

KIC 011401845

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})
011401845-01	OBS	5894.01	1.080727	131.837931	292482.0	3.500	3026.2	-1.0	2.34	7796	47.10	29619.04
011401845-02	OBS	No	5.404497	133.239138	17.4	37.846	239.1	0.1	2.34	7796	0.99	3463.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011401845-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—CENT_NOFITS
011401845-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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 011401845-01

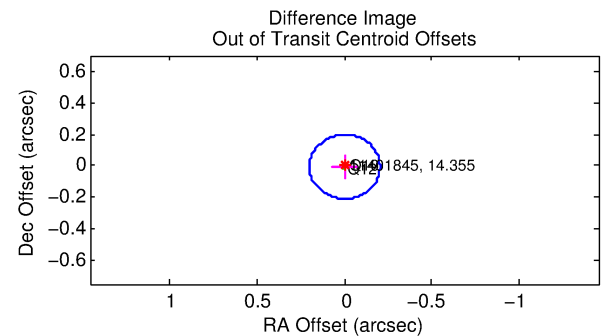
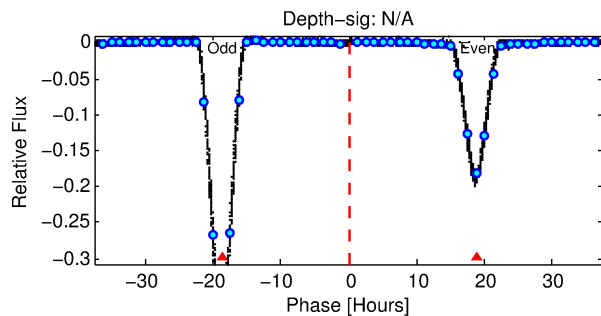
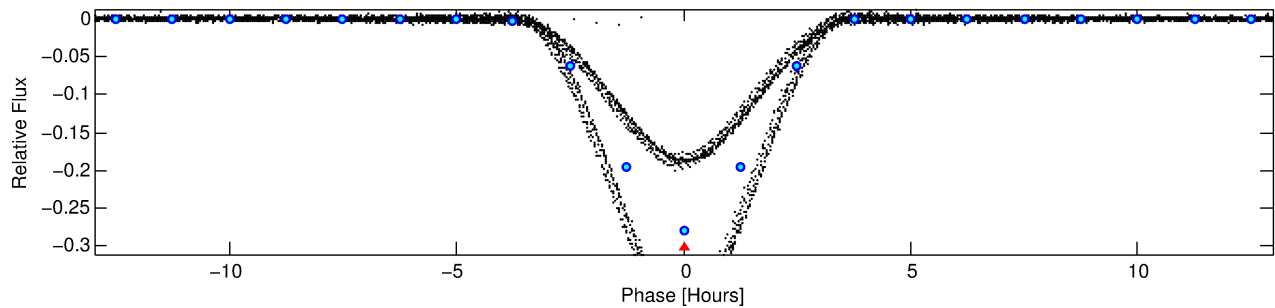
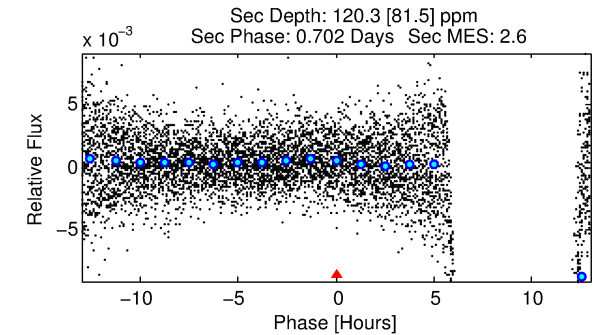
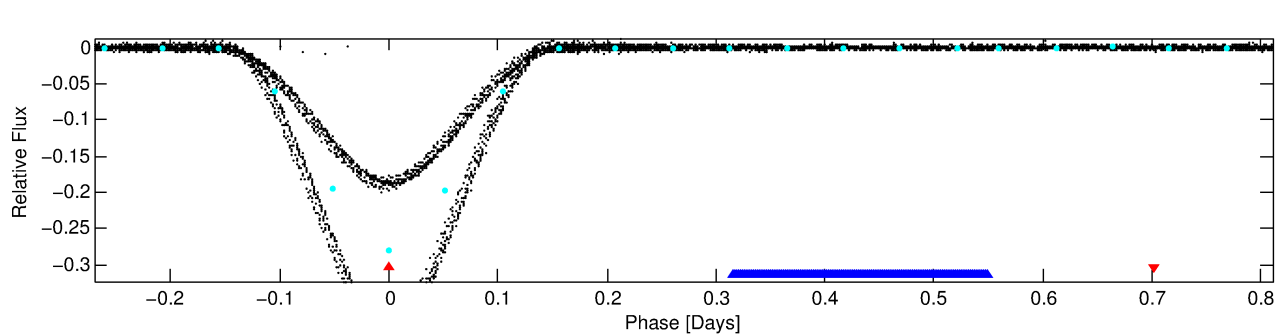
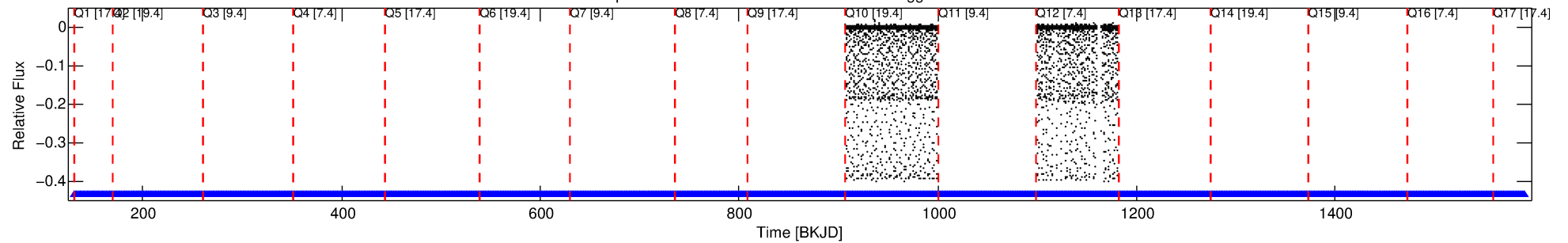
No Significant Match Found

DV One-Page Summary

KIC: 11401845 Candidate: 1 of 2 Period: 1.081 d

KOI: K05894 Corr: No Ephemeris Match

Kp: 14.35 R*: 2.34 Rs Teff: 7796.0 K Logg: 3.94 Fe/H: -0.280



TPS TCE Results:

Period = 1.08073 d
Epoch = 131.8379 BKJD

DV fit results are unavailable

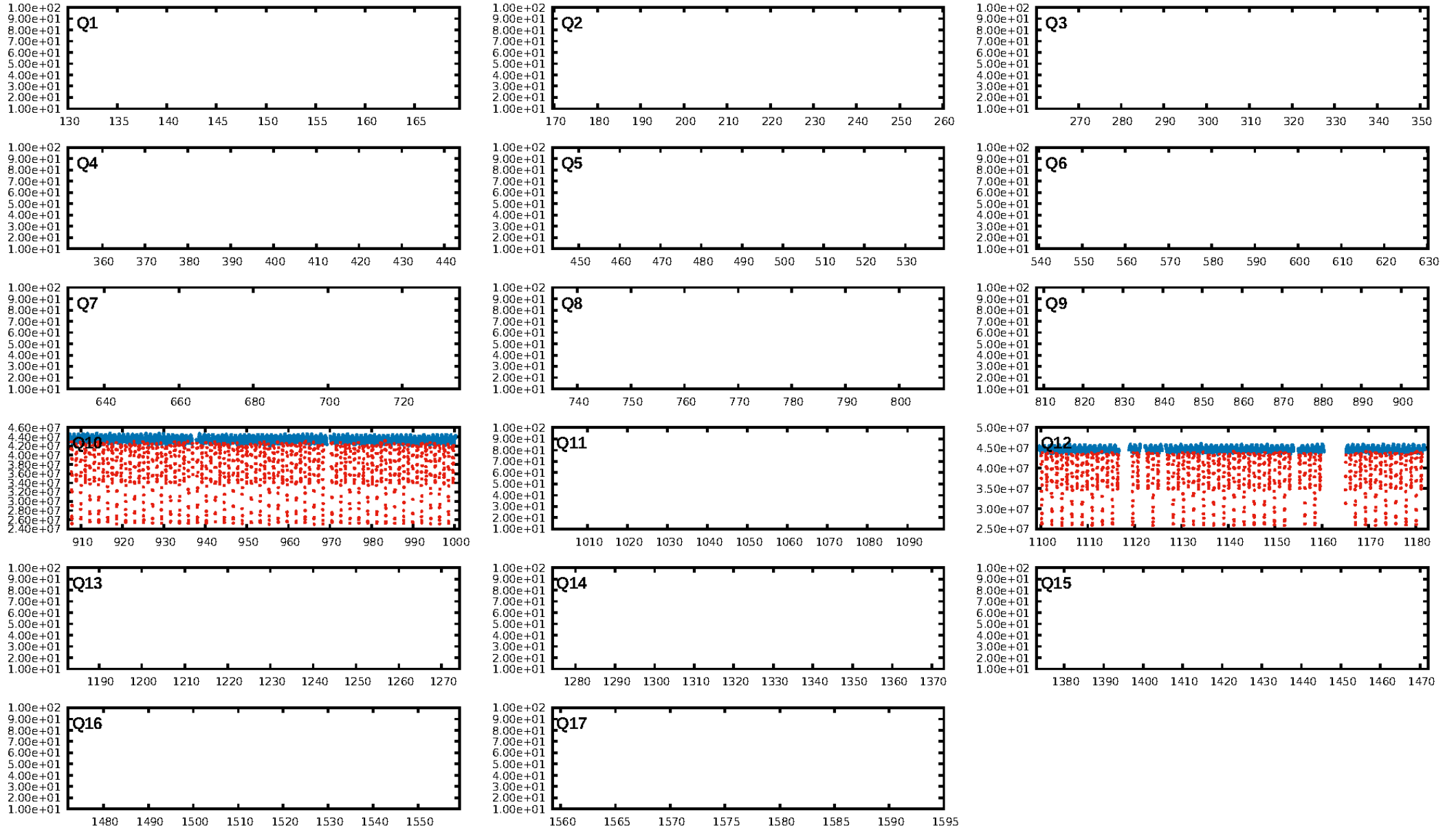
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.4% [2.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [152/152]
GhostDiagnostic-chr: 0.2683
Centroid-sig: 0.0%
Centroid-so: 0.129 arcsec [121.55σ]
OotOffset-rm: 0.006 arcsec [0.09σ]
KicOffset-rm: 0.080 arcsec [0.67σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

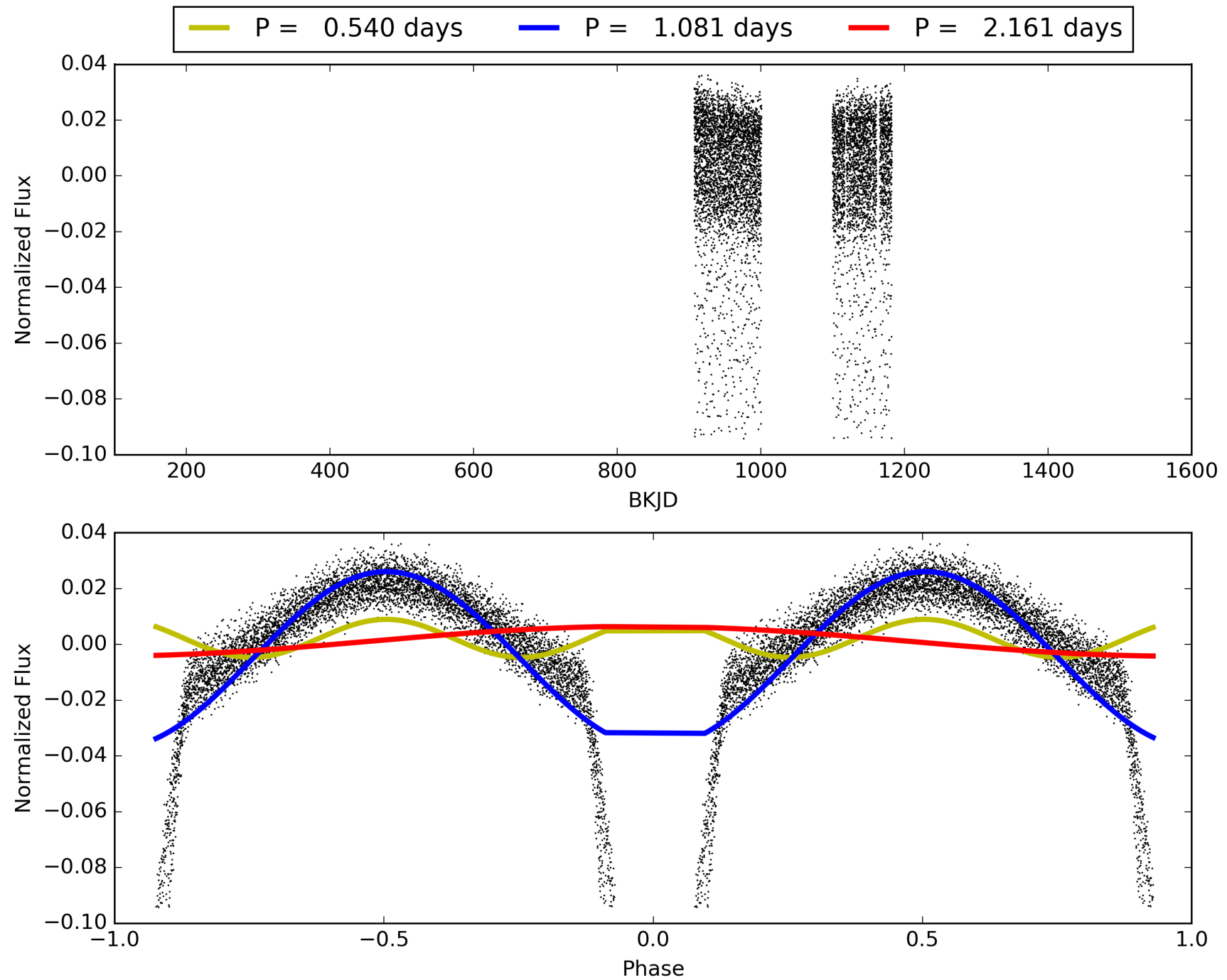
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:48:28 Z

