

KIC 010271834

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})
010271834-01	OBS	No	696.763501	185.754033	773.8	18.764	9.8	8.9	0.99	6153	3.47	0.51
010271834-02	OBS	No	369.516676	301.252676	613.2	13.880	7.1	6.5	0.99	6153	2.59	1.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010271834-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010271834-02	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_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.

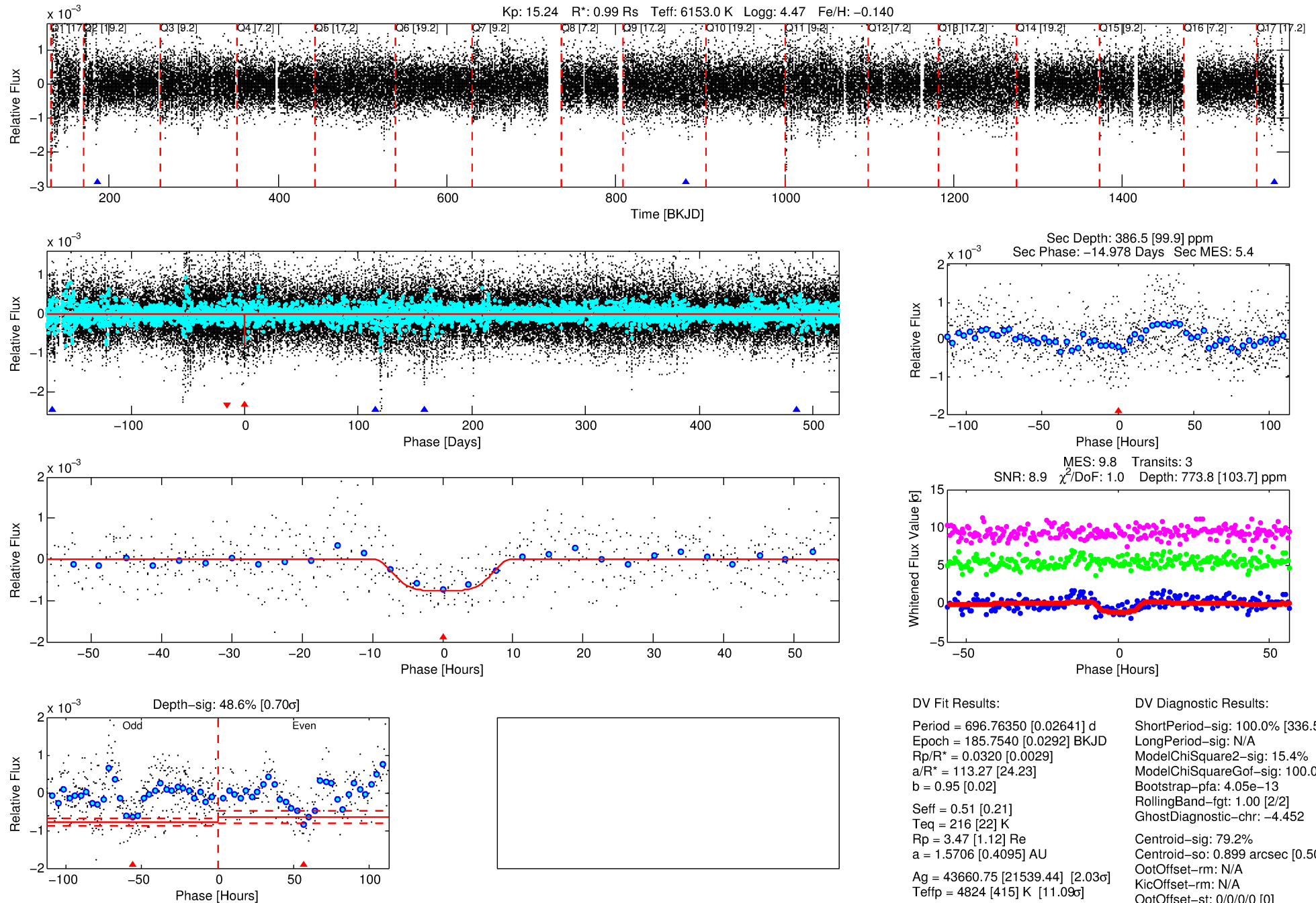
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010271834-01

No Significant Match Found

DV One-Page Summary

KIC: 10271834 Candidate: 1 of 2 Period: 696.764 d



DV Fit Results:

Period = 696.76350 [0.02641] d
Epoch = 185.7540 [0.0292] BKJD
Rp/R* = 0.0320 [0.0029]
a/R* = 113.27 [24.23]
b = 0.95 [0.02]
Seff = 0.51 [0.21]
Teq = 216 [22] K
Rp = 3.47 [1.12] Re
a = 1.5706 [0.4095] AU
Ag = 43660.75 [21539.44] [2.03σ]
Teffp = 4824 [415] K [11.09σ]

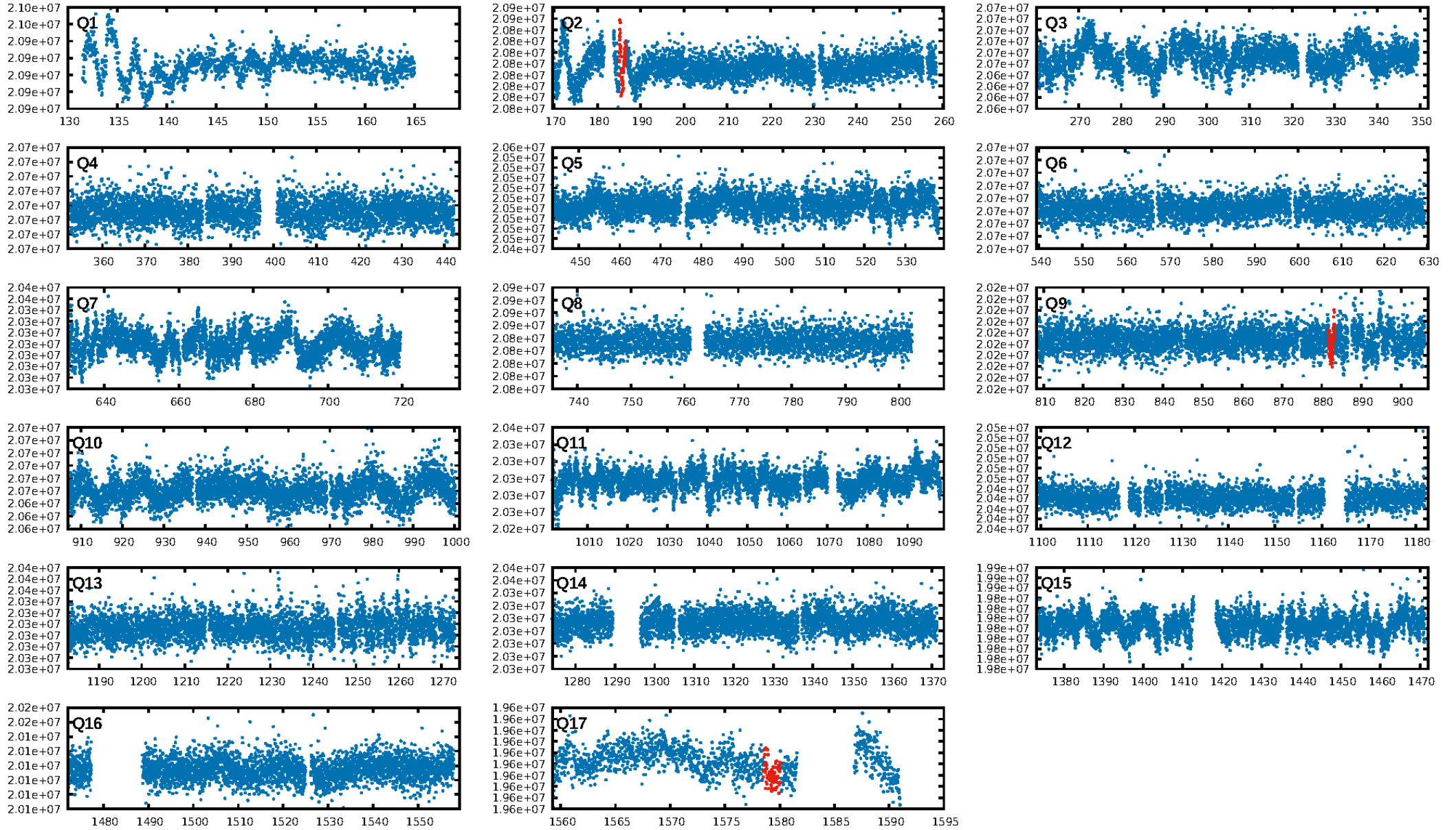
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [336.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.05e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -4.452
Centroid-sig: 79.2%
Centroid-so: 0.899 arcsec [0.50σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

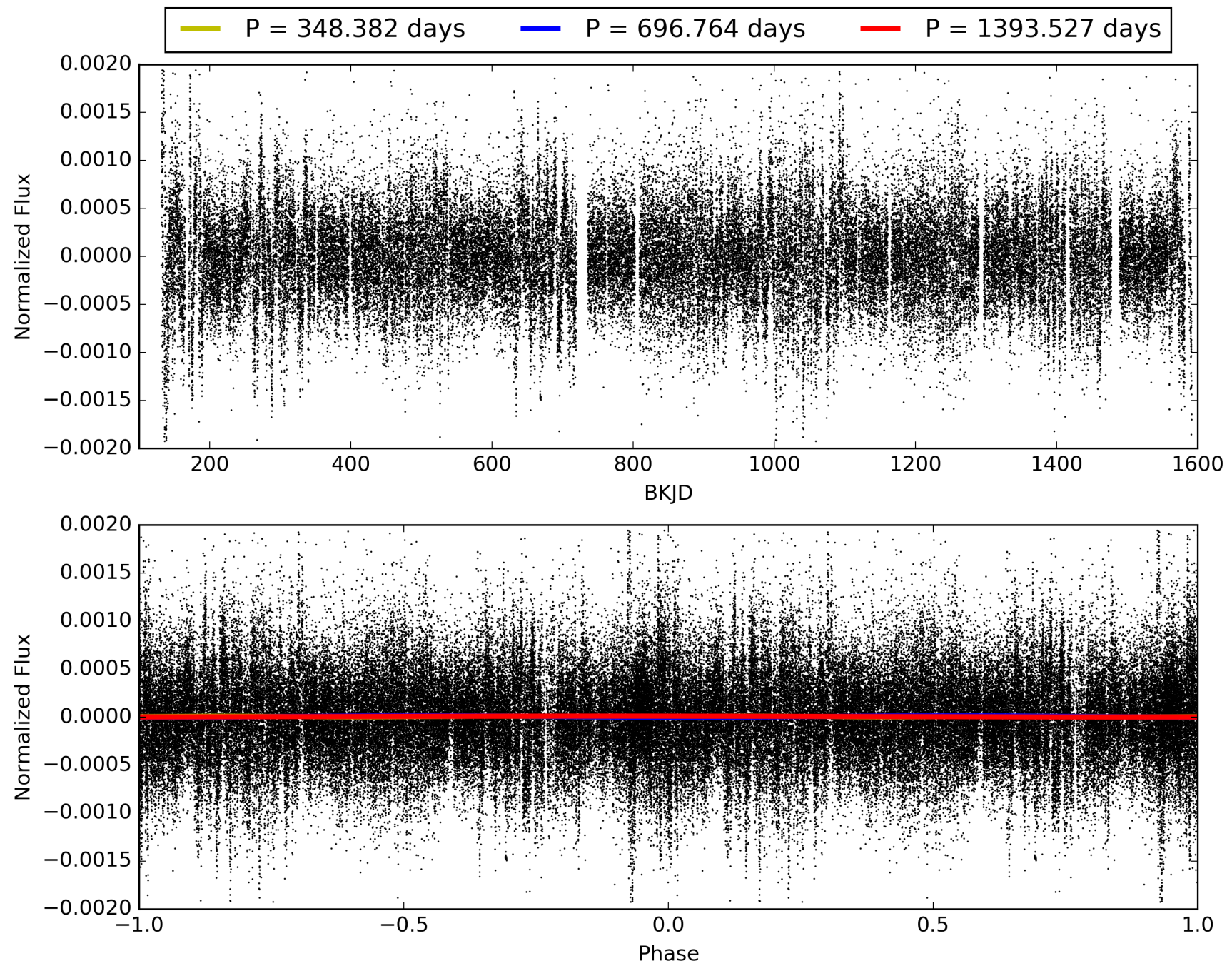
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:38:11 Z

