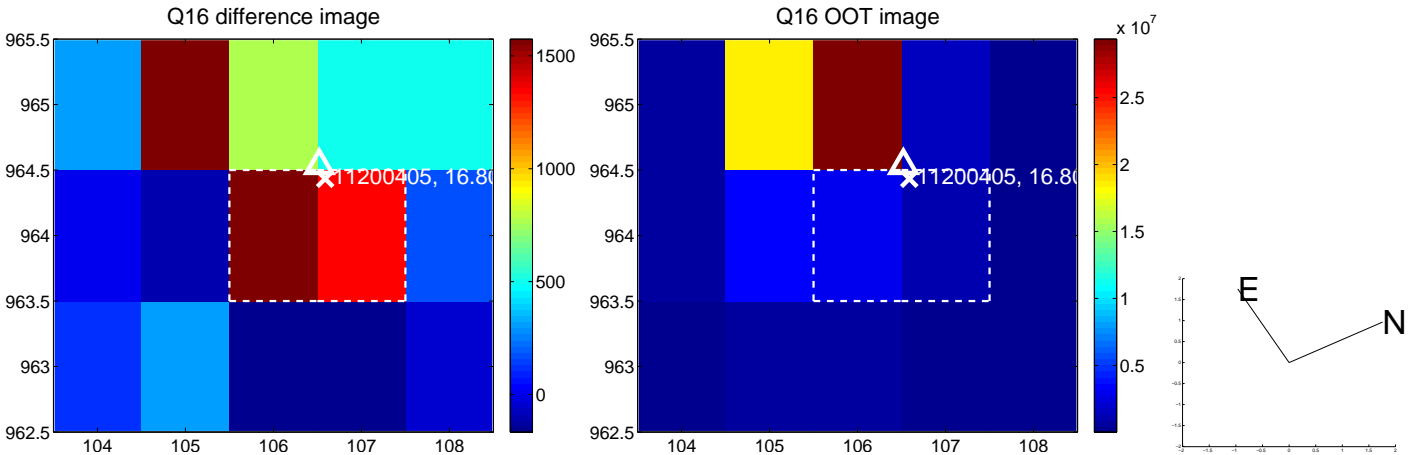
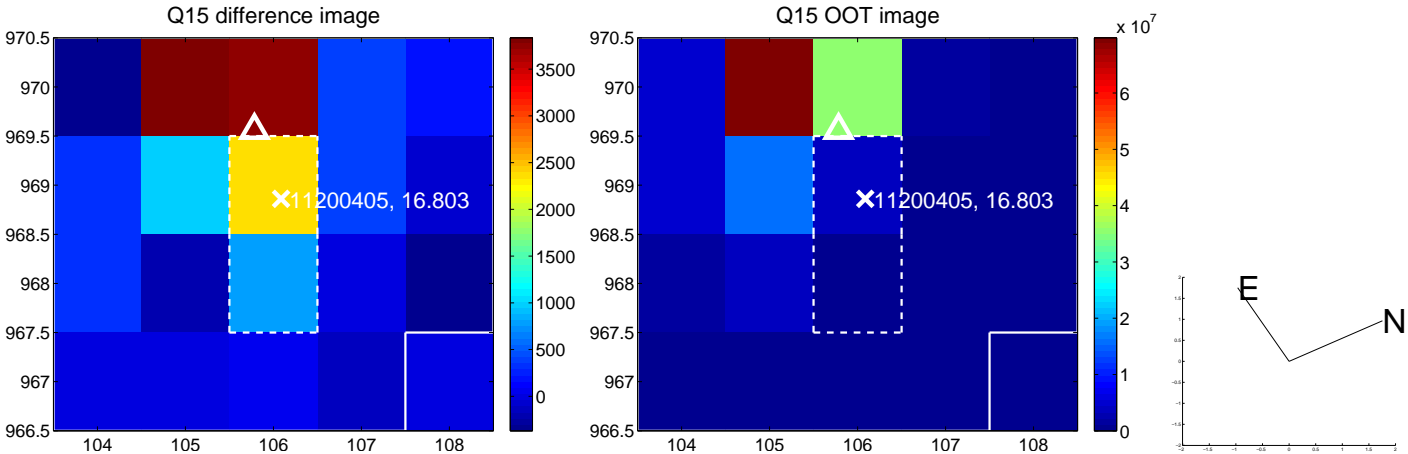
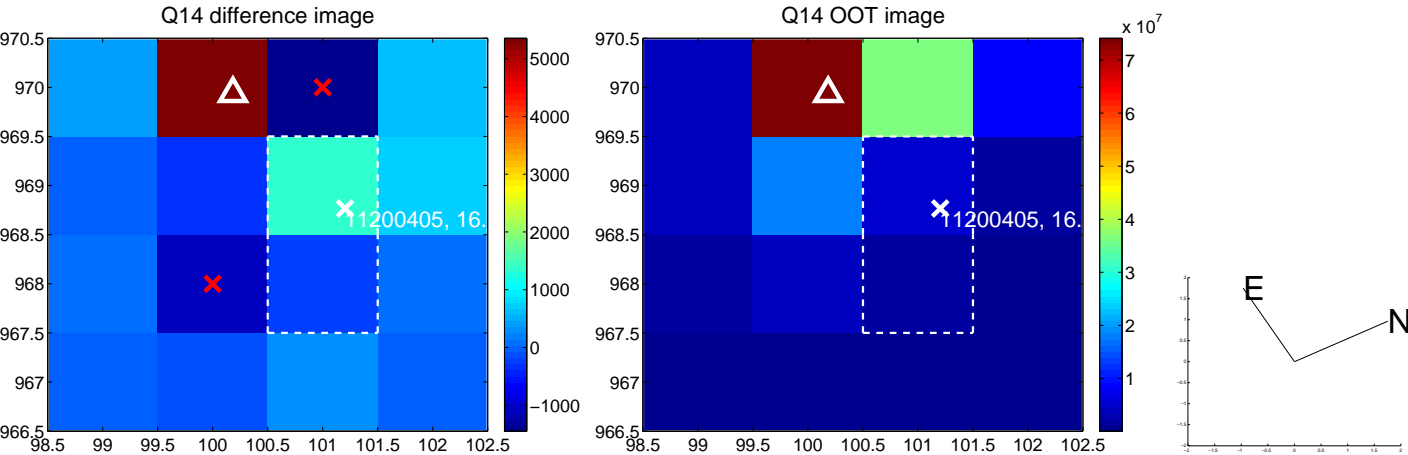