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

TCE 011401845-01, PDC Light Curves

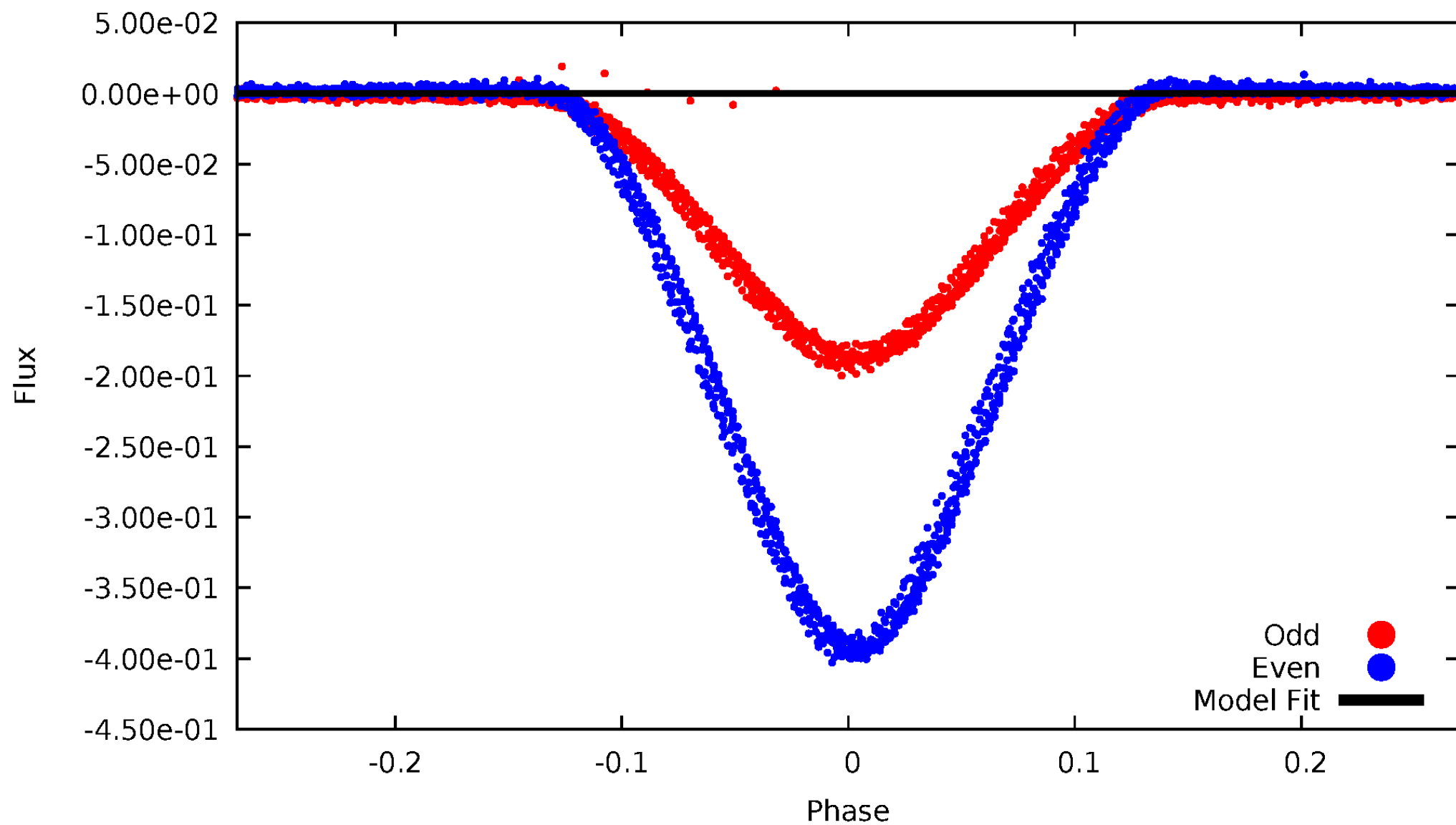


TCE 011401845-01



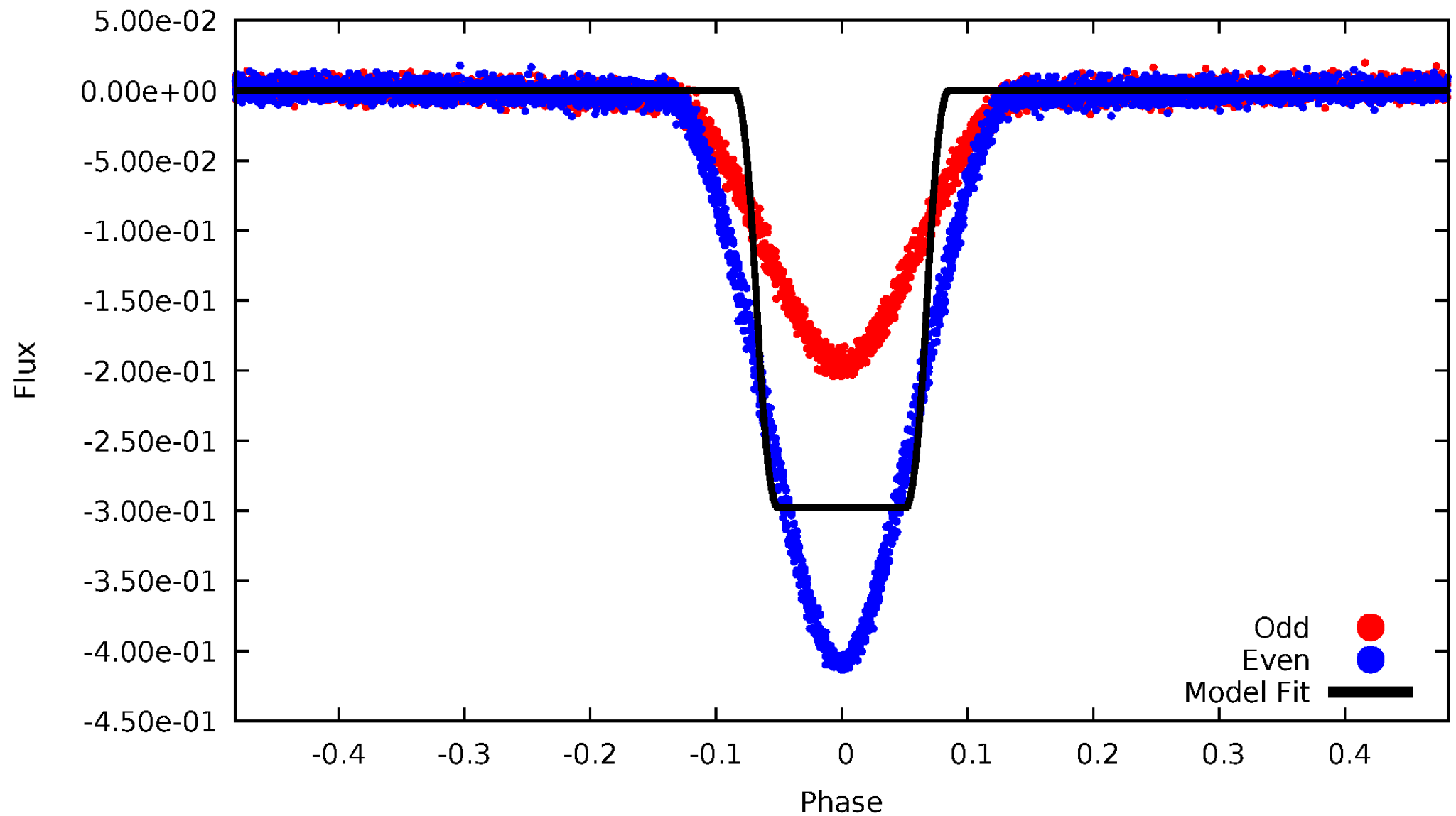
DV Odd/Even

TCE 011401845-01



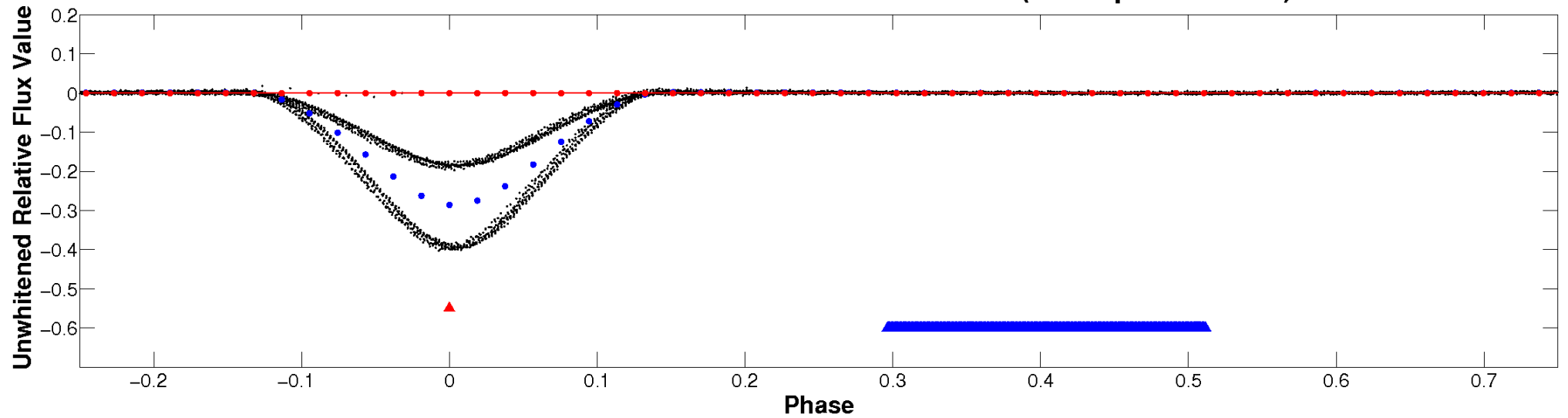
ALT Odd/Even

TCE 011401845-01



Non-Whitened Vs. Whitened Light Curve

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

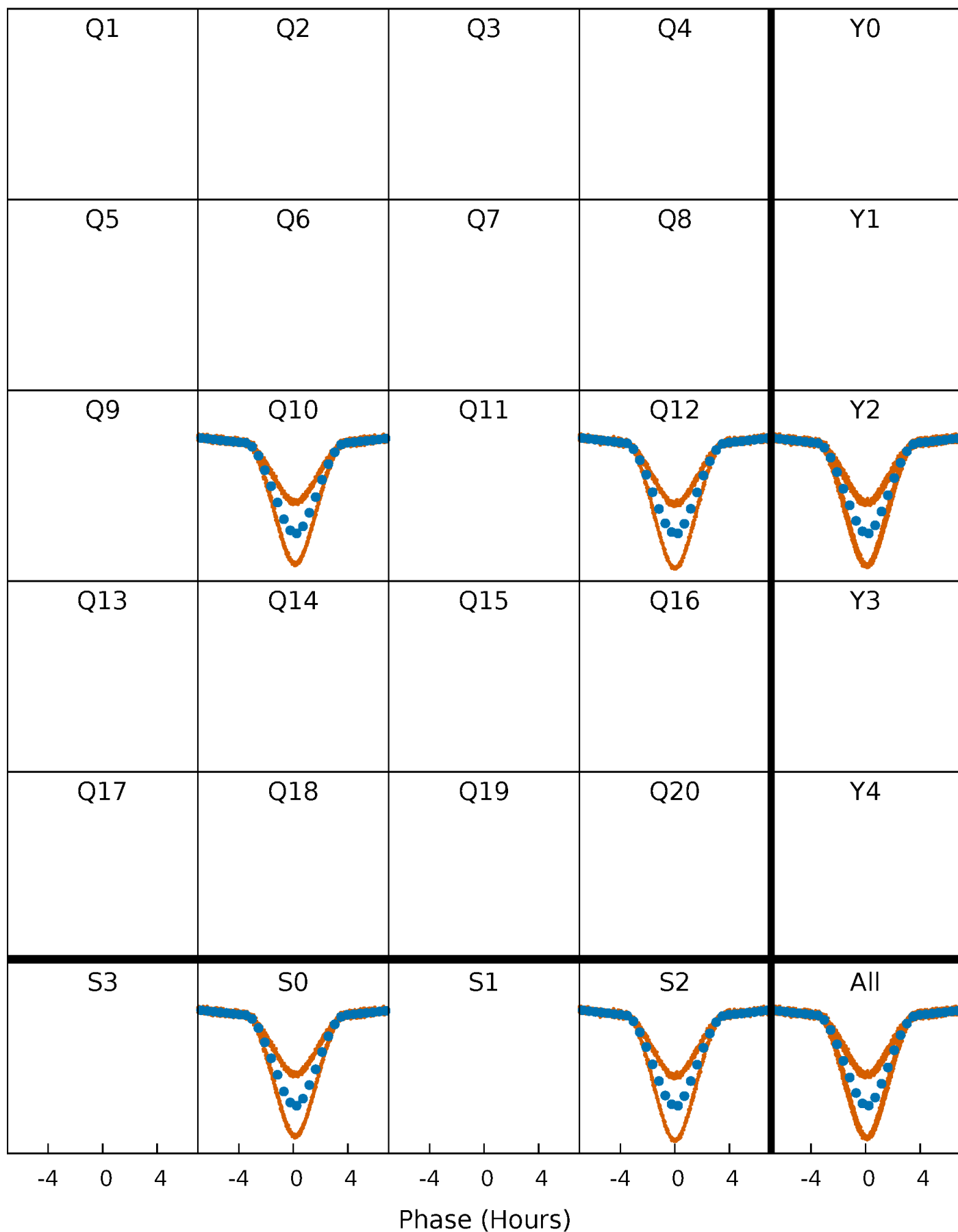


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



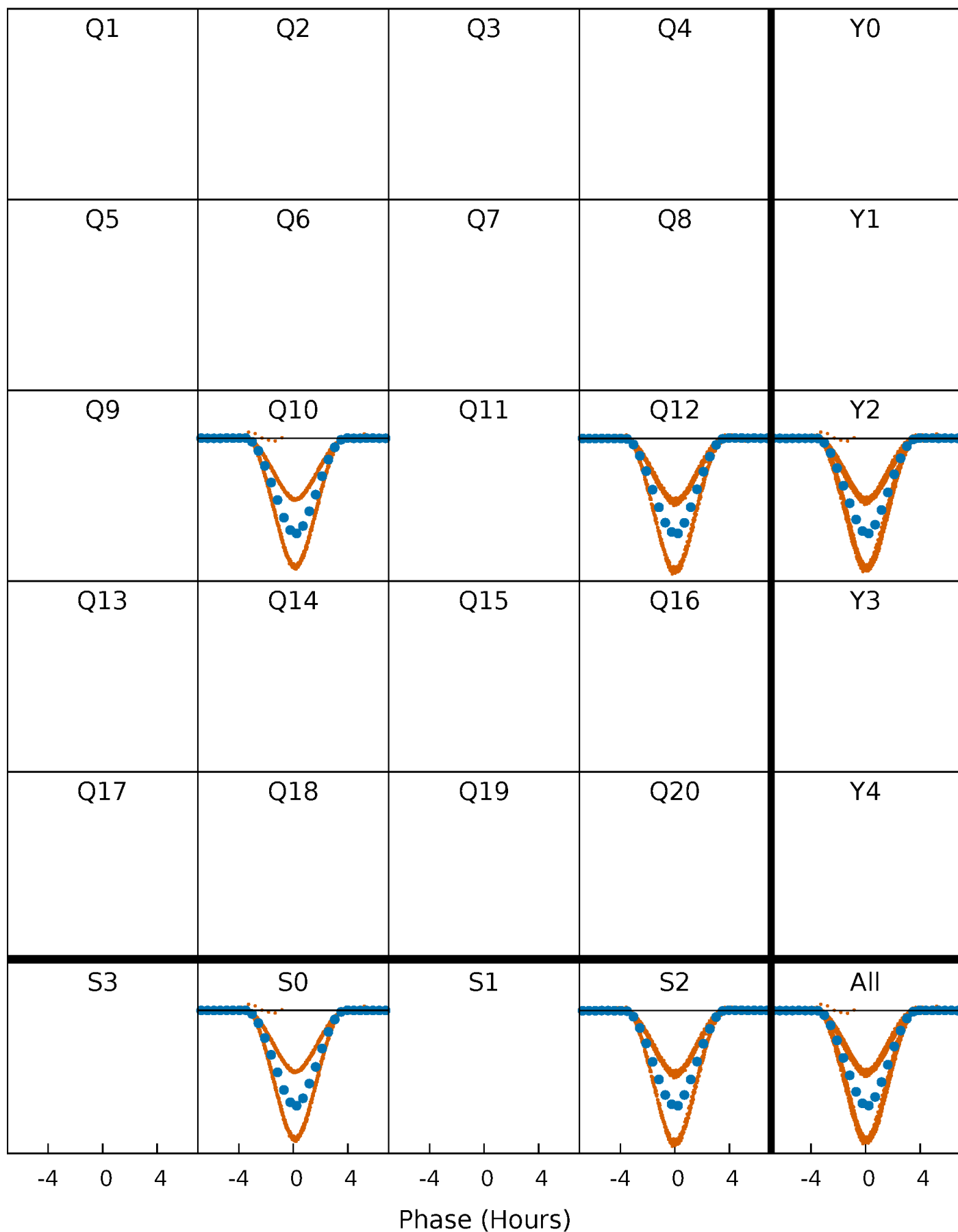
PDC Quarter-Phased Transit Curves

TCE 011401845-01 P= 1.080727 Days $T_0=131.837931$ (BKJD)