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

TCE 010271834-01, PDC Light Curves

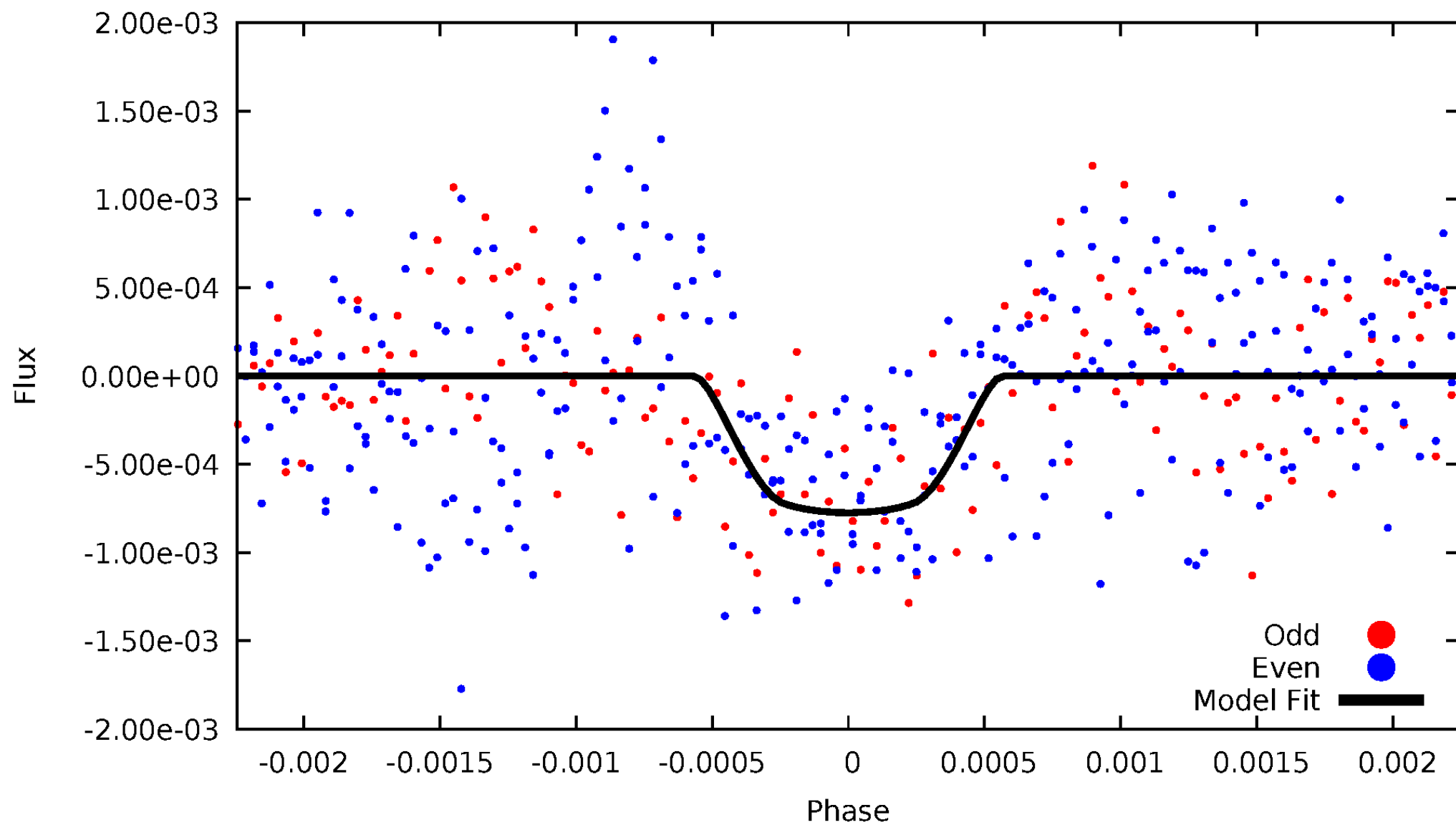


TCE 010271834-01



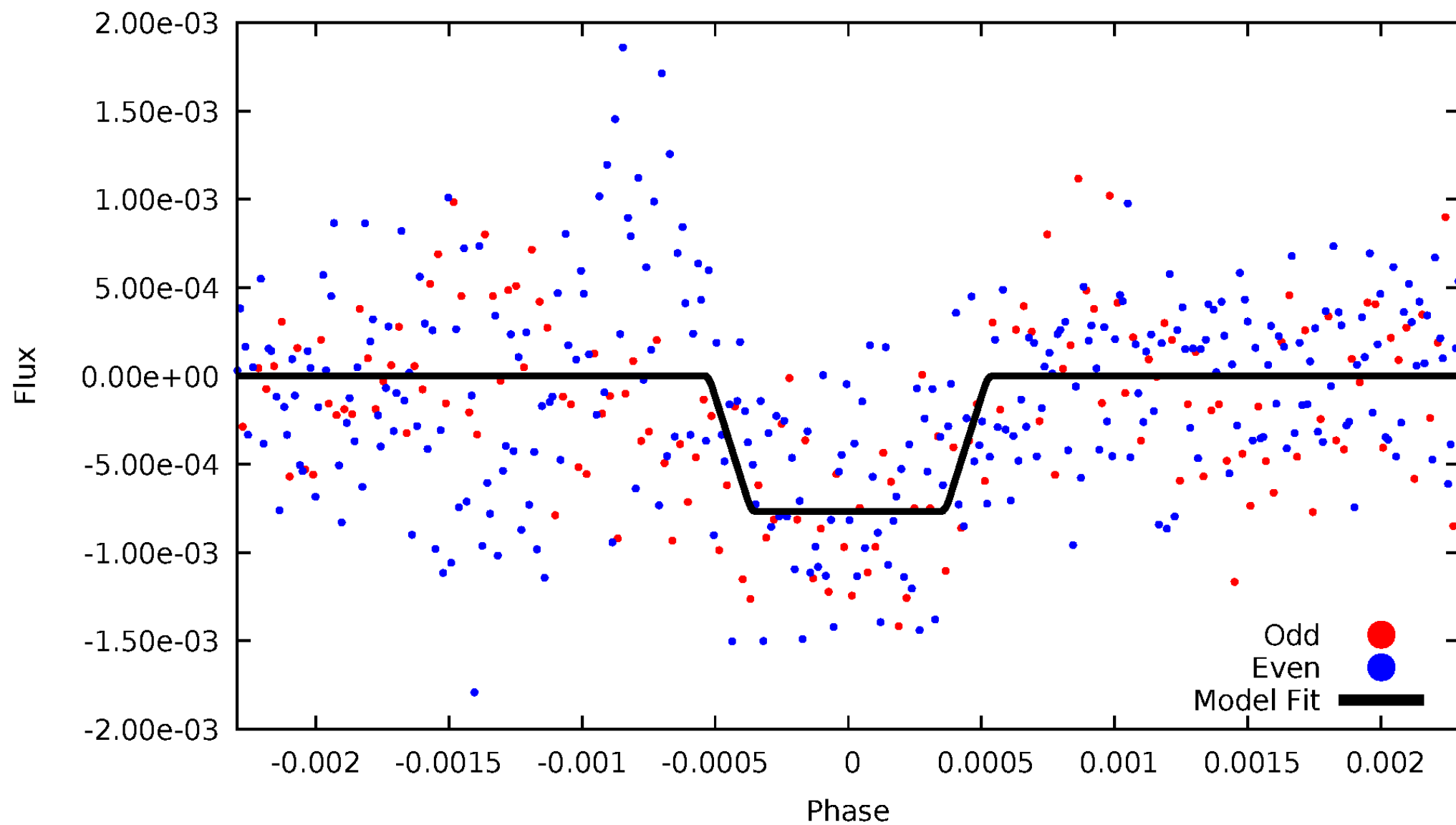
DV Odd/Even

TCE 010271834-01

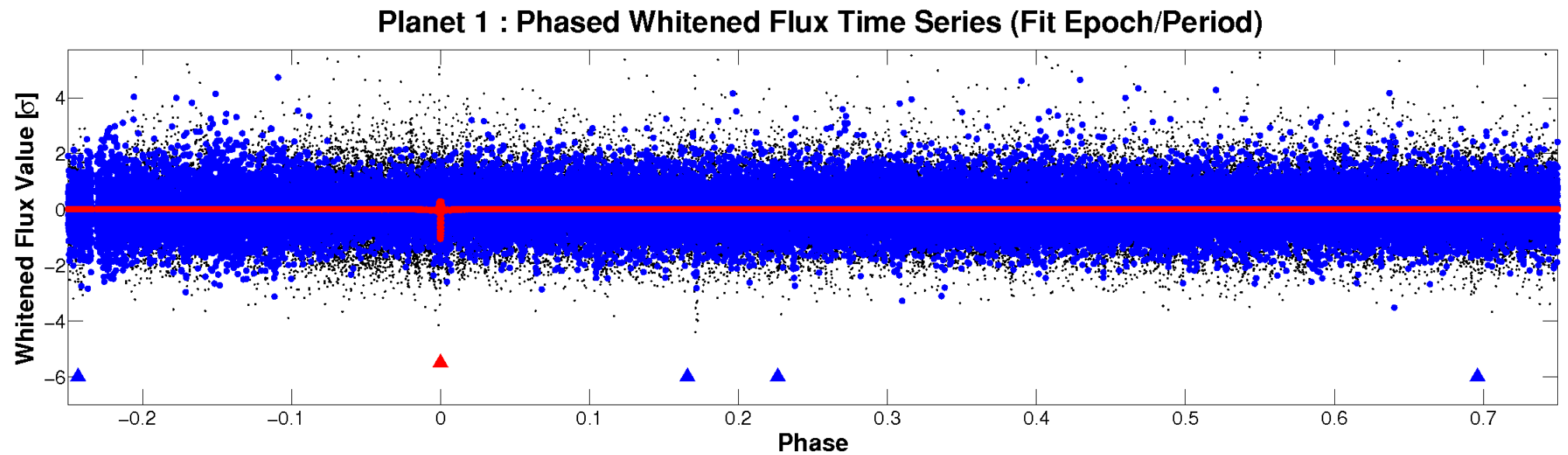
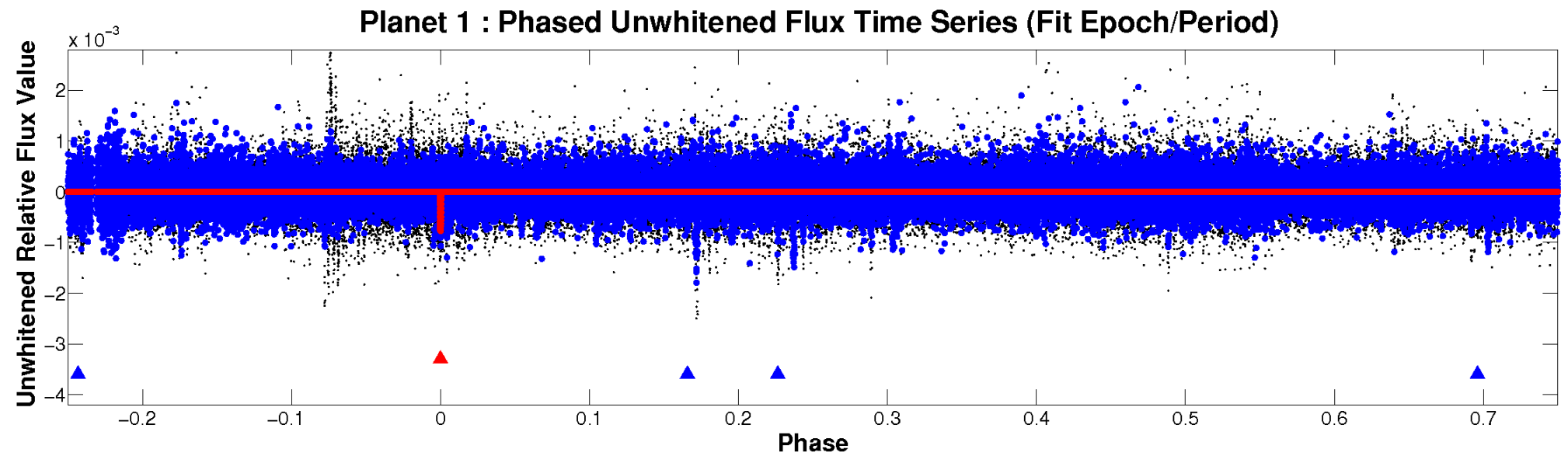