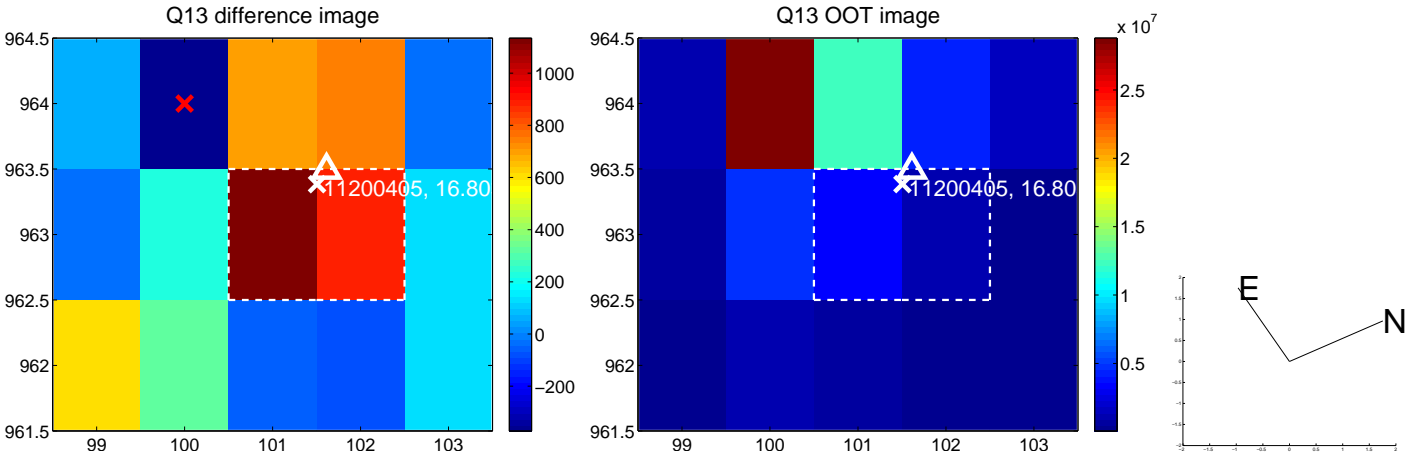
Q12 difference image. Poor Quality



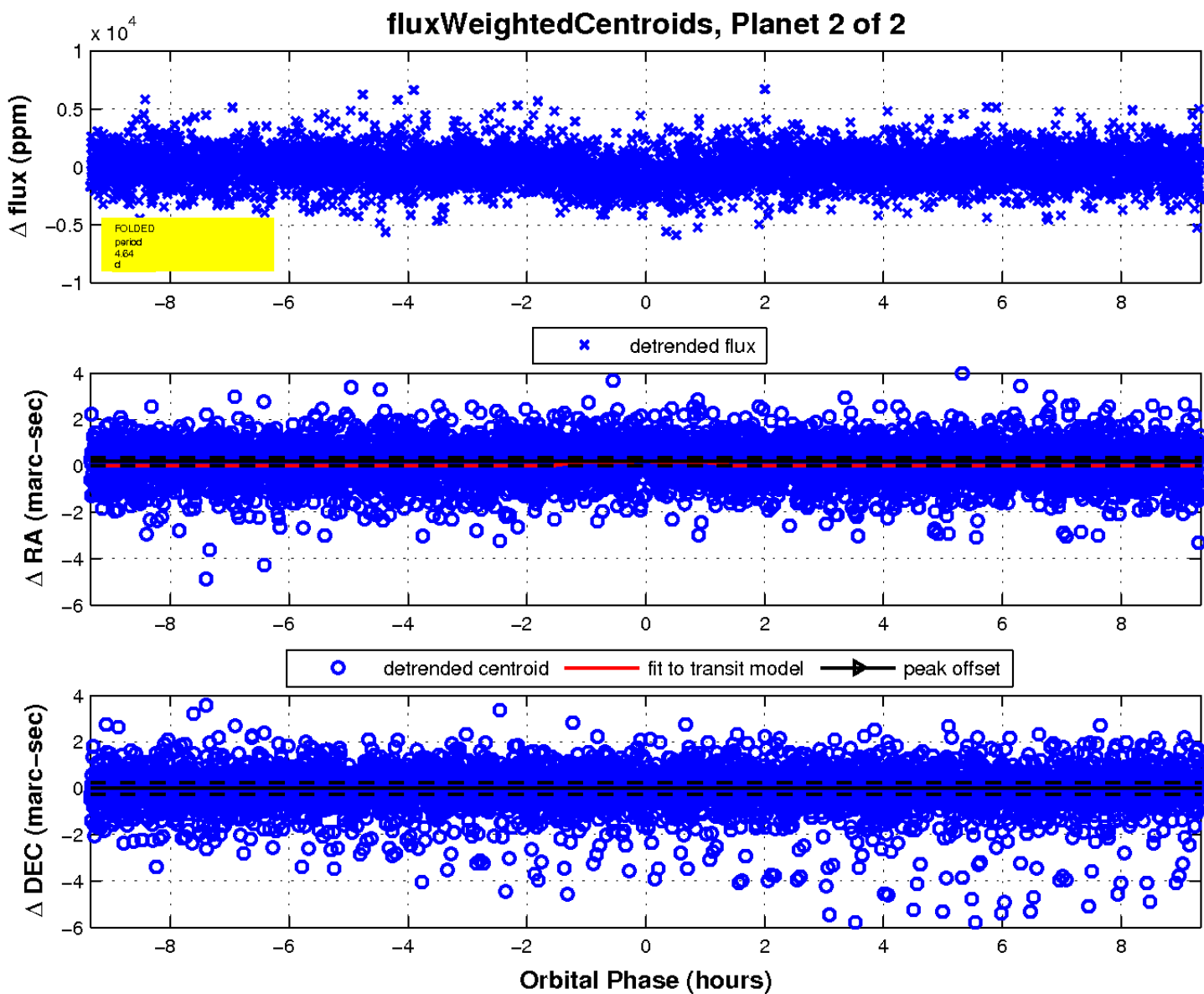