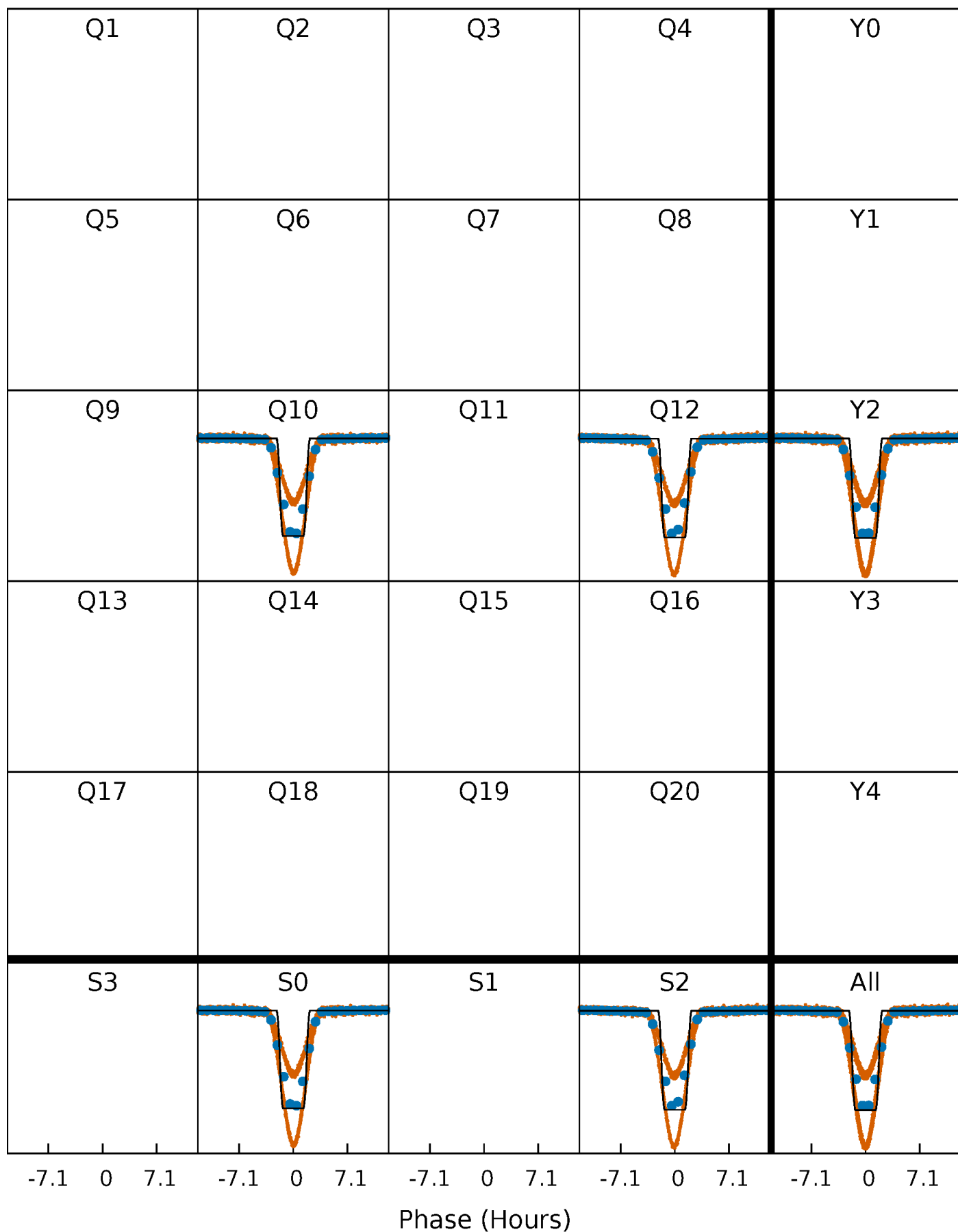
DV Quarter-Phased Transit Curves

TCE 011401845-01 P= 1.080727 Days $T_0=131.837931$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

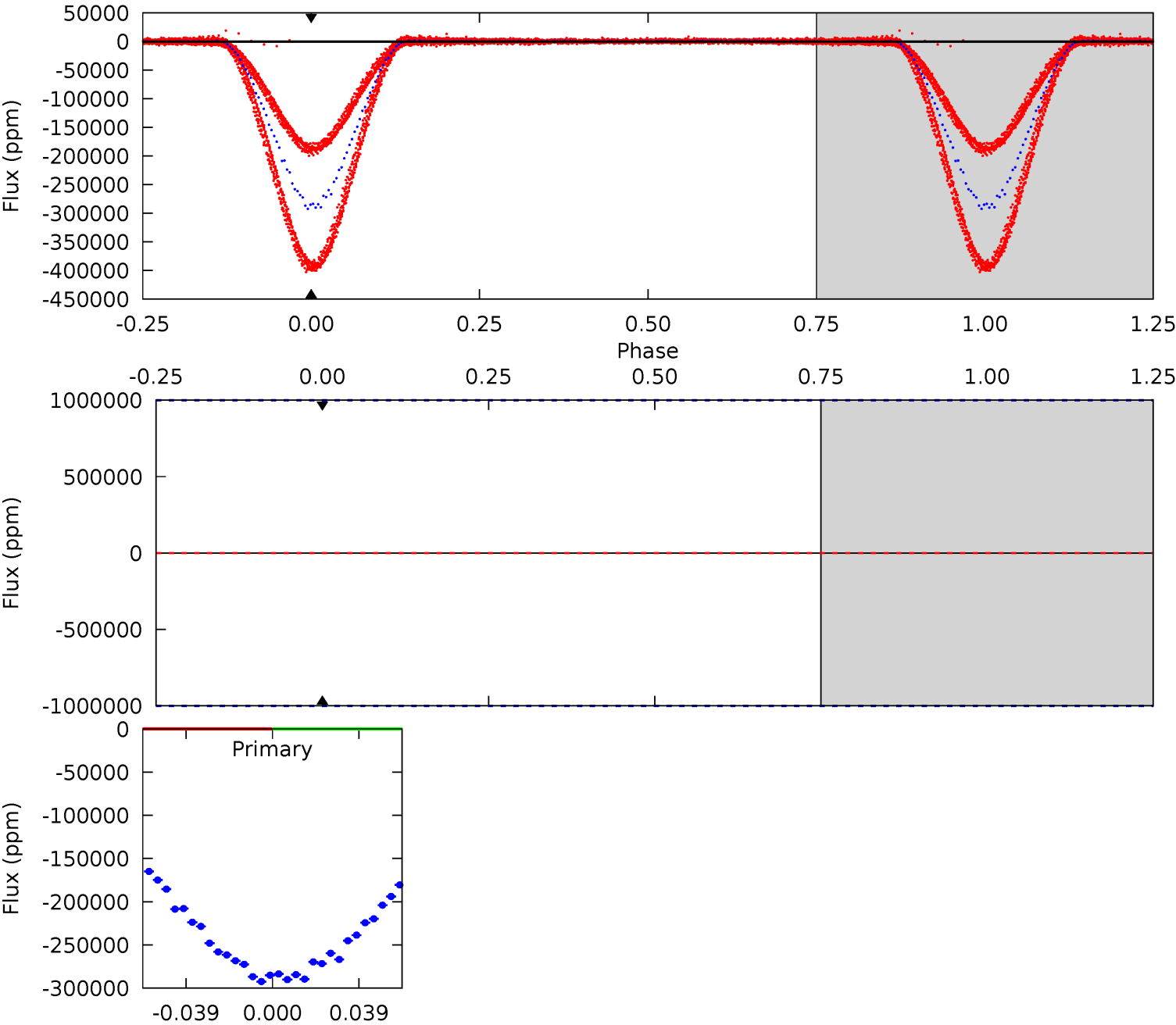
TCE 011401845-01 P= 1.080727 Days $T_0=131.841945$ (BKJD)



DV Model-Shift Uniqueness Test

011401845-01, P = 1.080727 Days, E = 131.837931 Days

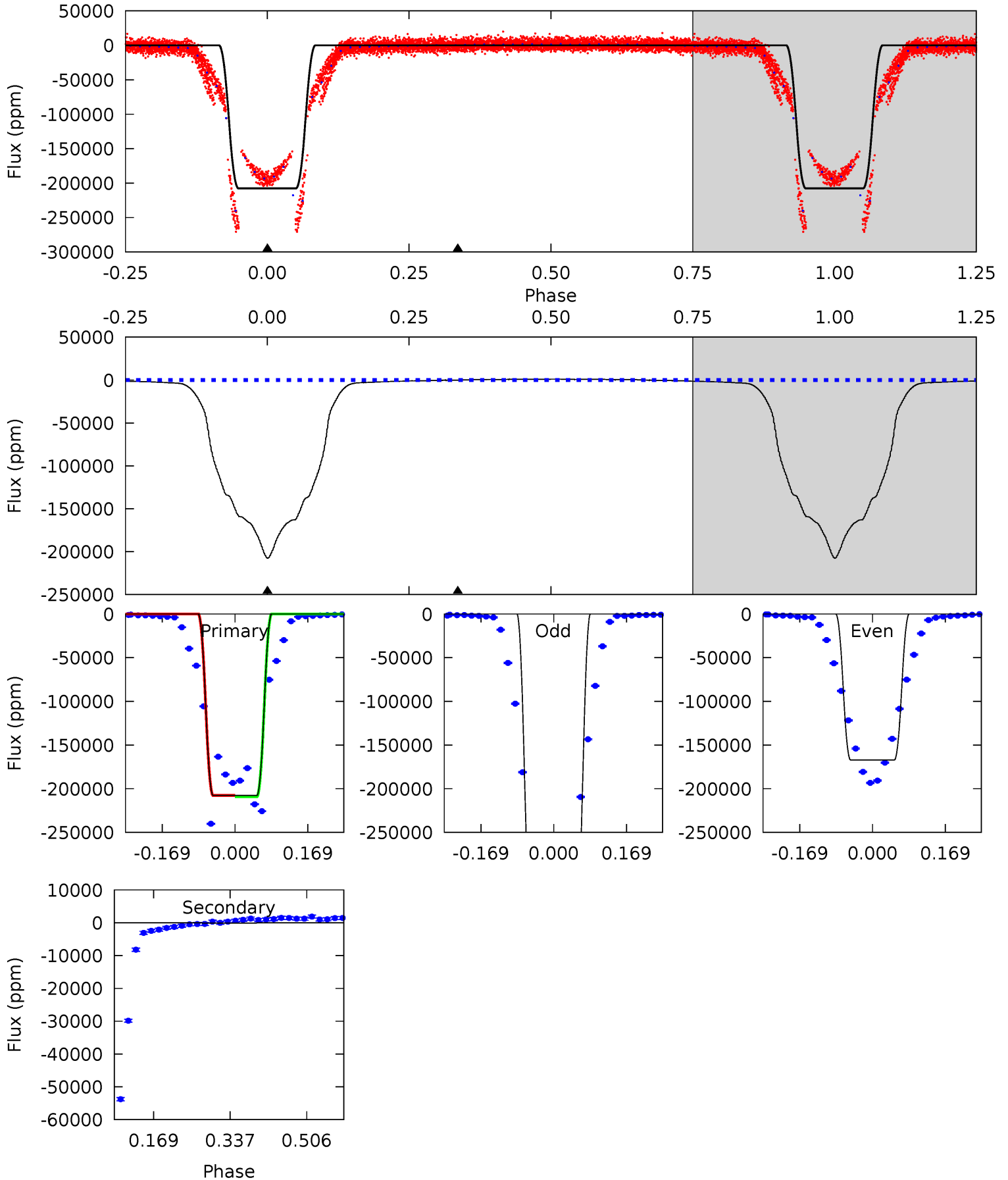
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011401845-01, P = 1.080727 Days, E = 131.841945 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
901.9	0.34	0	0	4.45	1.38	5.31	901.9	901.9	0.34	0.34	654.6	1.48	0.01	0