ALT Odd/Even

TCE 010271834-01



Non-Whitened Vs. Whitened Light Curve



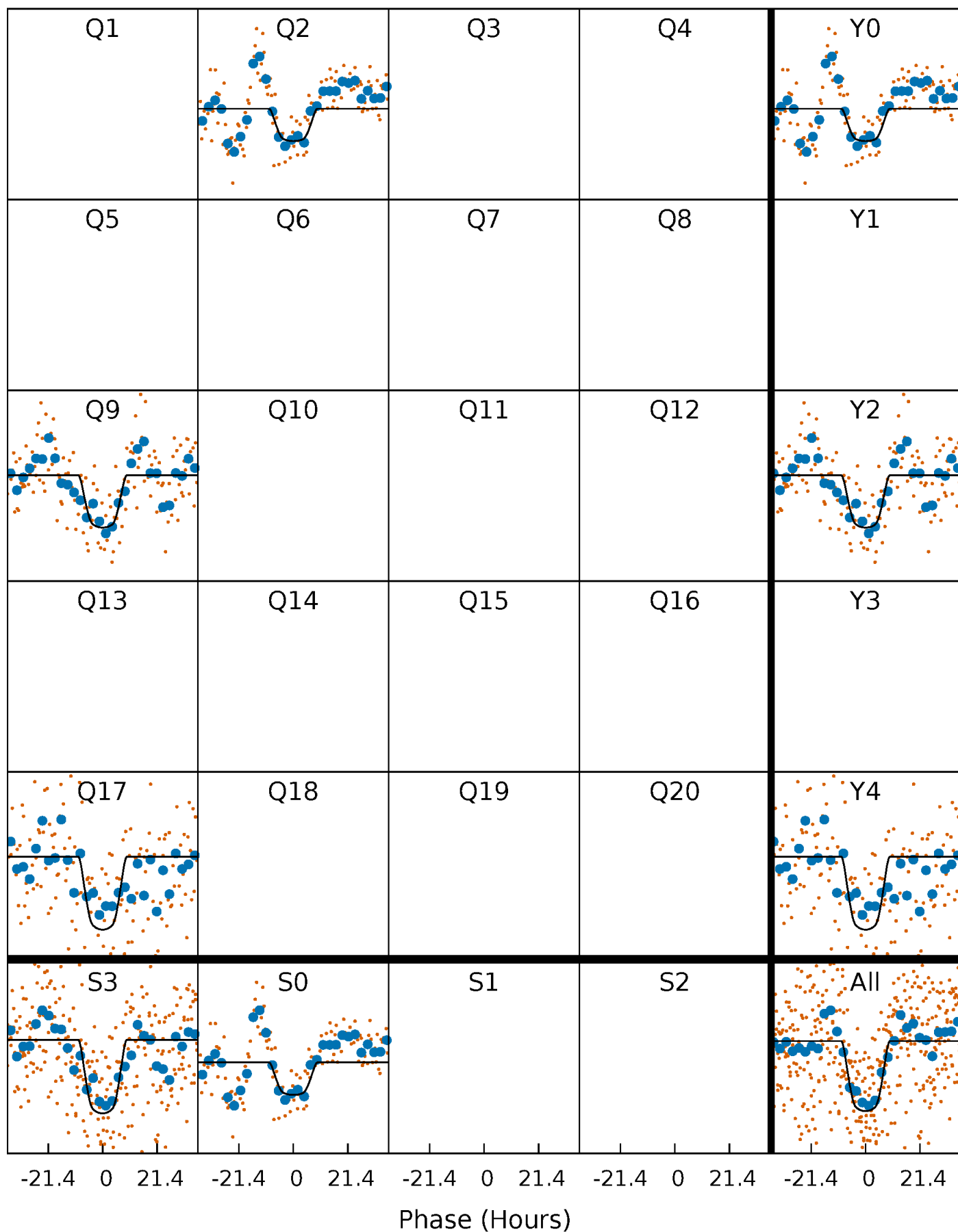
PDC Quarter-Phased Transit Curves

TCE 010271834-01 P=696.763501 Days $T_0=185.754033$ (BKJD)



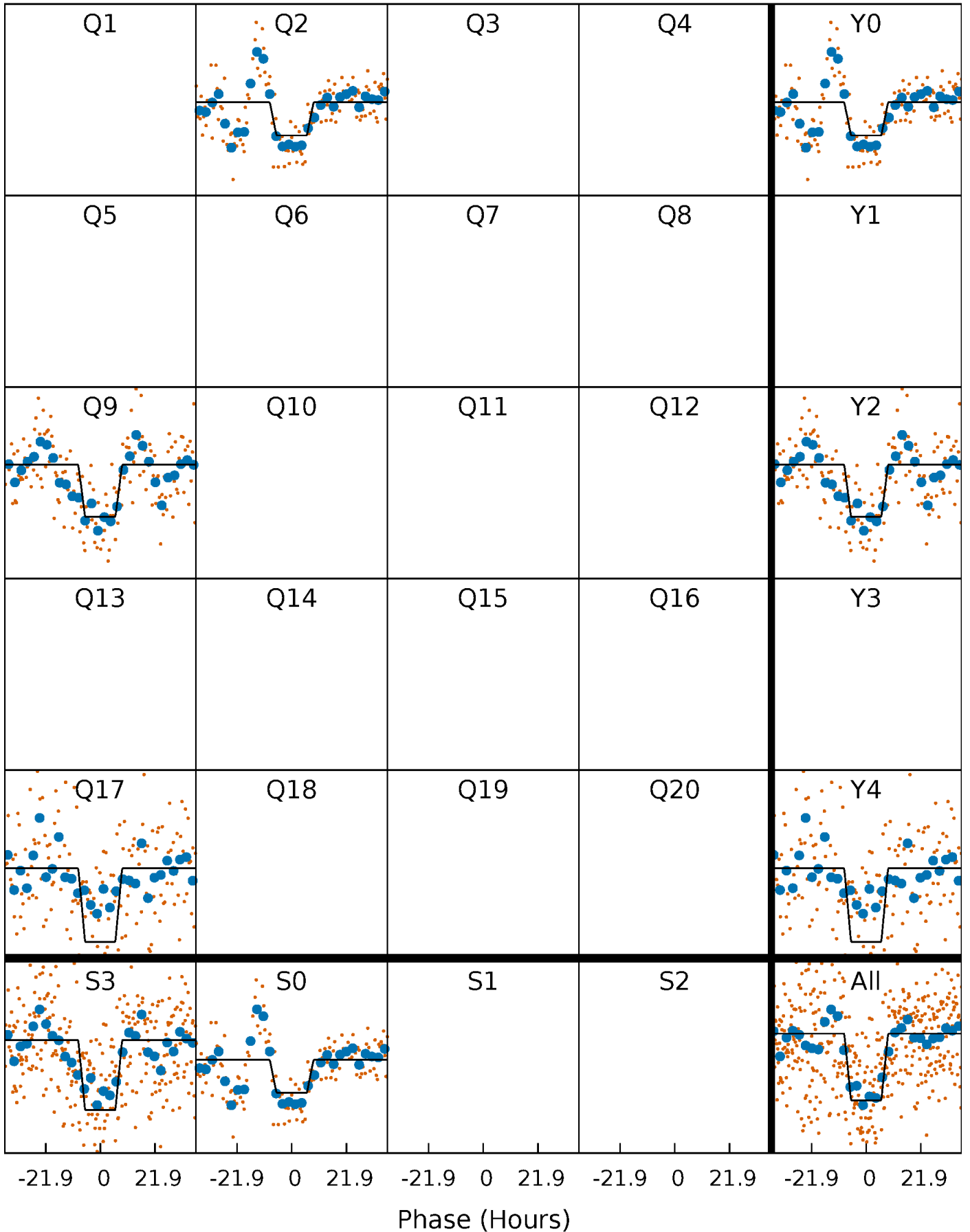
DV Quarter-Phased Transit Curves

TCE 010271834-01 P=696.763501 Days $T_0=185.754033$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