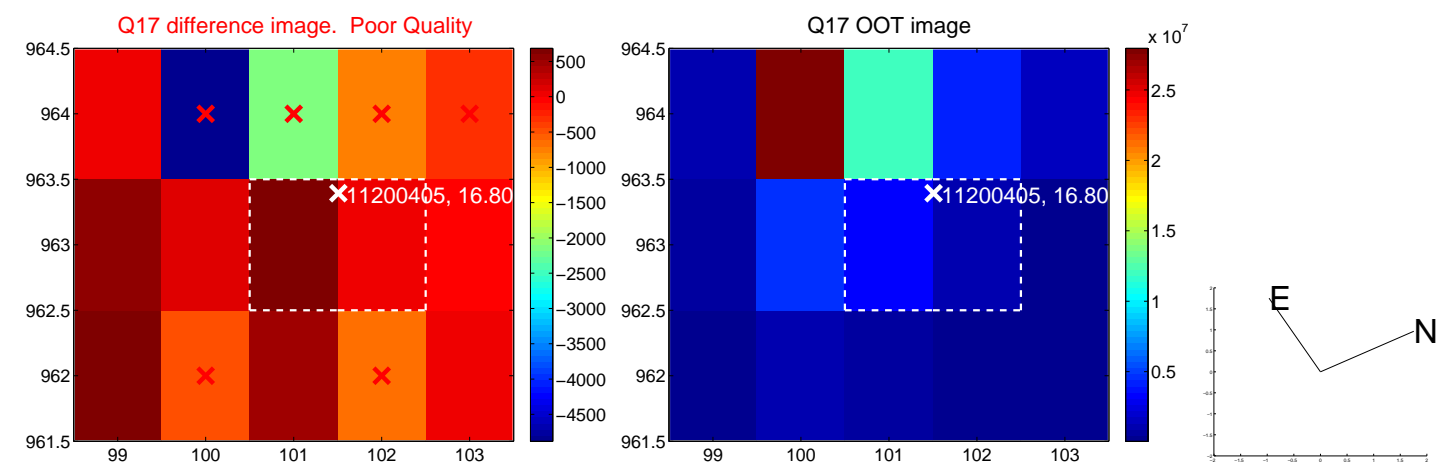
Q12 OOT image



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.



UKIRT Image

Declination