Stellar Parameters For KIC 011401845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7796^{+244}_{-325}	$3.937^{+0.280}_{-0.120}$	$-0.280^{+0.200}_{-0.350}$	$2.340^{+0.436}_{-0.810}$	$1.725^{+0.182}_{-0.338}$	$0.190^{+0.368}_{-0.071}$
	+3%/-4%	+7%/-3%	+71%/-125%	+19%/-35%	+11%/-20%	+194%/-37%
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 011401845-01 / KOI 5894.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$46.15^{+24.84}_{-23.23}$	4606^{+309}_{-429}	4026^{+9120}_{-15437}	$0.546^{+23.115}_{-17.646}$
Alt.	-79 ± 230	$133.06^{+33.20}_{-31.14}$	4627^{+296}_{-408}	-4024^{+254}_{-172}	$0.001^{+0.005}_{-0.004}$

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

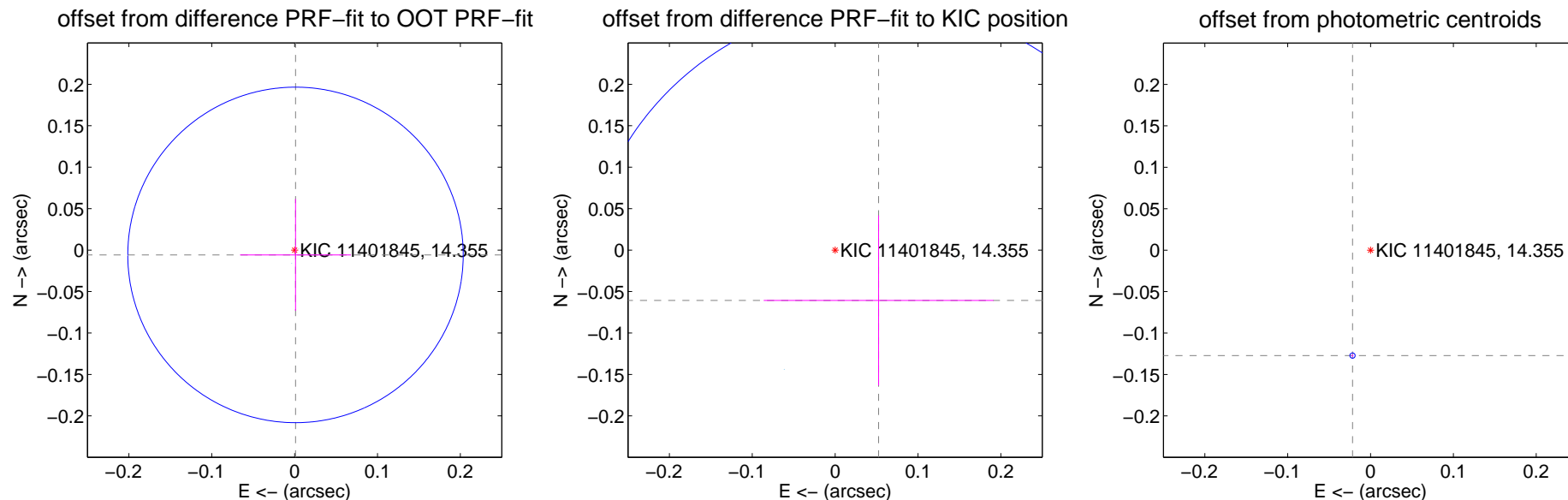
DV Centroid Data

Supplemental centroid analysis for 011401845-01. Kepler magnitude: 14.36. 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 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.006 ± 0.067	0.09	-0.001 ± 0.067	-0.006 ± 0.067
PRF-fit source offset from KIC position	0.080 ± 0.119	0.67	-0.052 ± 0.139	-0.061 ± 0.103
photometric centroid source offset	0.13 ± 0.00	121.55	0.02 ± 0.00	-0.13 ± 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.

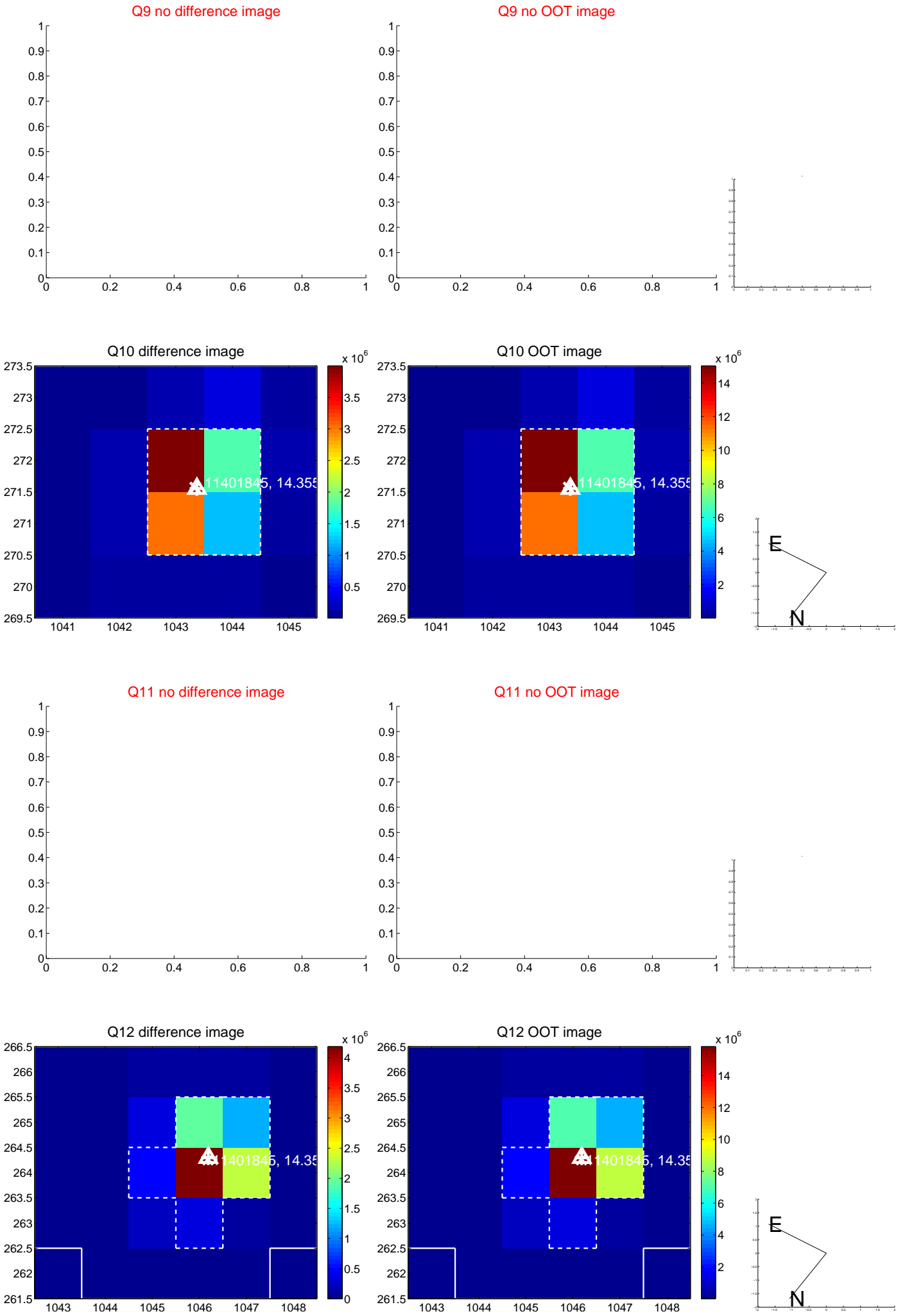
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



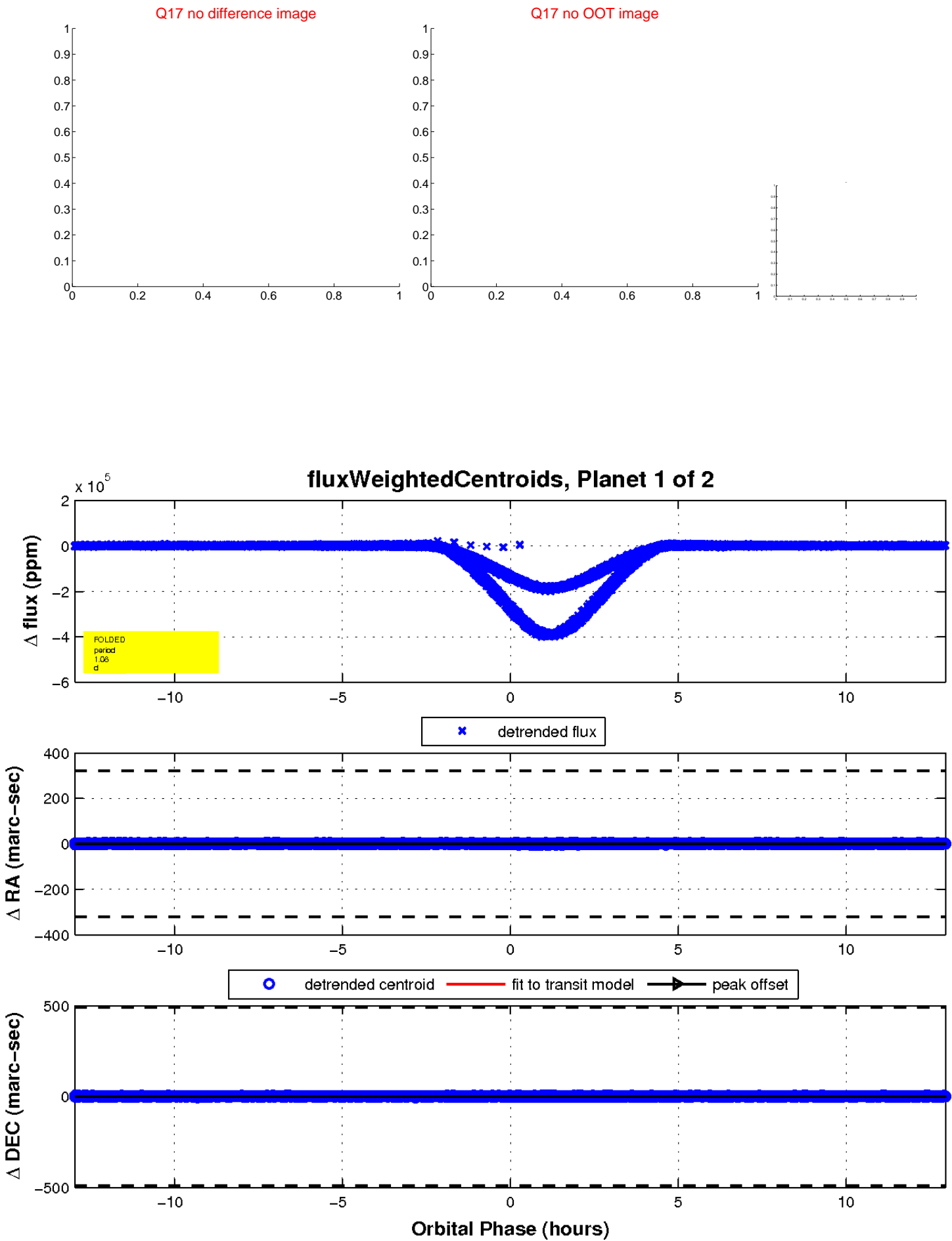
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