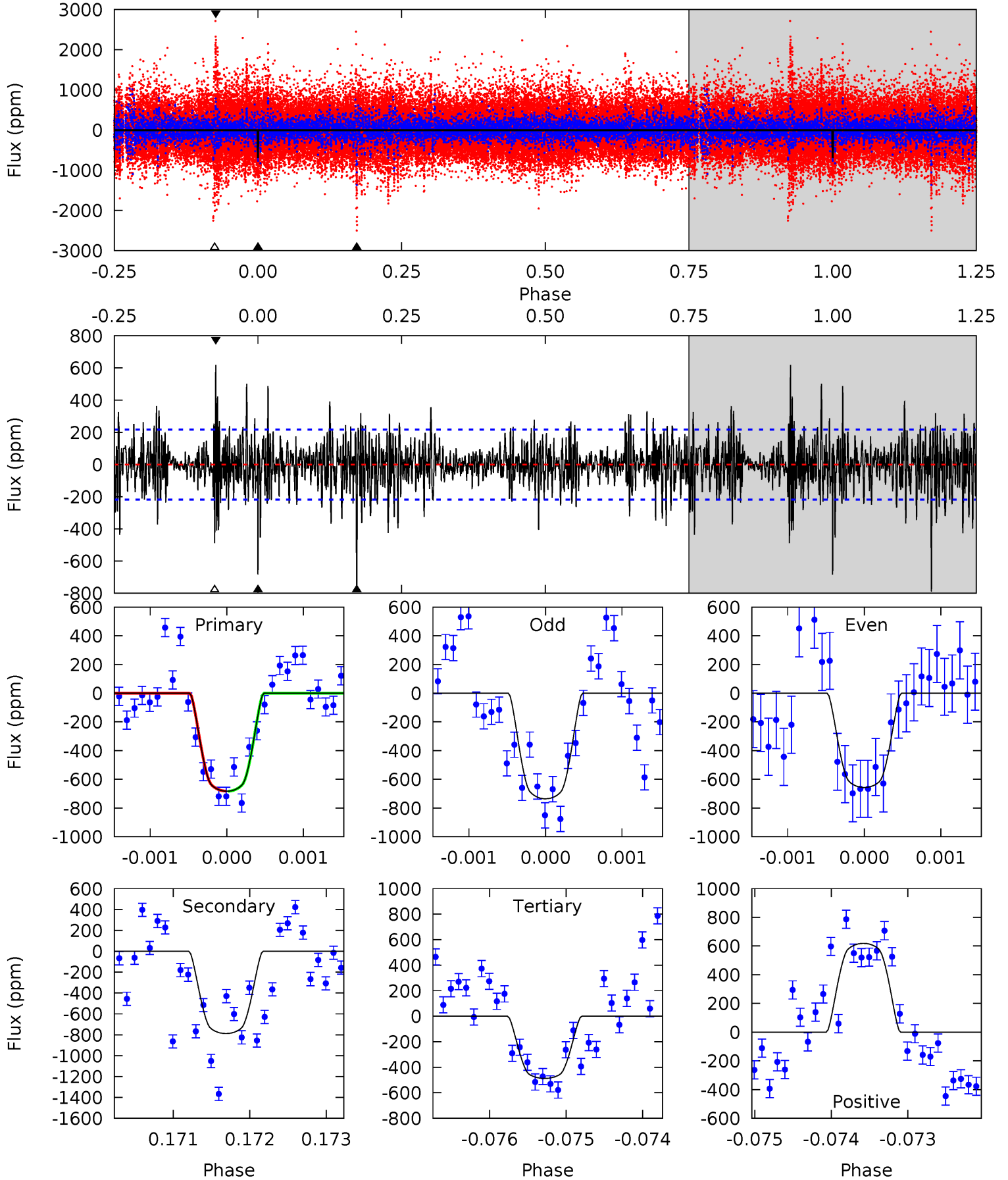
TCE 010271834-01 P=696.798018 Days $T_0=185.741839$ (BKJD)



DV Model-Shift Uniqueness Test

010271834-01, P = 696.763501 Days, E = 185.754033 Days

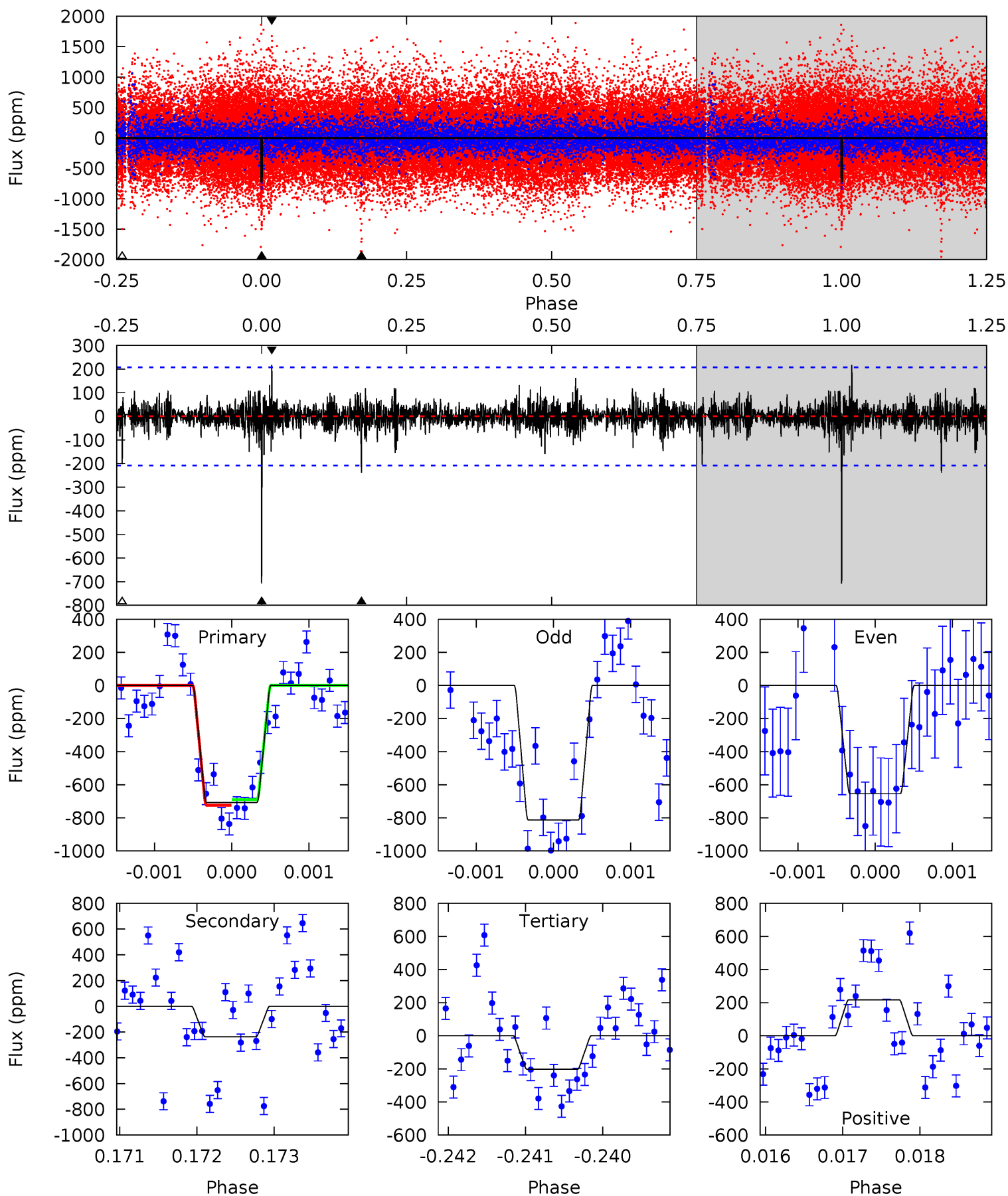
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	19.7	12.2	15.4	5.42	3.25	2.91	4.89	1.62	7.51	4.24	0.93	0.93	0.44	0.02



Alt Model-Shift Uniqueness Test

010271834-01, P = 696.798018 Days, E = 185.741839 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	6.21	5.29	5.68	5.44	3.27	0.96	13.2	12.8	0.92	0.54	1.96	0.87	0.23	0.43



Stellar Parameters For KIC 010271834

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6153^{+171}_{-214}	$4.471^{+0.052}_{-0.208}$	$-0.140^{+0.300}_{-0.300}$	$0.993^{+0.307}_{-0.102}$	$1.065^{+0.139}_{-0.139}$	$1.531^{+0.428}_{-0.808}$
	+3%/-3%	+1%/-5%	+214%/-214%	+31%/-10%	+13%/-13%	+28%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010271834-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-788 ± 40	$3.64^{+0.55}_{-0.44}$	308^{+23}_{-15}	5746^{+332}_{-289}	79345^{+21178}_{-19200}
Alt.	-238 ± 38	$3.09^{+0.57}_{-0.43}$	308^{+21}_{-16}	4725^{+325}_{-273}	32323^{+12444}_{-9657}

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 010271834-01. Kepler magnitude: 15.24. Transit SNR 8.94

There are 0 quarters with good PRF difference image offsets

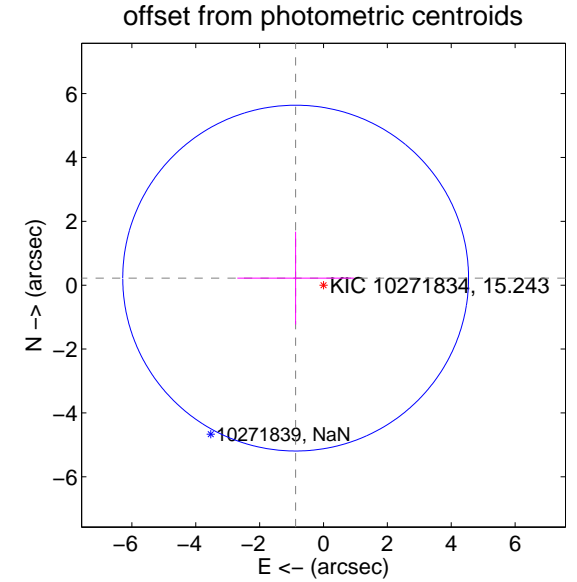
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.90 ± 1.80	0.50	0.87 ± 1.82	0.22 ± 1.45

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.

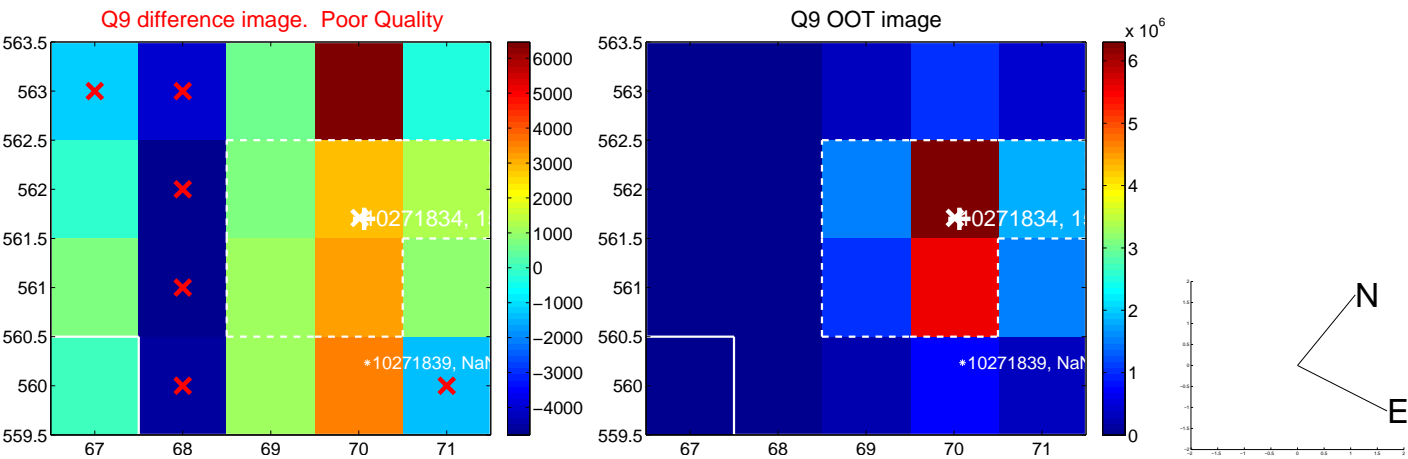
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



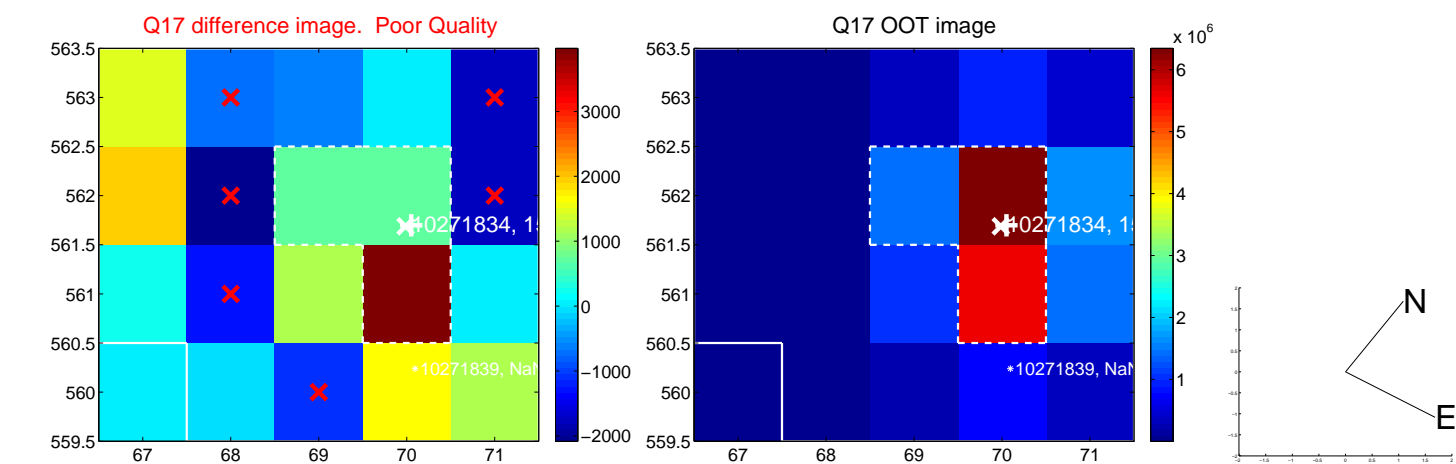
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



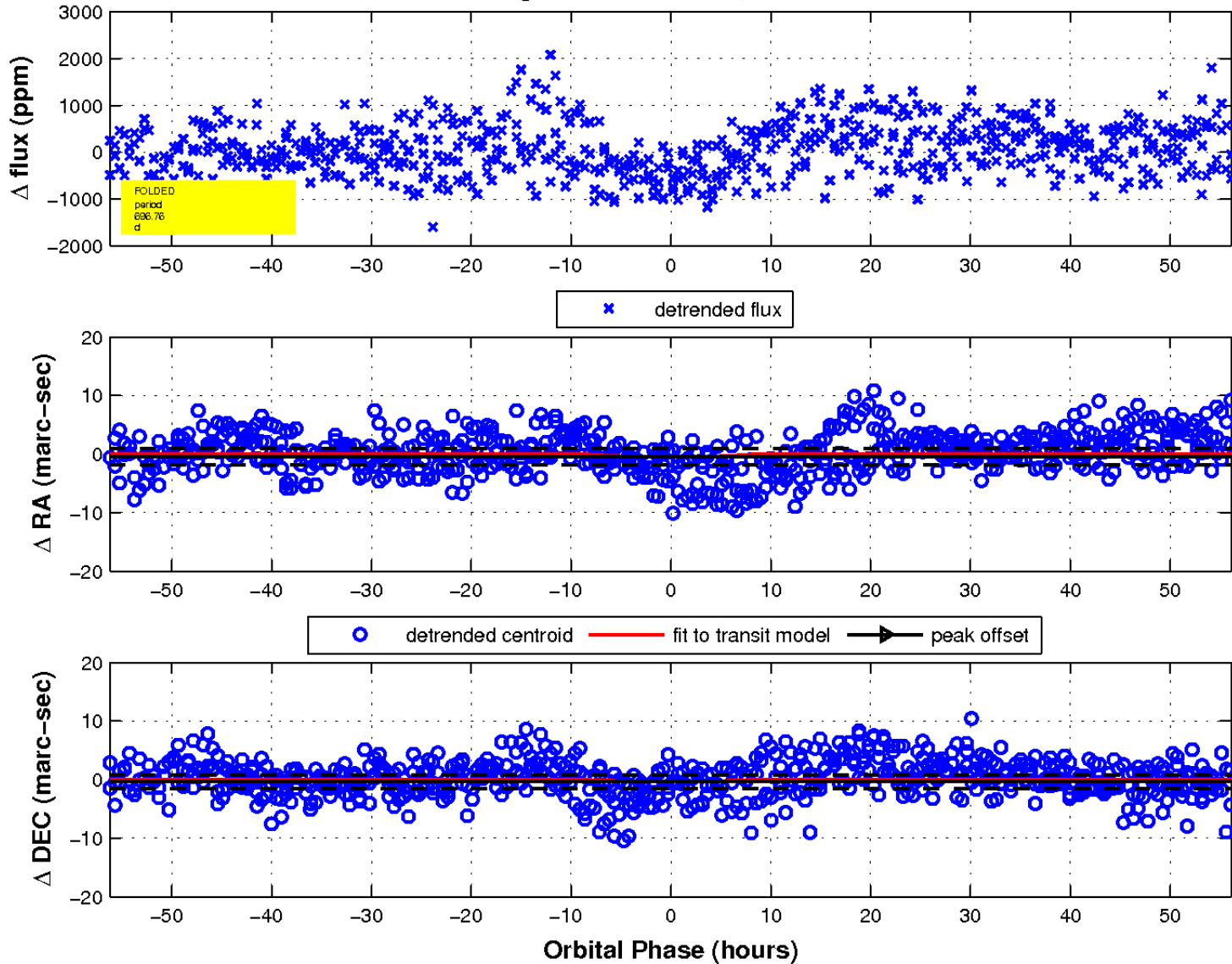
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 2



This astronomical image displays a field of stars against a dark background. A blue grid is overlaid on the image, with green numerical labels indicating the Right Ascension (RA) and Declination (Dec) coordinates. The RA labels at the bottom range from 3:50.0 to 45.0, and the Dec labels on the right range from 20.0 to 40.0. Several bright stars are visible, including a prominent one near the center-right and another near the bottom-left.

Declination

KIC 010271834

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})
010271834-01	OBS	No	696.763501	185.754033	773.8	18.764	9.8	8.9	0.99	6153	3.47	0.51
010271834-02	OBS	No	369.516676	301.252676	613.2	13.880	7.1	6.5	0.99	6153	2.59	1.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010271834-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010271834-02	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_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.

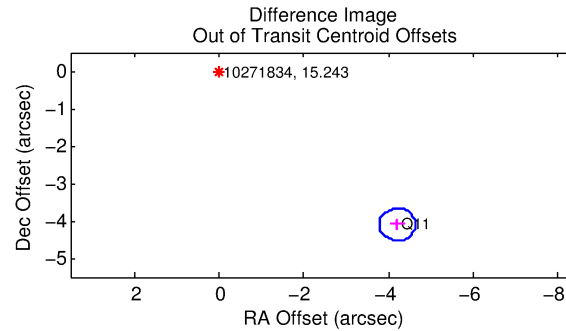
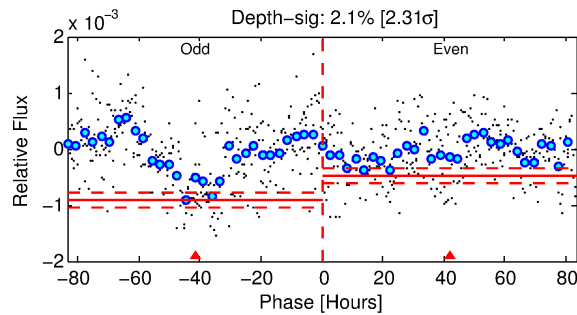
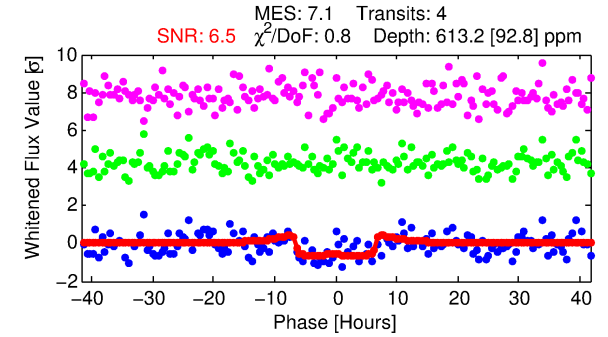
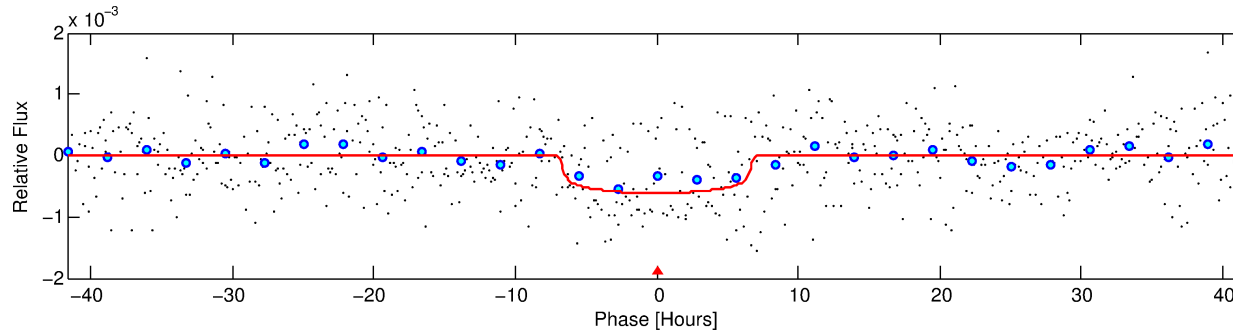
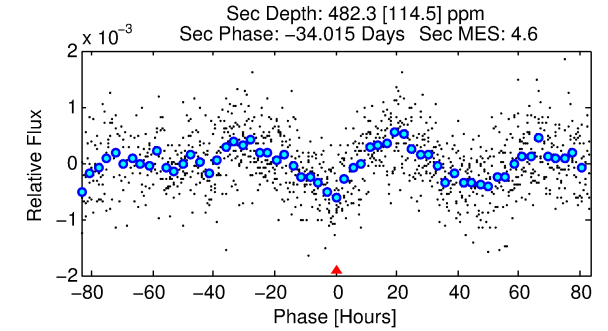
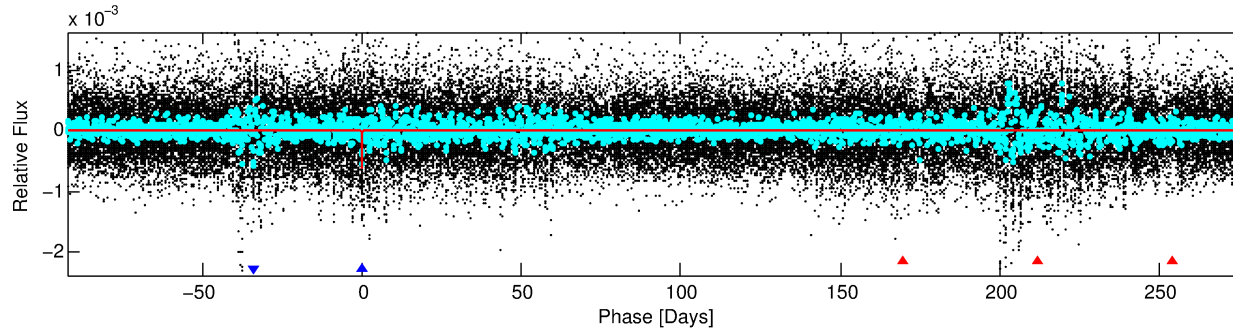
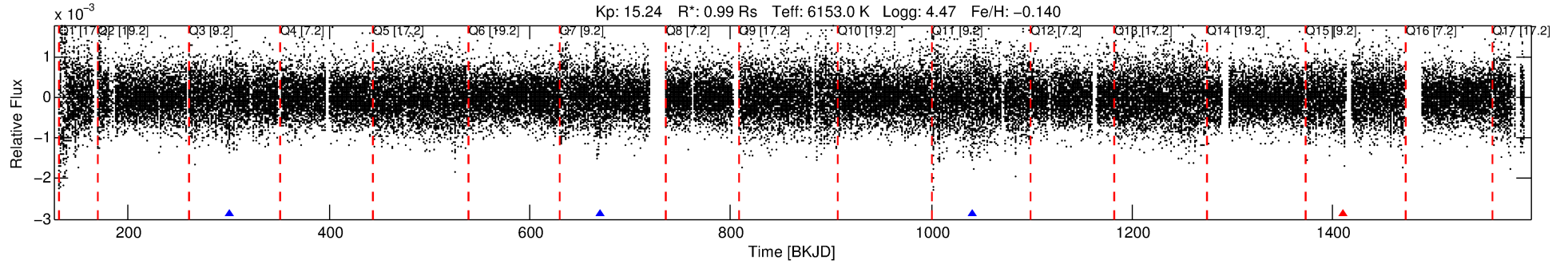
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010271834-02