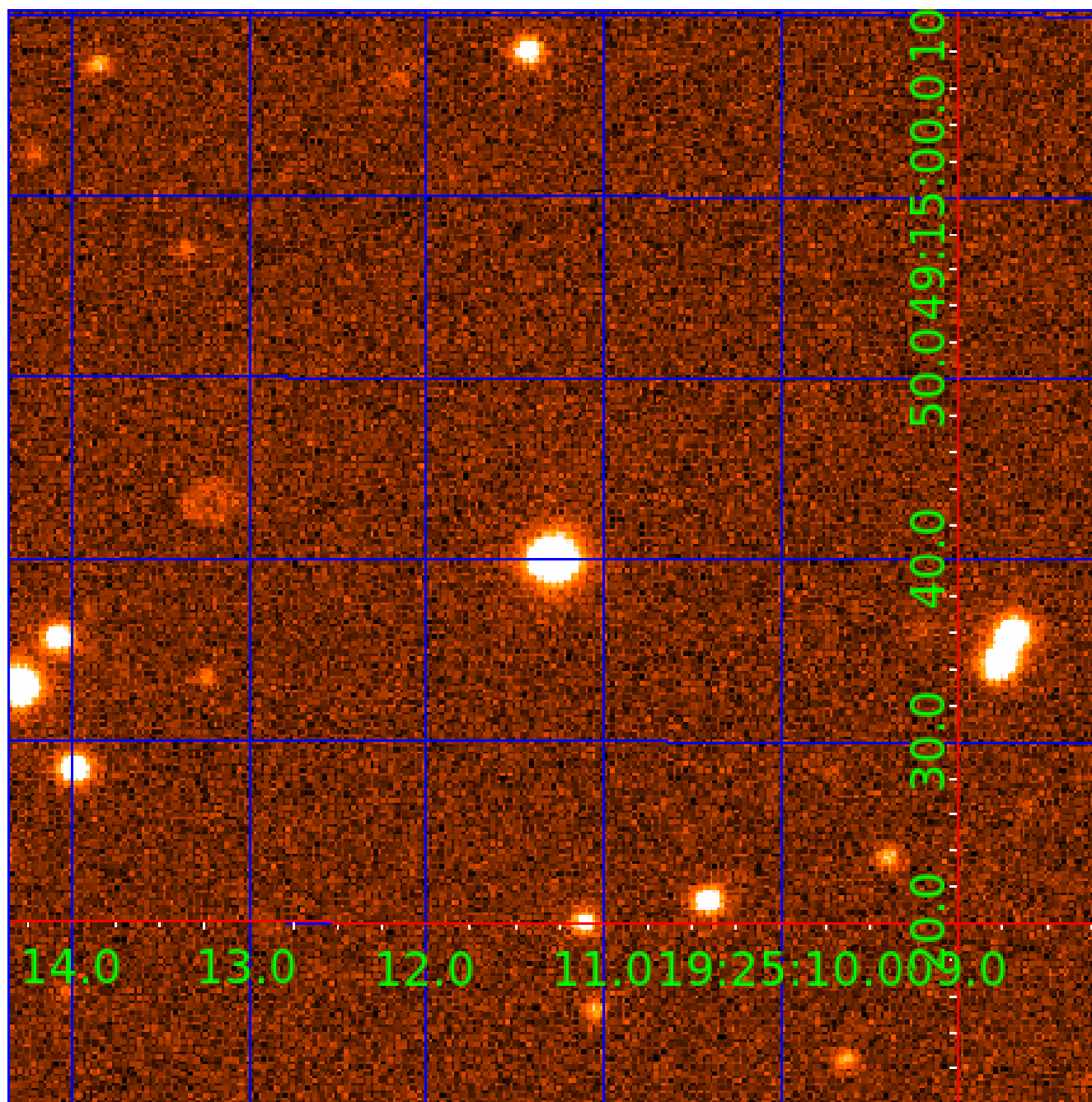


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011401845

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})
011401845-01	OBS	5894.01	1.080727	131.837931	292482.0	3.500	3026.2	-1.0	2.34	7796	47.10	29619.04
011401845-02	OBS	No	5.404497	133.239138	17.4	37.846	239.1	0.1	2.34	7796	0.99	3463.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011401845-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—CENT_NOFITS
011401845-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

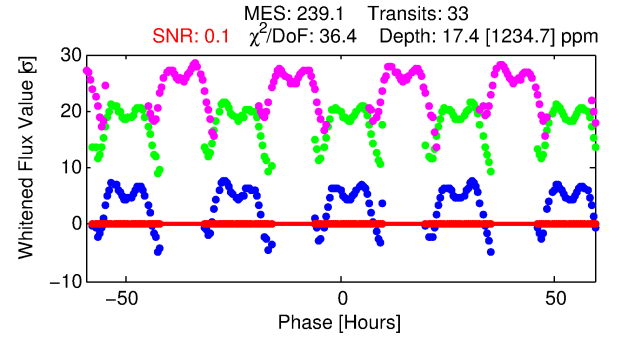
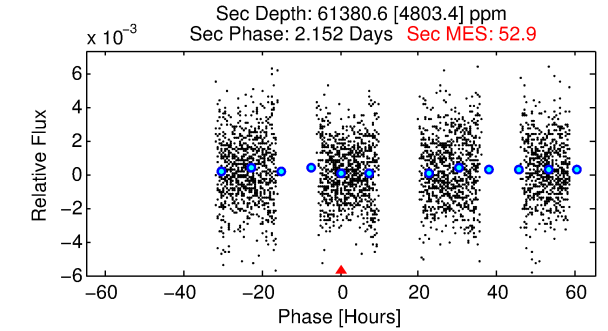
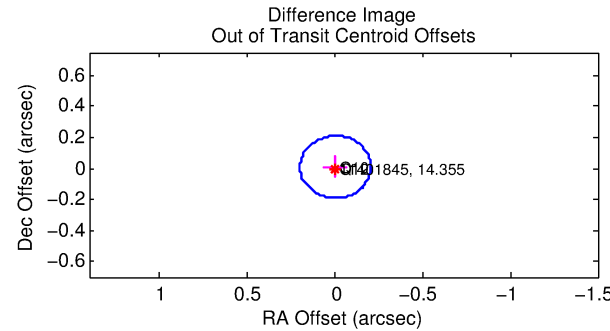
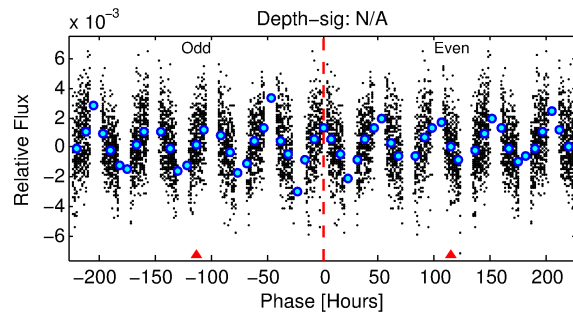
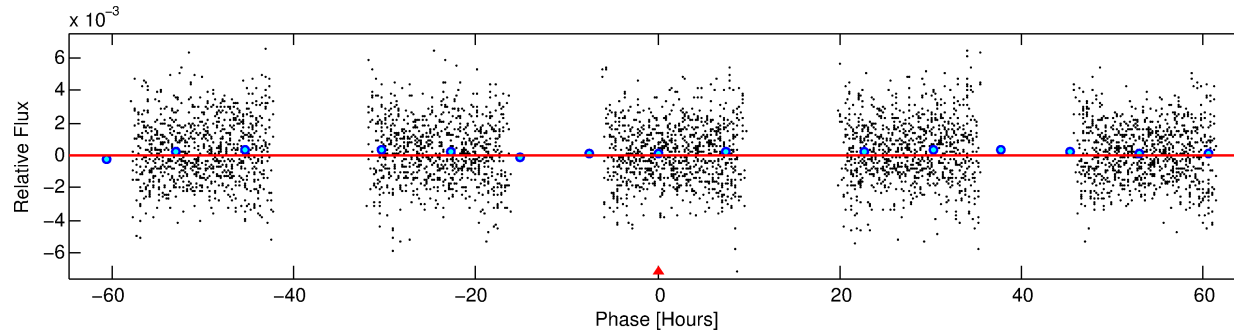
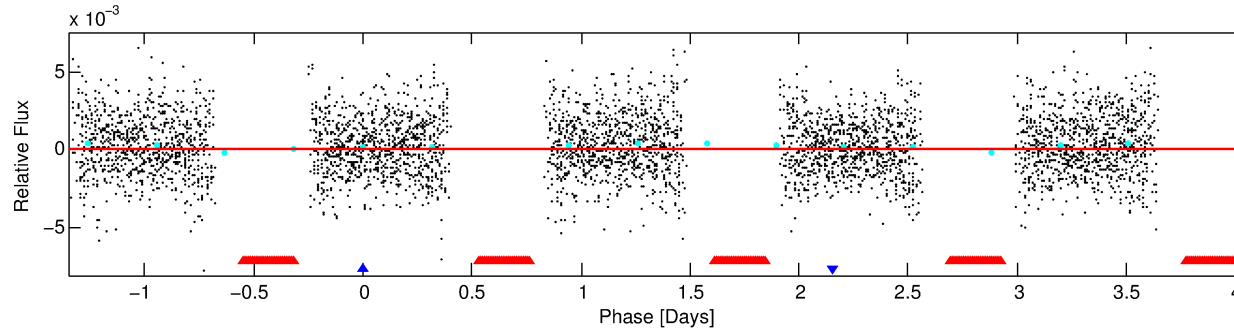
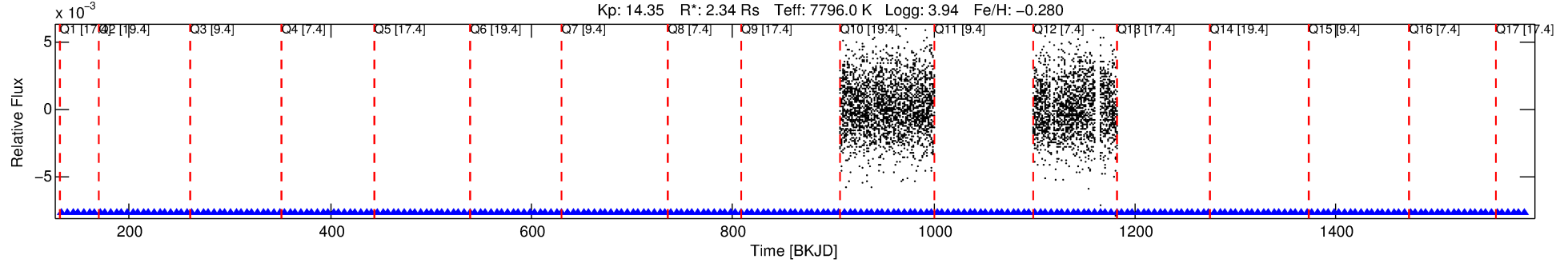
Ephemeris Match Information For 011401845-02

No Significant Match Found

DV One-Page Summary

KIC: 11401845 Candidate: 2 of 2 Period: 5.404 d
KOI: K05894 Corr: No Ephemeris Match

Kp: 14.35 R*: 2.34 Rs Teff: 7796.0 K Logg: 3.94 Fe/H: -0.280



DV Fit Results:

Period = 5.40450 [0.09652] d
Epoch = 133.2391 [26.7776] BKJD
Rp/R* = 0.0039 [1.5230]
a/R* = 1.25 [988.75]
b = 0.25 [8419.91]
Seff = 3463.53 [1787.56]
Teff = 1956 [252] K
Rp = 0.99 [388.89] Re
a = 0.0723 [0.0228] AU
Ag = 181001.87 [142485888.32] [0.00%]
Teffp = 62383 [12277301] K [0.00%]

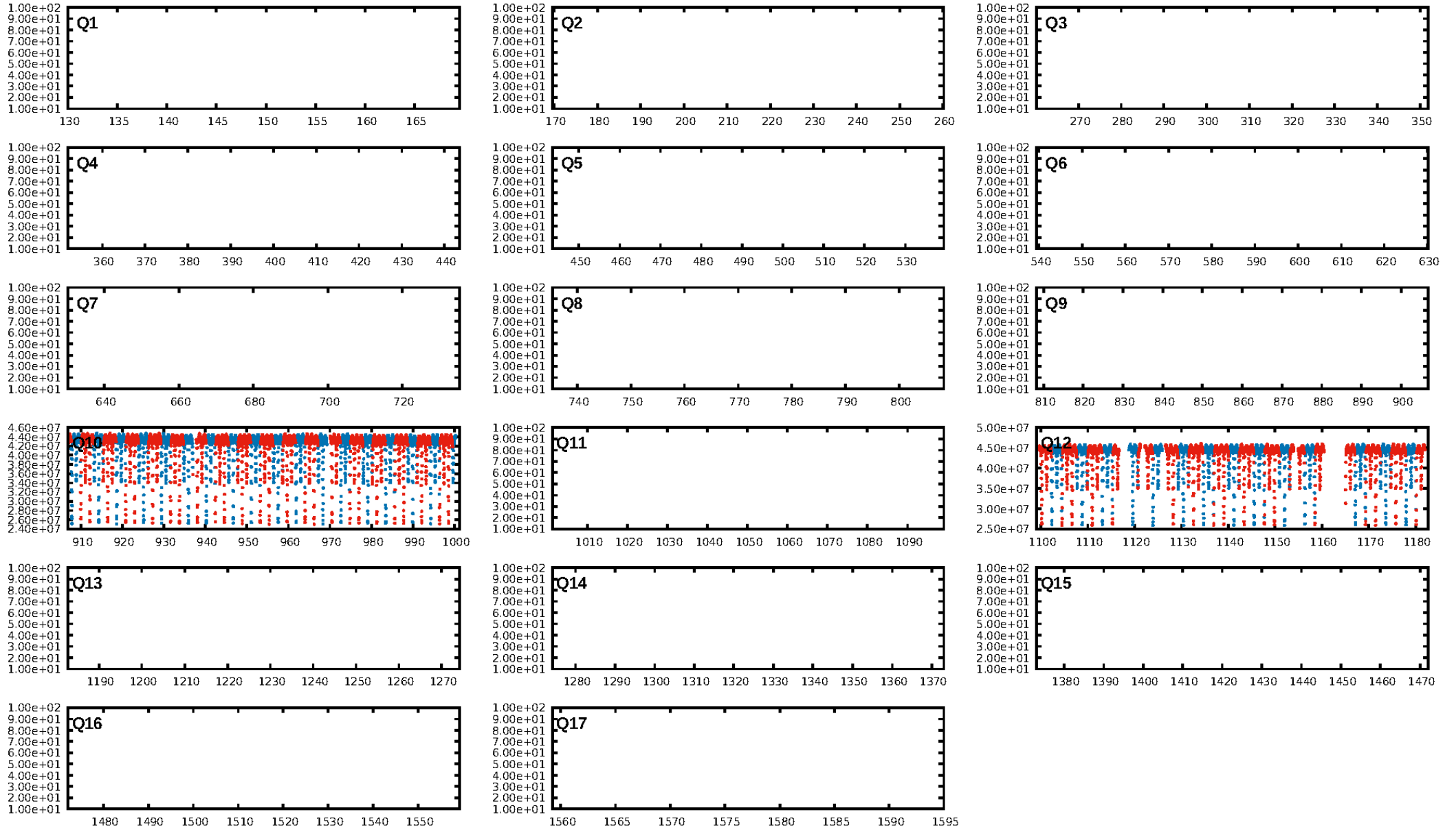
DV Diagnostic Results:

ShortPeriod-sig: 99.4% [2.73σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 2.656
Centroid-sig: 15.8%
Centroid-so: 8.230 arcsec [1.76σ]
OptOffset-rm: 0.010 arcsec [0.15σ]
OptOffset-st: 1/0/1/0 [2]
KicOffset-rm: 0.092 arcsec [0.73σ]
KicOffset-st: 1/0/1/0 [2]
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DiffImageOverlap-fno: 0.00 [0/2]