No Significant Match Found

DV One-Page Summary

KIC: 10271834 Candidate: 2 of 2 Period: 369.517 d



DV Fit Results:

Period = 369.51668 [0.00862] d
Epoch = 301.2527 [0.0164] BKJD
Rp/R* = 0.0239 [0.0071]
a/R* = 163.29 [228.60]
b = 0.64 [1.32]
Seff = 1.20 [0.48]
Teq = 267 [27] K
Rp = 2.59 [1.11] Re
a = 1.0290 [0.2683] AU
Ag = 41958.12 [31307.20] [1.34σ]
Teff = 5901 [969] K [5.81σ]

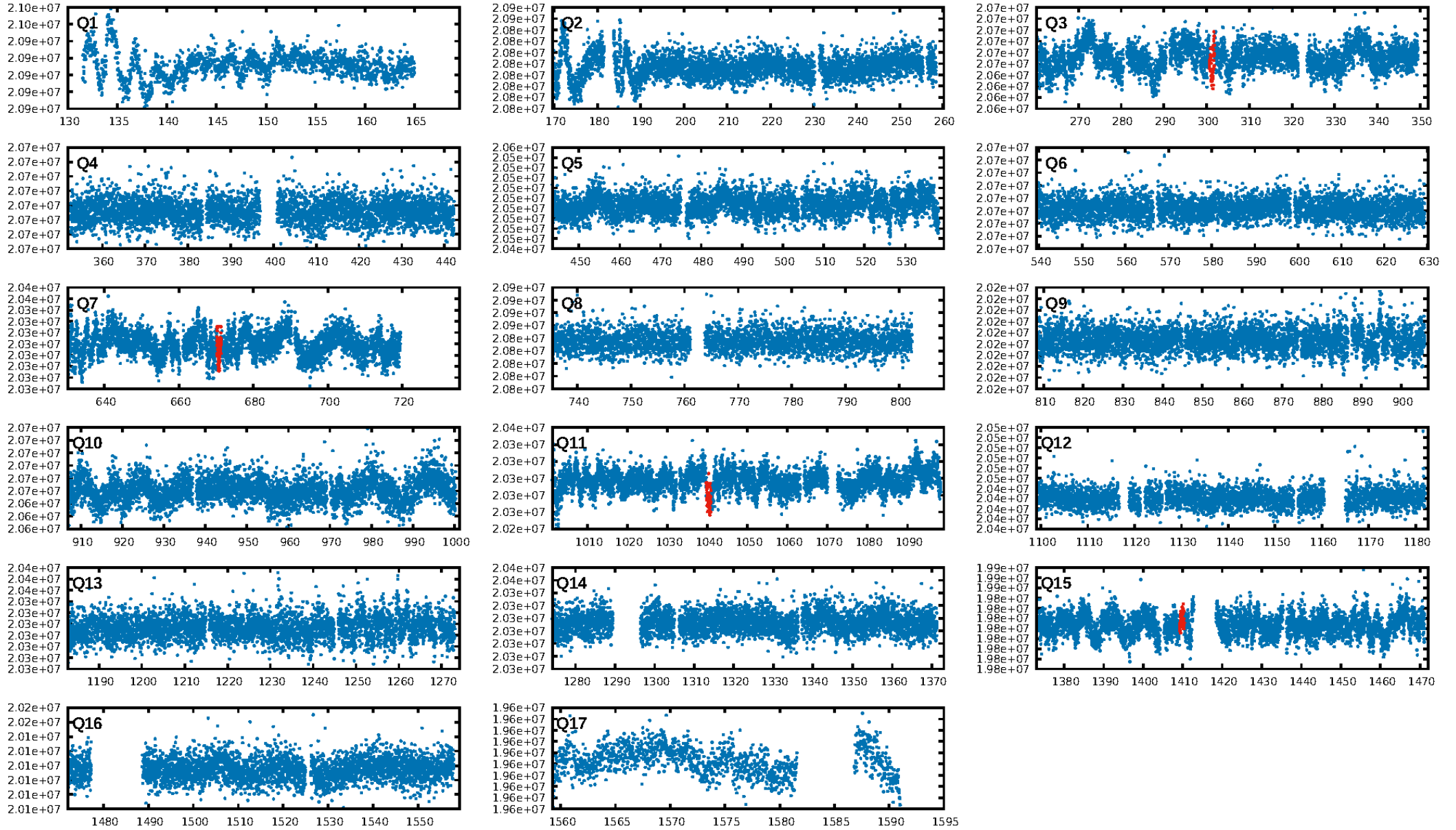
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [336.50σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 6.63e-09
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 1.216
Centroid-sig: 60.0%
Centroid-so: 1.898 arcsec [0.69σ]
OotOffset-rm: 5.877 arcsec [41.10σ]
KicOffset-rm: 5.702 arcsec [39.88σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

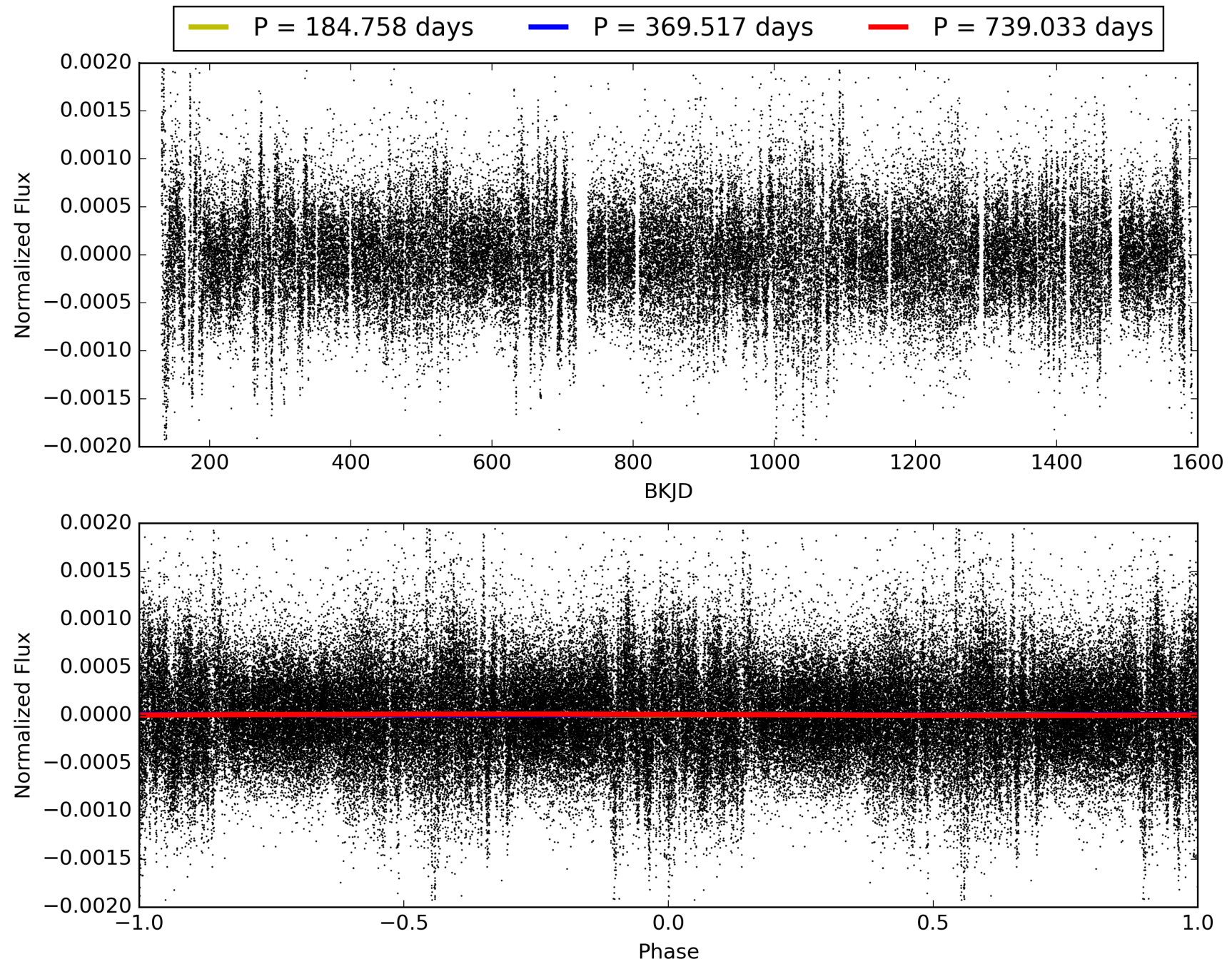
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:38:20 Z

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

TCE 010271834-02, PDC Light Curves

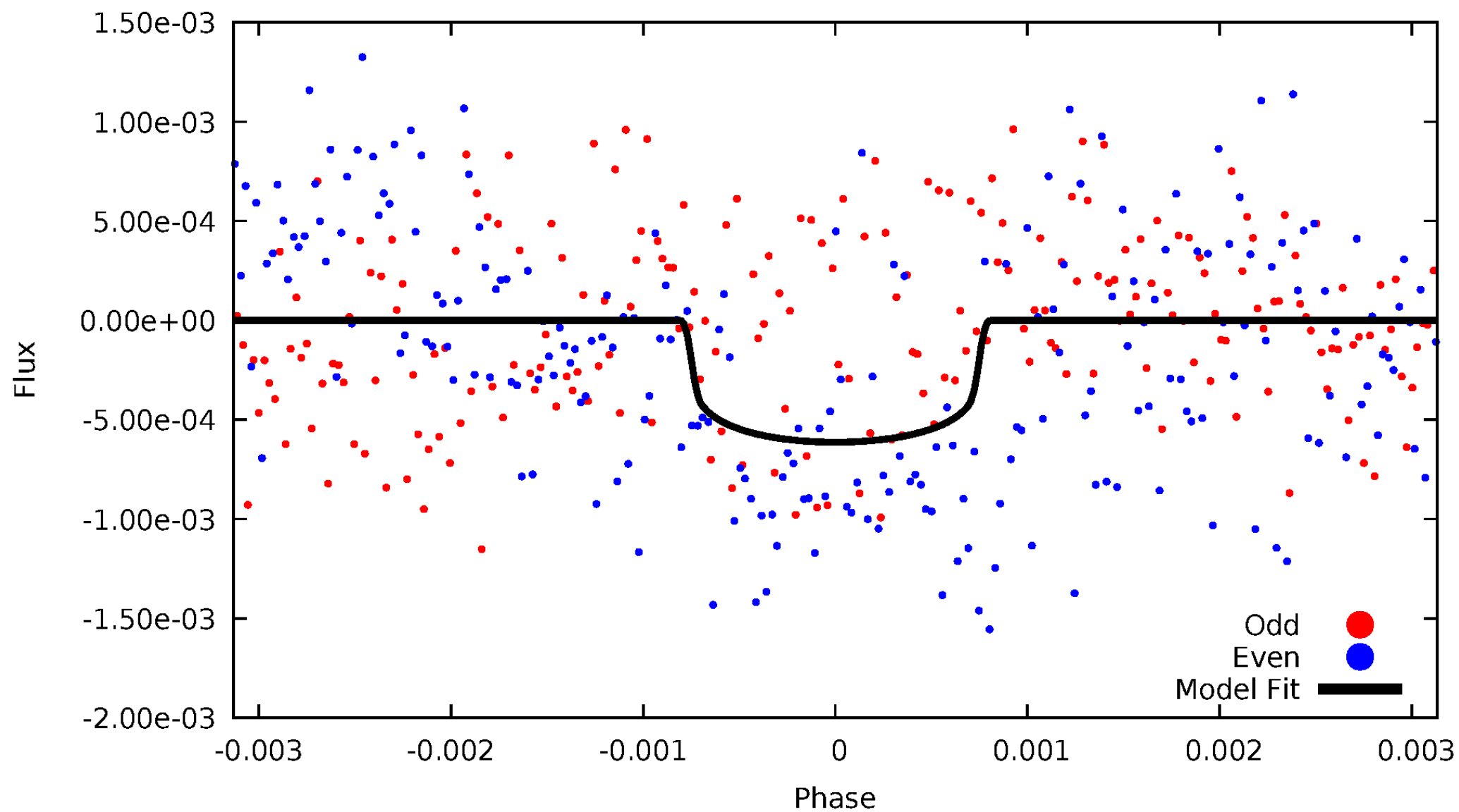


TCE 010271834-02



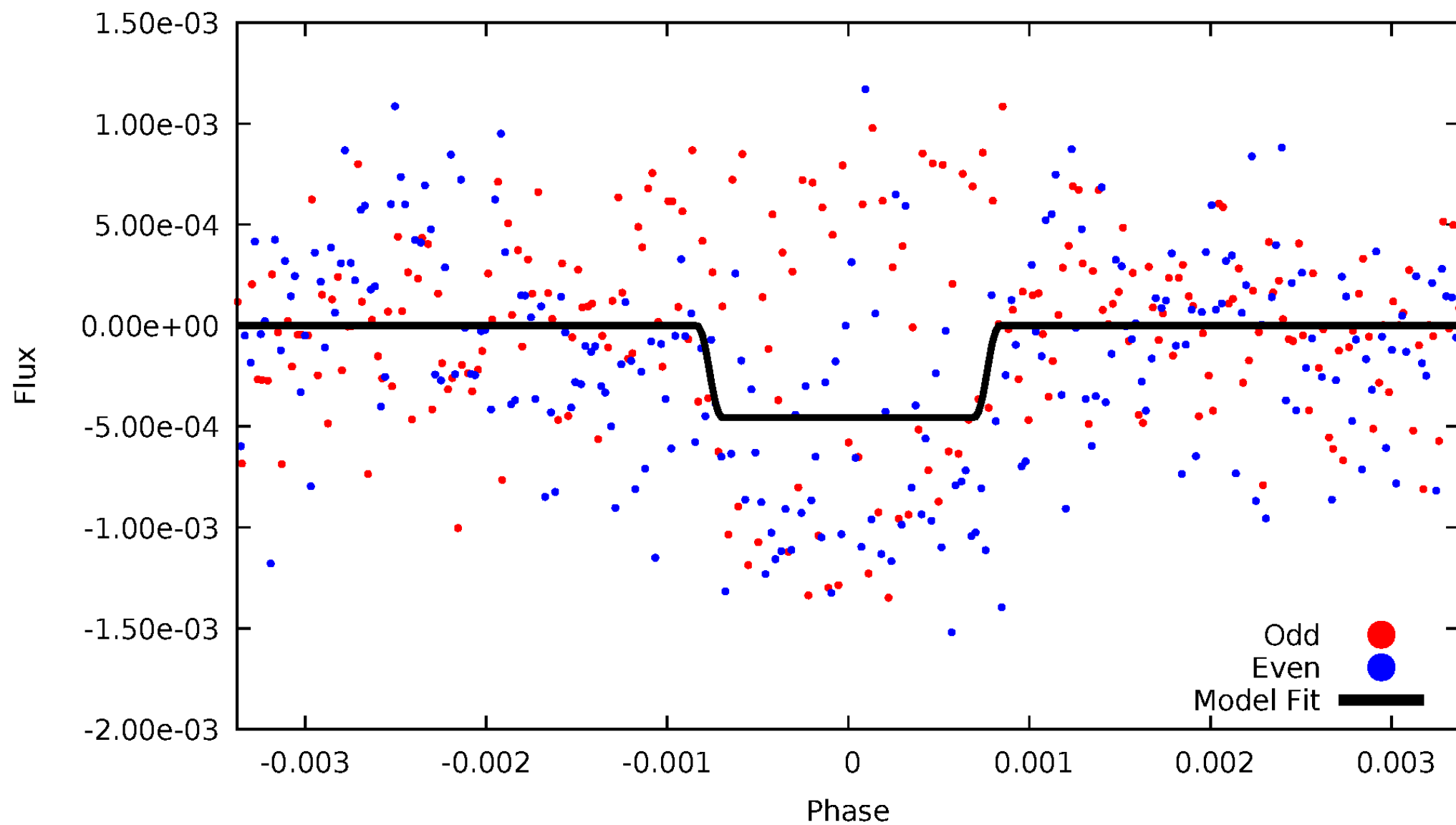
DV Odd/Even

TCE 010271834-02



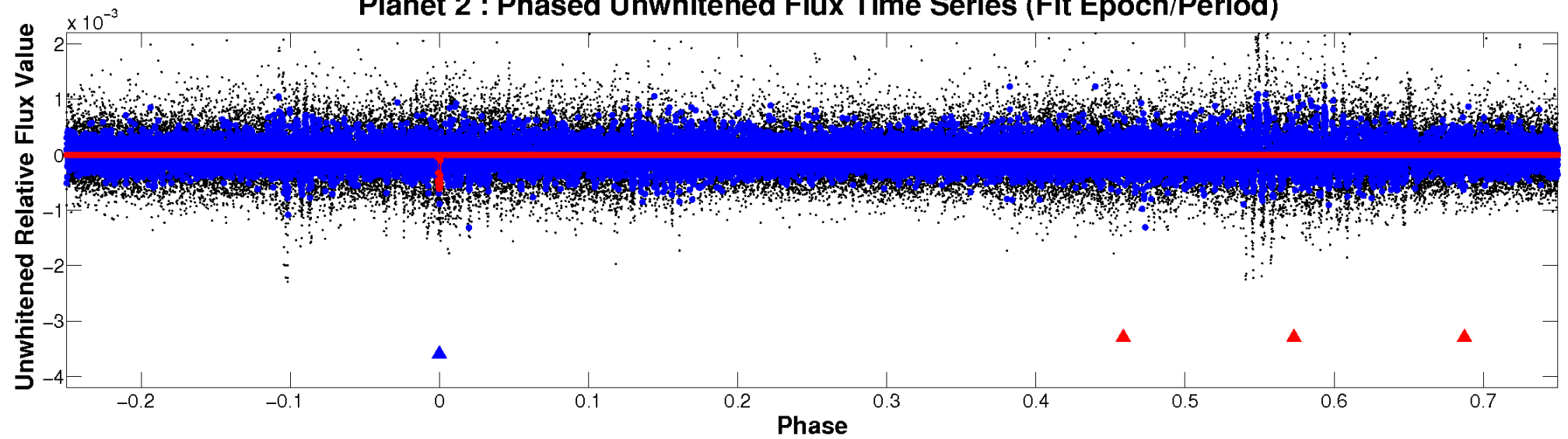
ALT Odd/Even

TCE 010271834-02

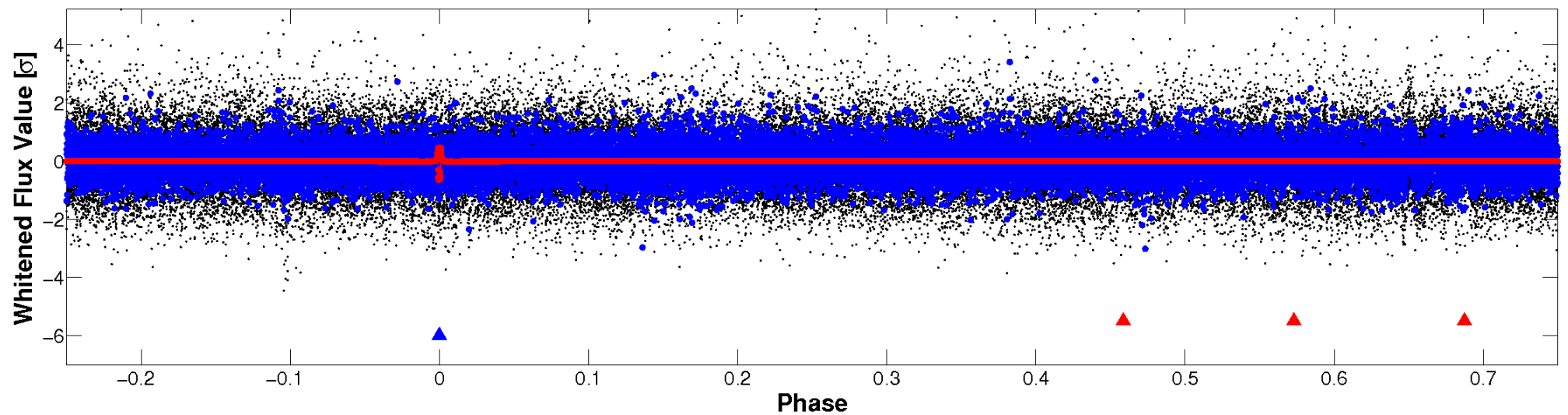


Non-Whitened Vs. Whitened Light Curve

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