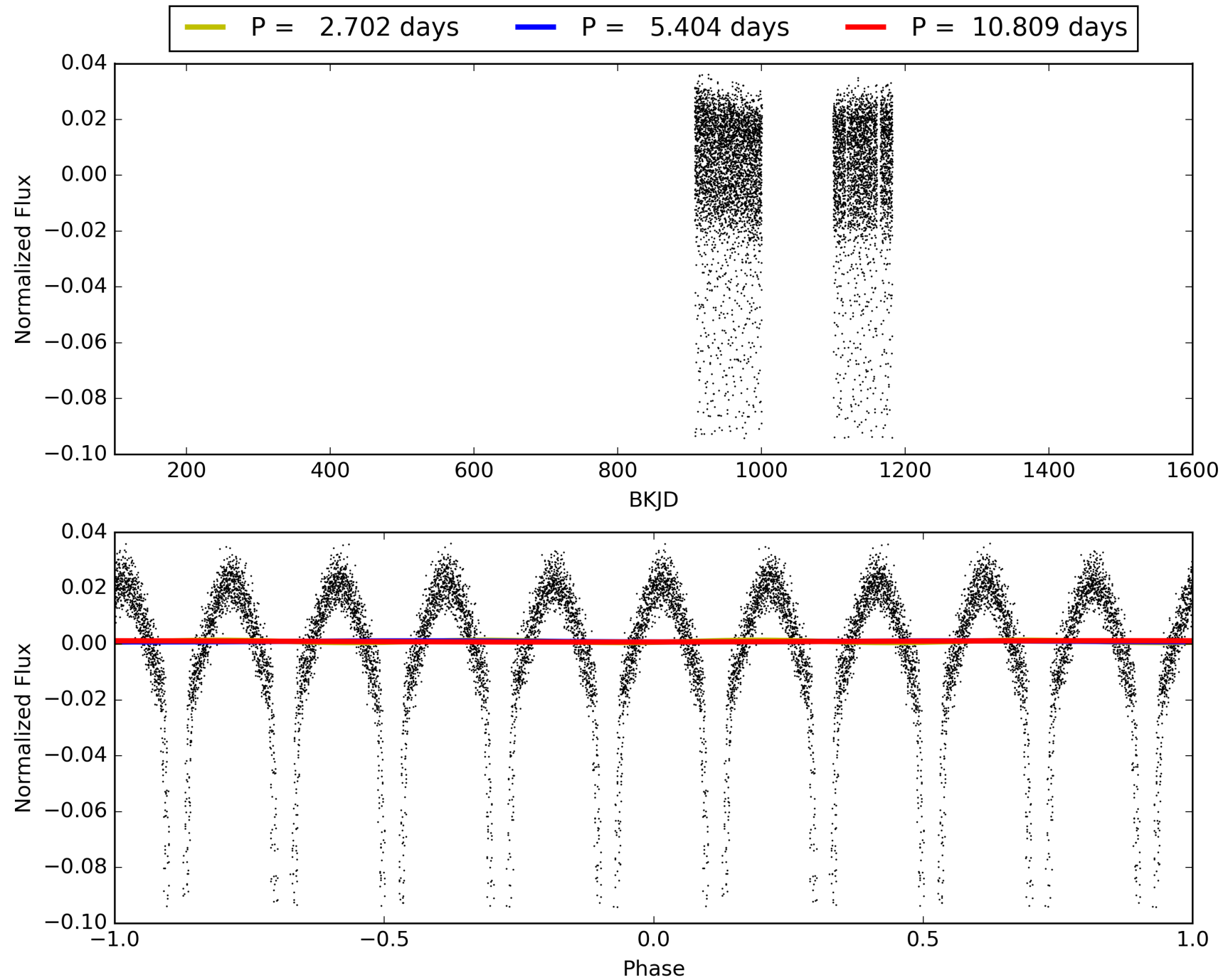
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:48:37 Z

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

TCE 011401845-02, PDC Light Curves

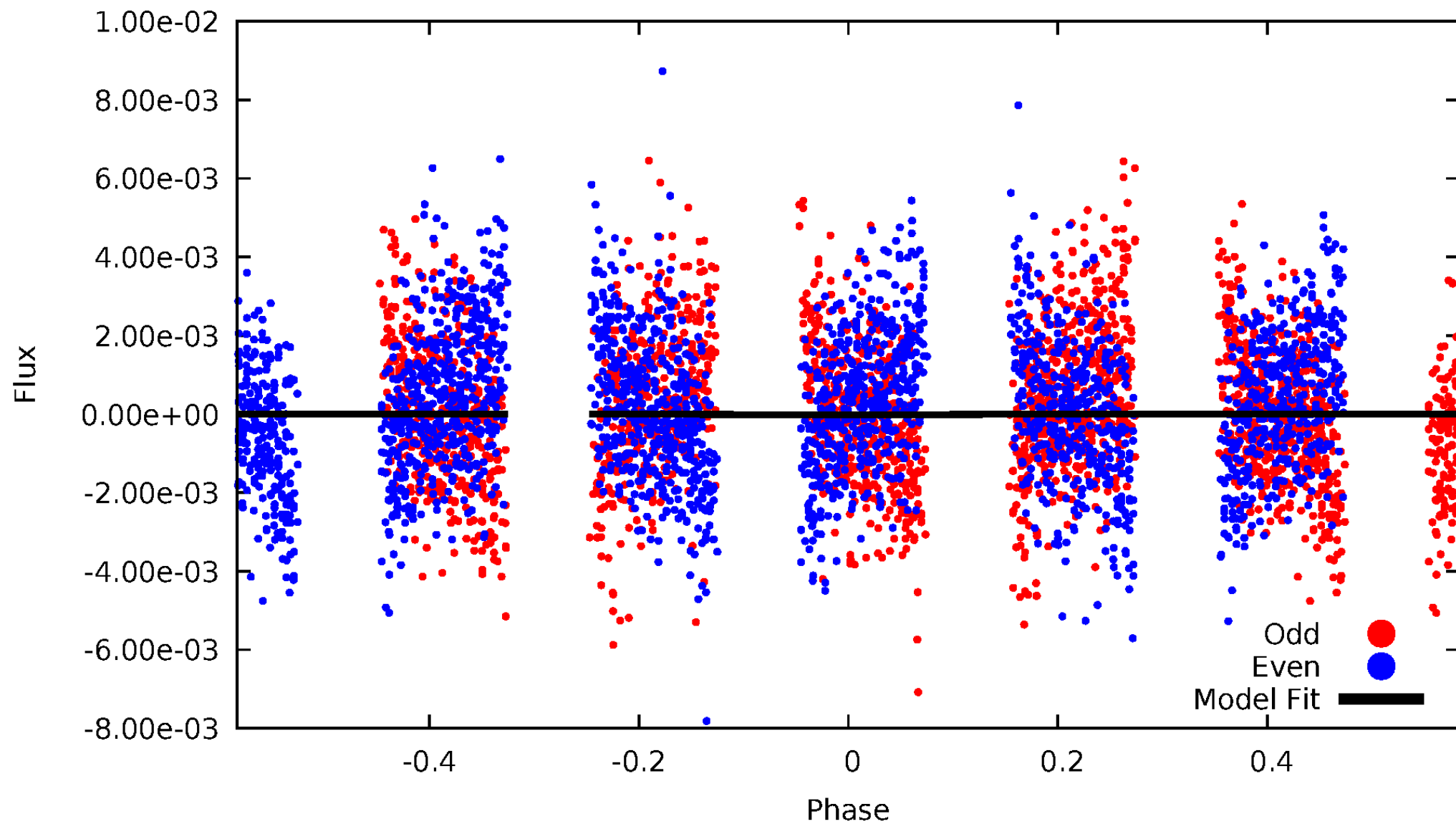


TCE 011401845-02



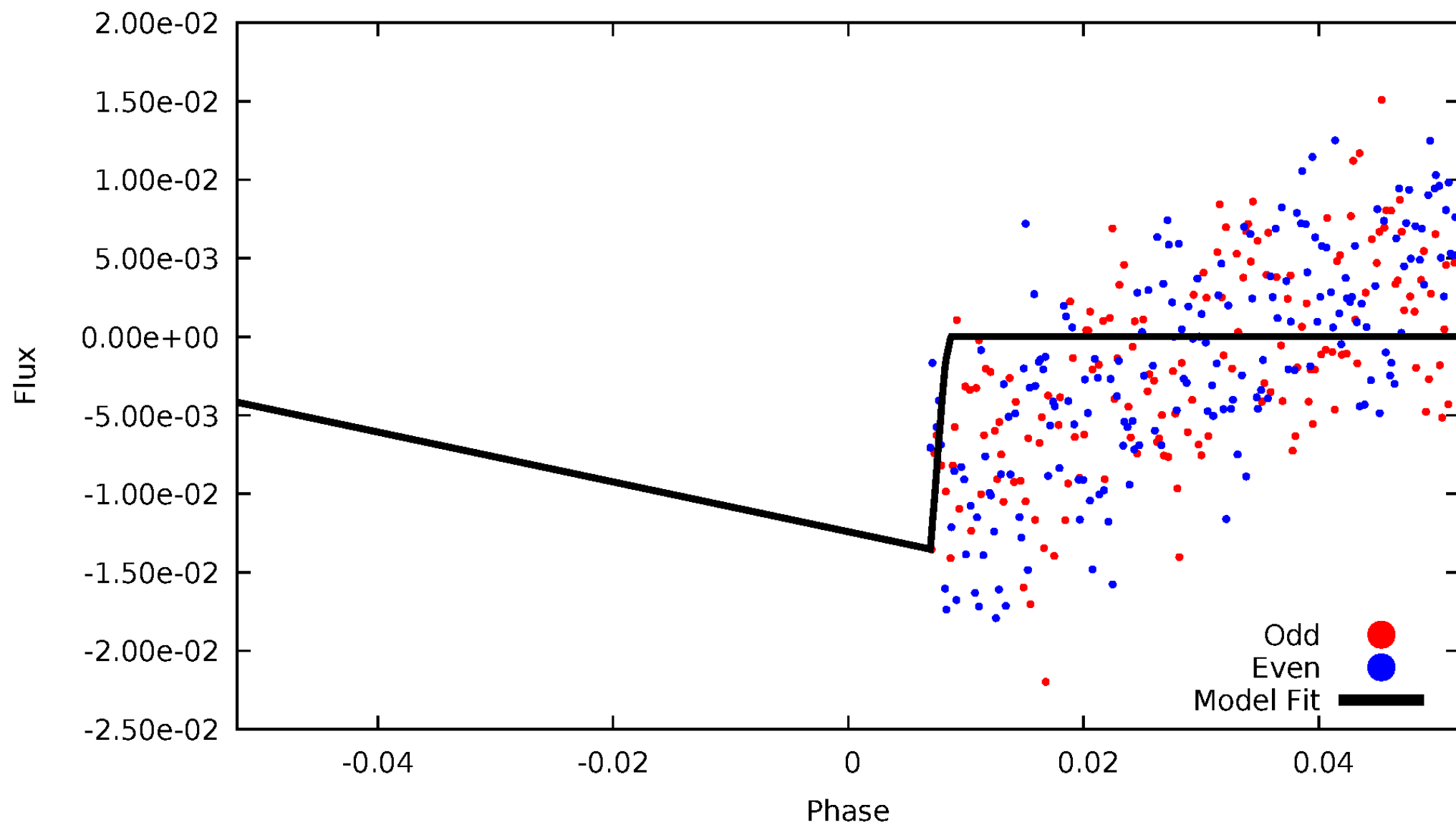
DV Odd/Even

TCE 011401845-02



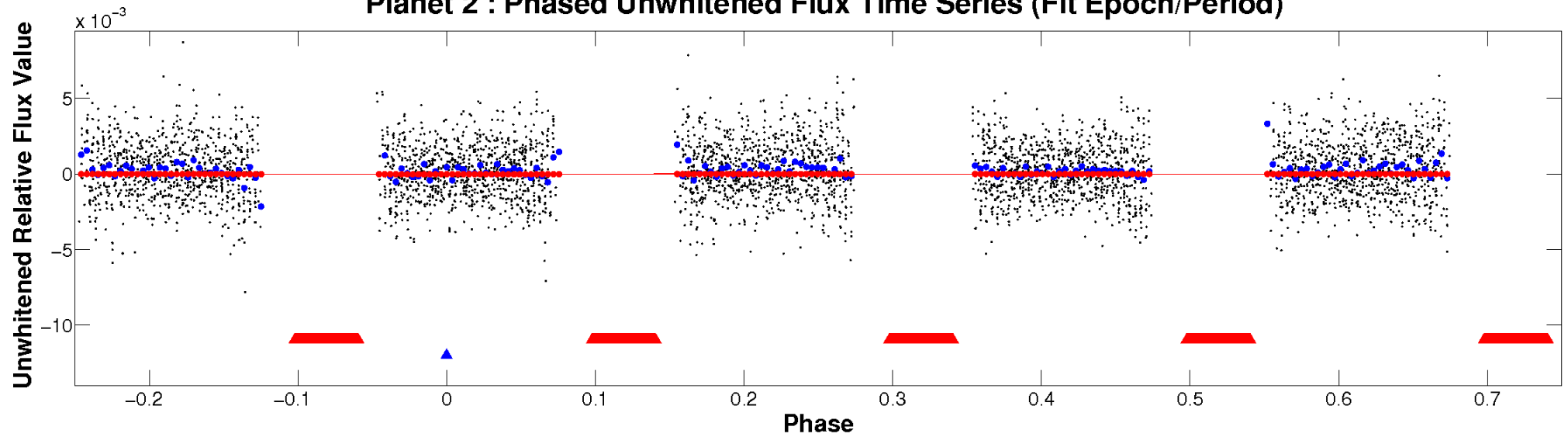
ALT Odd/Even

TCE 011401845-02

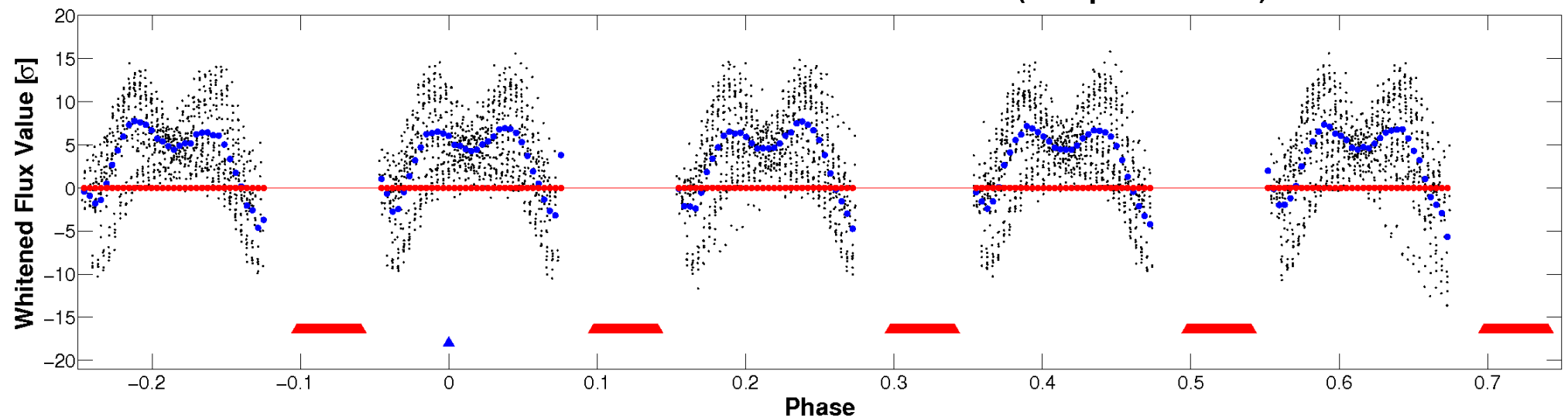


Non-Whitened Vs. Whitened Light Curve

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

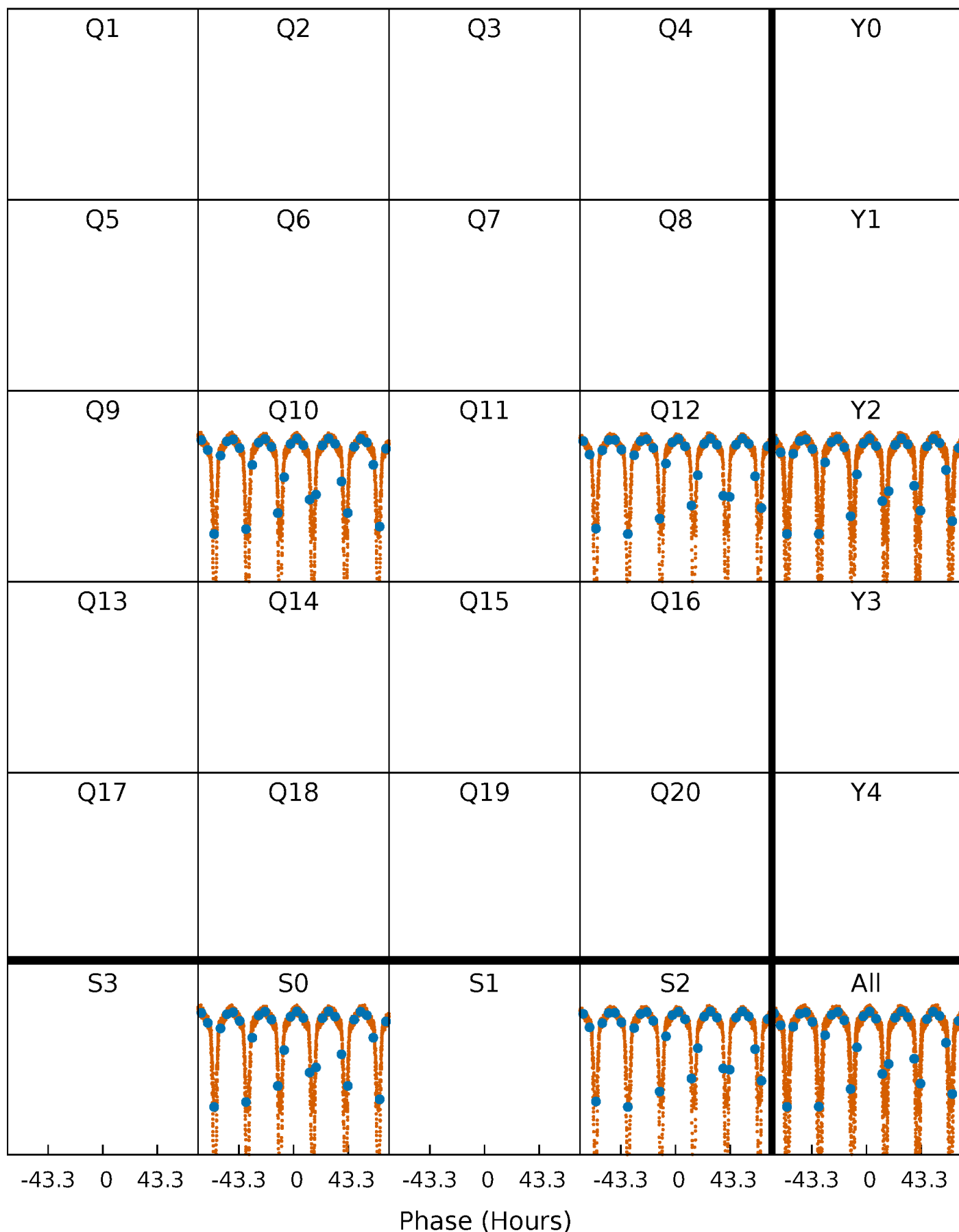


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



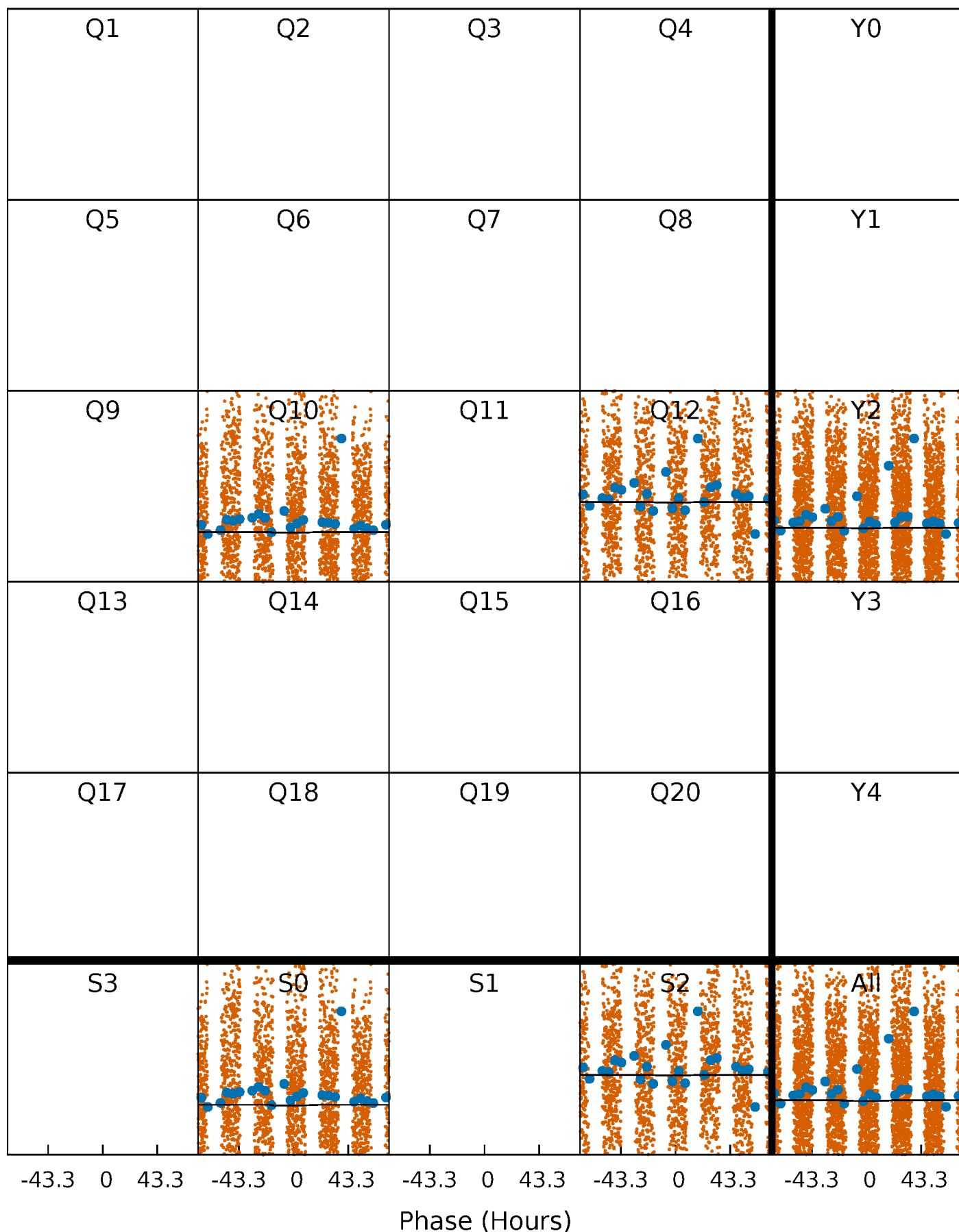
PDC Quarter-Phased Transit Curves

TCE 011401845-02 P= 5.404497 Days $T_0=133.239138$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011401845-02 P= 5.404497 Days $T_0=133.239138$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

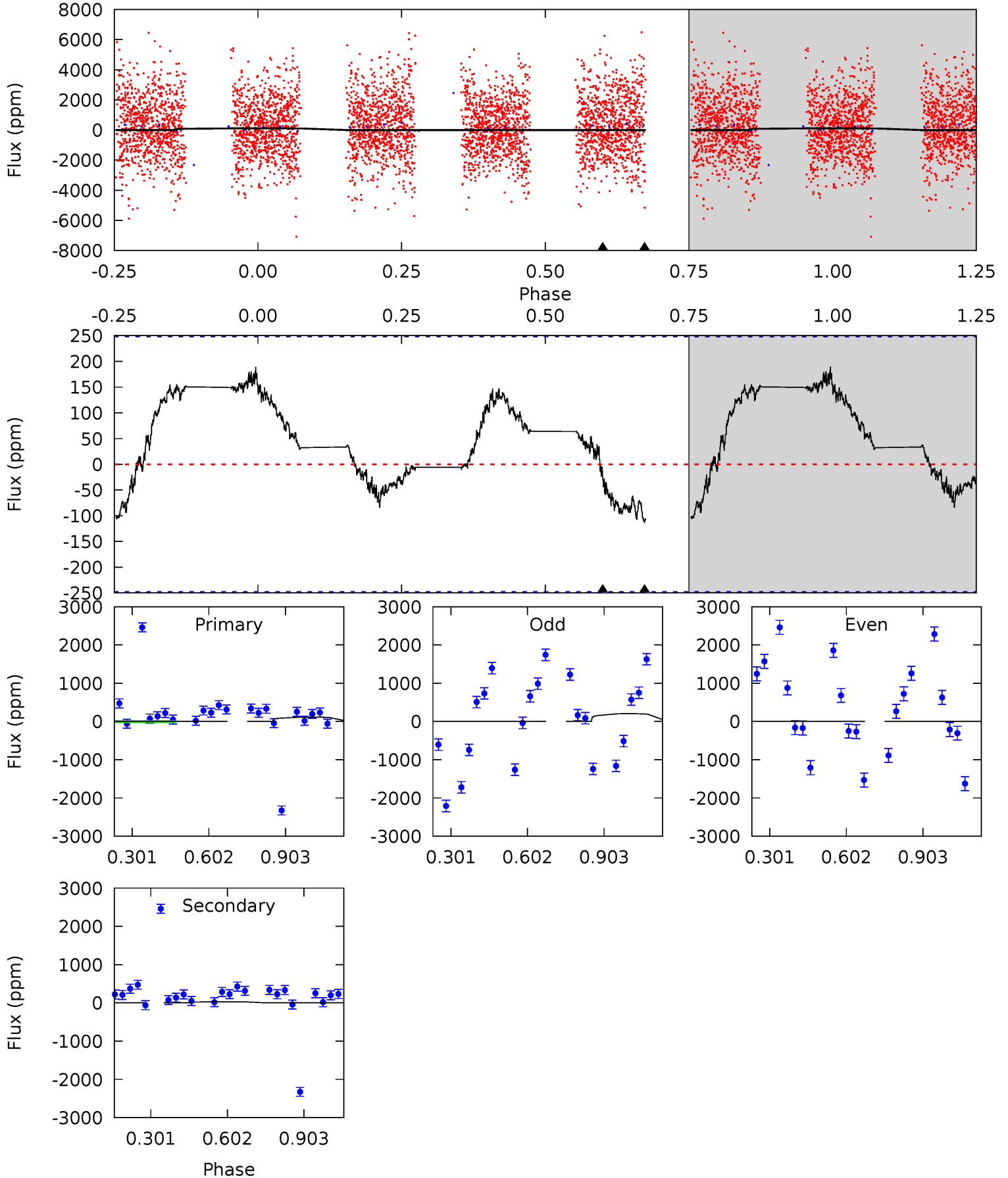
TCE 011401845-02 P= 5.403646 Days $T_0=133.109652$ (BKJD)



DV Model-Shift Uniqueness Test

011401845-02, P = 5.404497 Days, E = 133.239138 Days

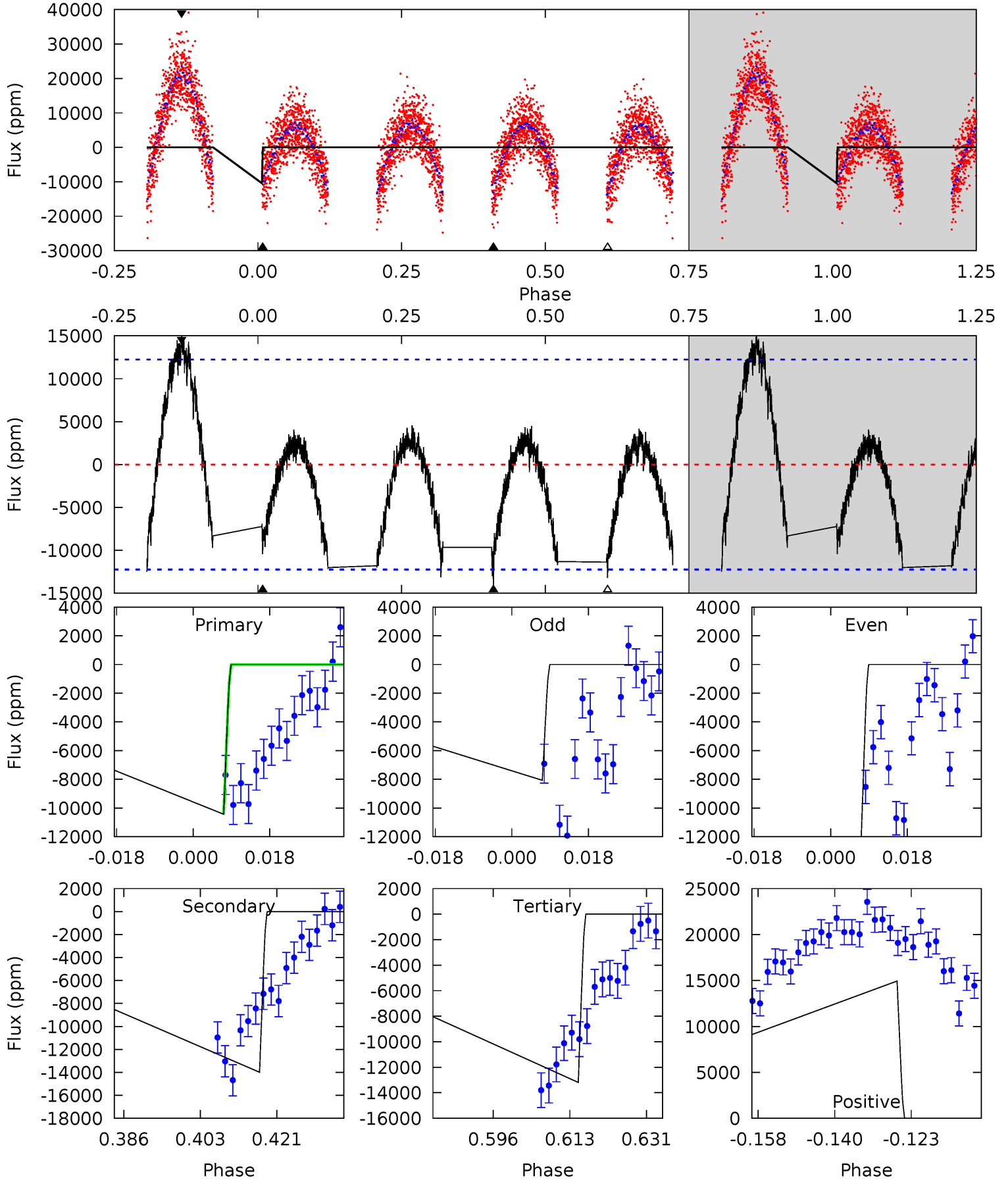
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.95	0.49	0	0	4.33	1.03	1.34	1.95	1.95	0.49	0.49	1.61	0.07	0.63	1.16



Alt Model-Shift Uniqueness Test

011401845-02, P = 5.403646 Days, E = 133.109652 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.19	5.62	5.30	6.00	4.92	2.38	2.21	-1.11	-1.81	0.32	-0.38	0.85	0	0.52	0



Stellar Parameters For KIC 011401845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7796^{+244}_{-325}	$3.937^{+0.280}_{-0.120}$	$-0.280^{+0.200}_{-0.350}$	$2.340^{+0.436}_{-0.810}$	$1.725^{+0.182}_{-0.338}$	$0.190^{+0.368}_{-0.071}$
	+3%/-4%	+7%/-3%	+71%/-125%	+19%/-35%	+11%/-20%	+194%/-37%
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 011401845-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28 ± 57	$251.10^{+271.33}_{-171.35}$	2697^{+194}_{-226}	-2872^{+158}_{-109}	$0.001^{+0.011}_{-0.002}$
Alt.	-13988 ± 2488	$254.36^{+309.59}_{-179.83}$	2698^{+188}_{-250}	2846^{+1993}_{-5512}	$0.612^{+6.450}_{-0.483}$

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 $A_{obs} \gg 1.0$

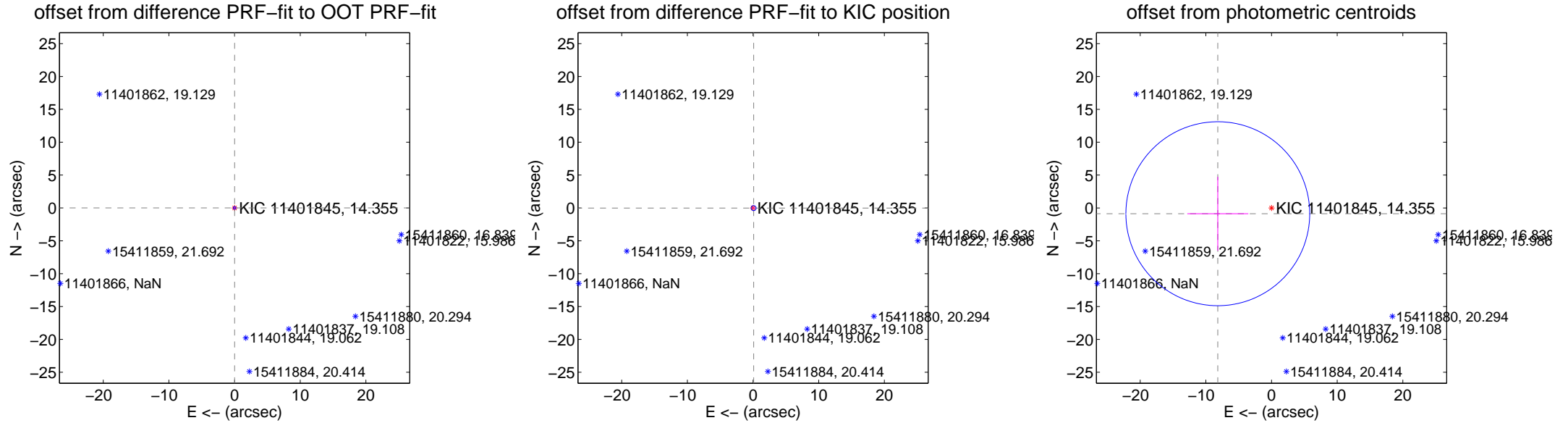
DV Centroid Data

Supplemental centroid analysis for 011401845-02. Kepler magnitude: 14.36. Transit SNR 0.10

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.067	0.15	-0.003 ± 0.067	0.010 ± 0.067
PRF-fit source offset from KIC position	0.092 ± 0.126	0.73	-0.089 ± 0.128	-0.022 ± 0.092
photometric centroid source offset	8.23 ± 4.67	1.76	8.18 ± 4.65	-0.88 ± 5.62



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.



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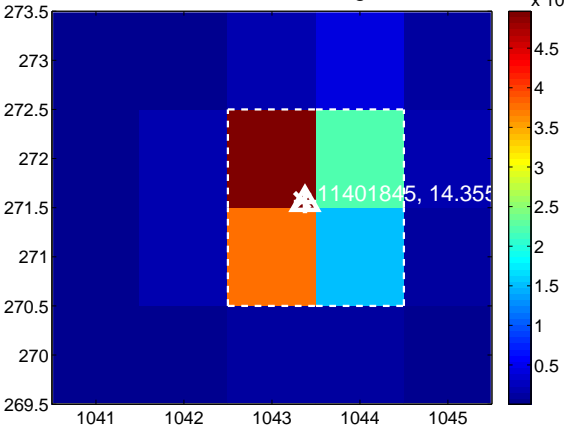
Q9 no difference image



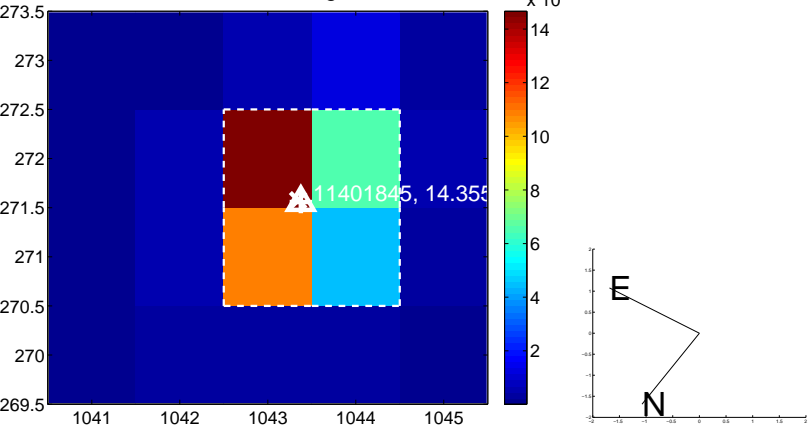
Q9 no OOT image



Q10 difference image



Q10 OOT image



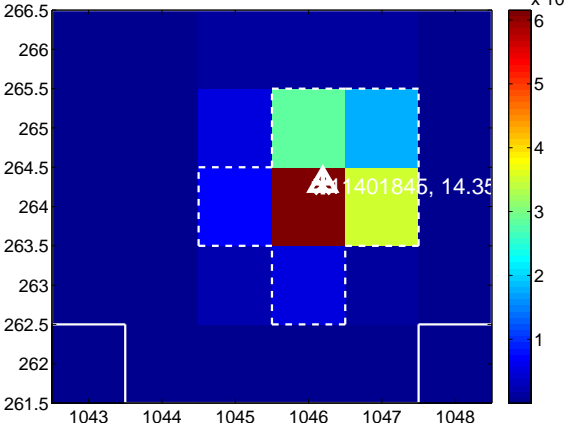
Q11 no difference image



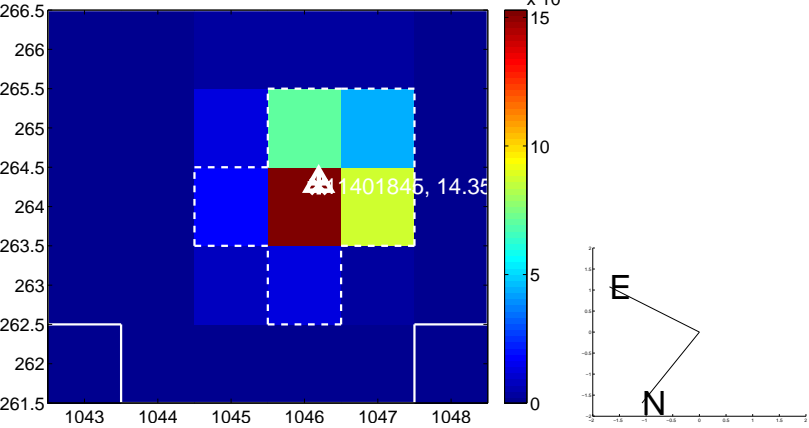
Q11 no OOT image



Q12 difference image



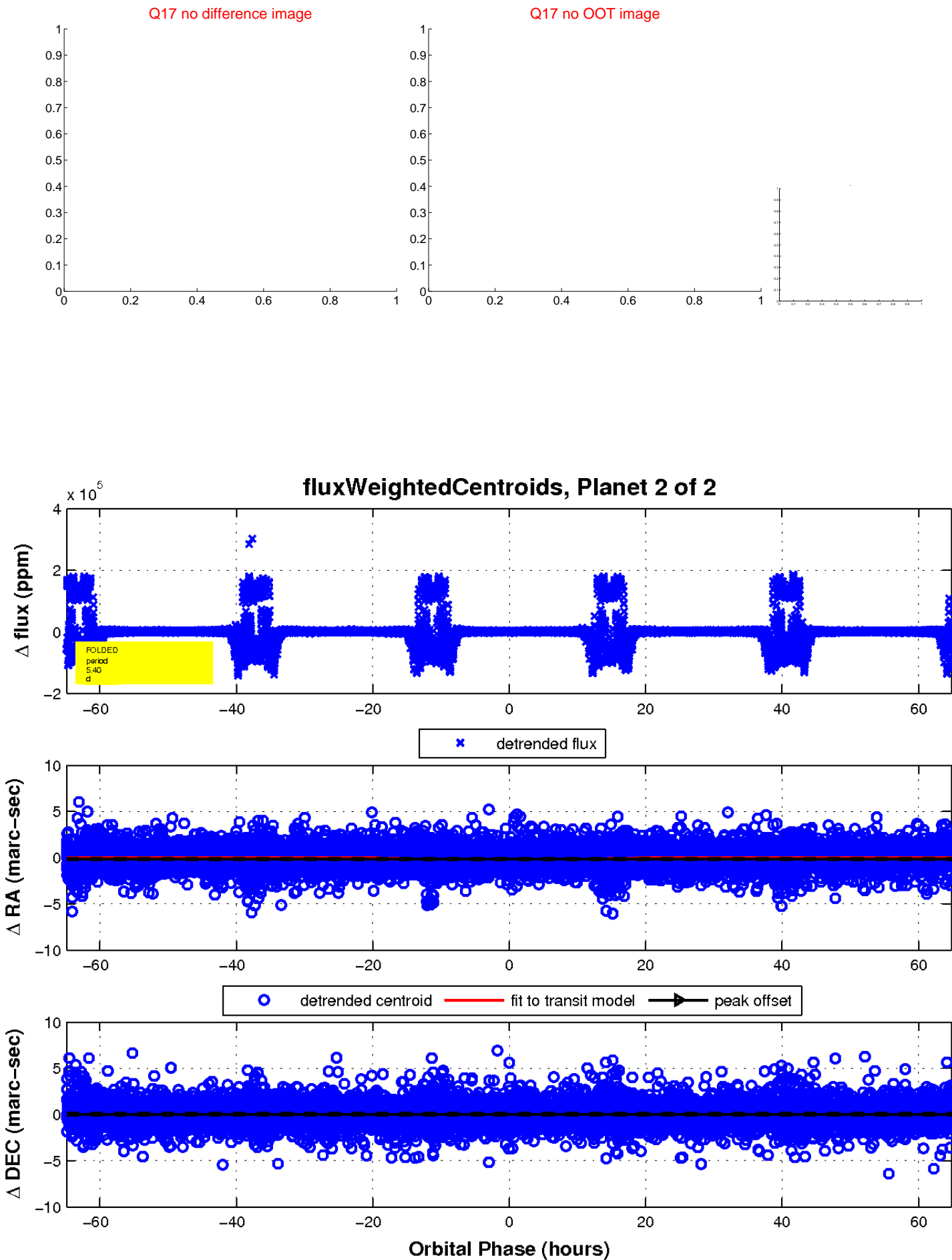
Q12 OOT image



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