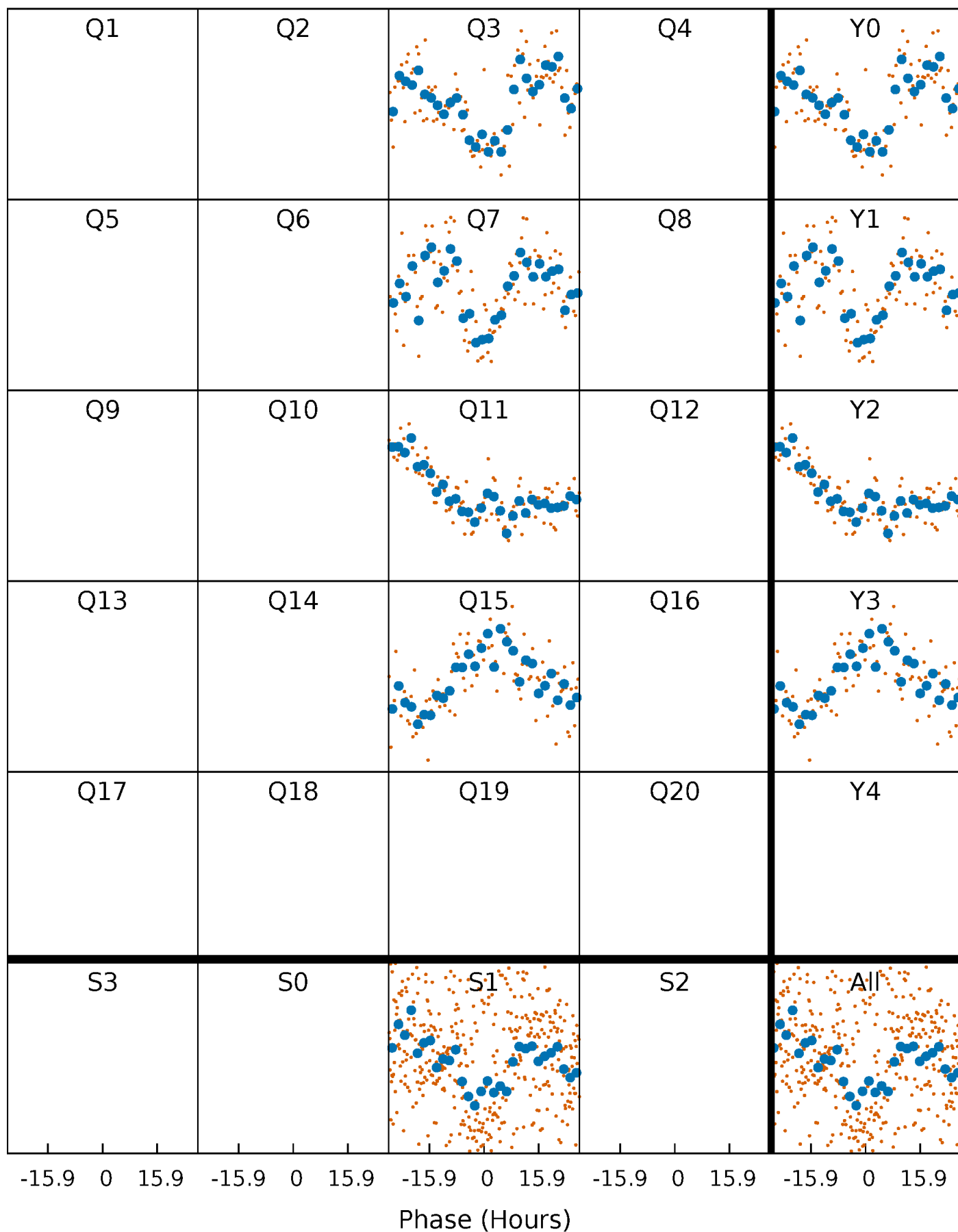


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



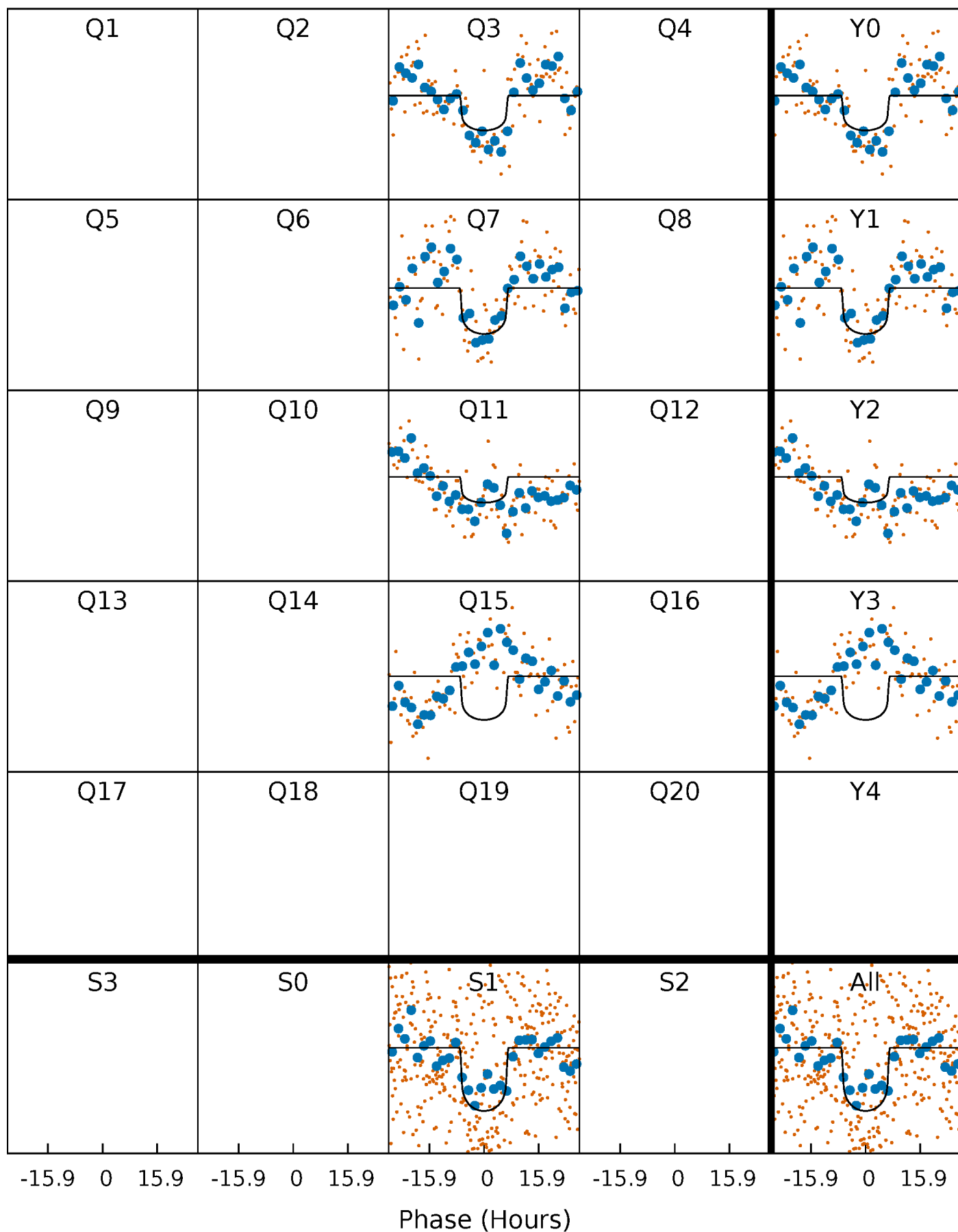
PDC Quarter-Phased Transit Curves

TCE 010271834-02 P=369.516676 Days $T_0=301.252677$ (BKJD)



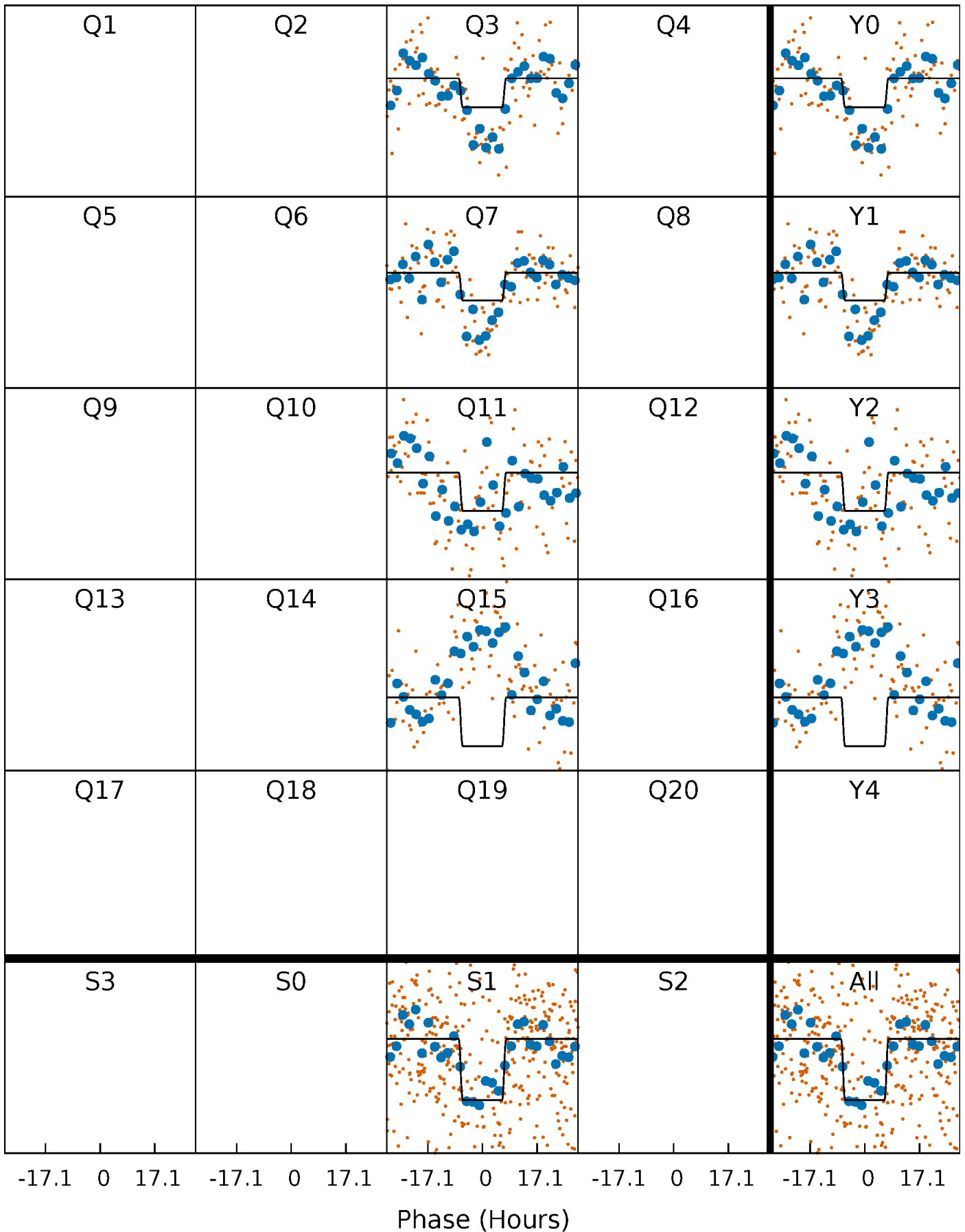
DV Quarter-Phased Transit Curves

TCE 010271834-02 $P=369.516676$ Days $T_0=301.252677$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

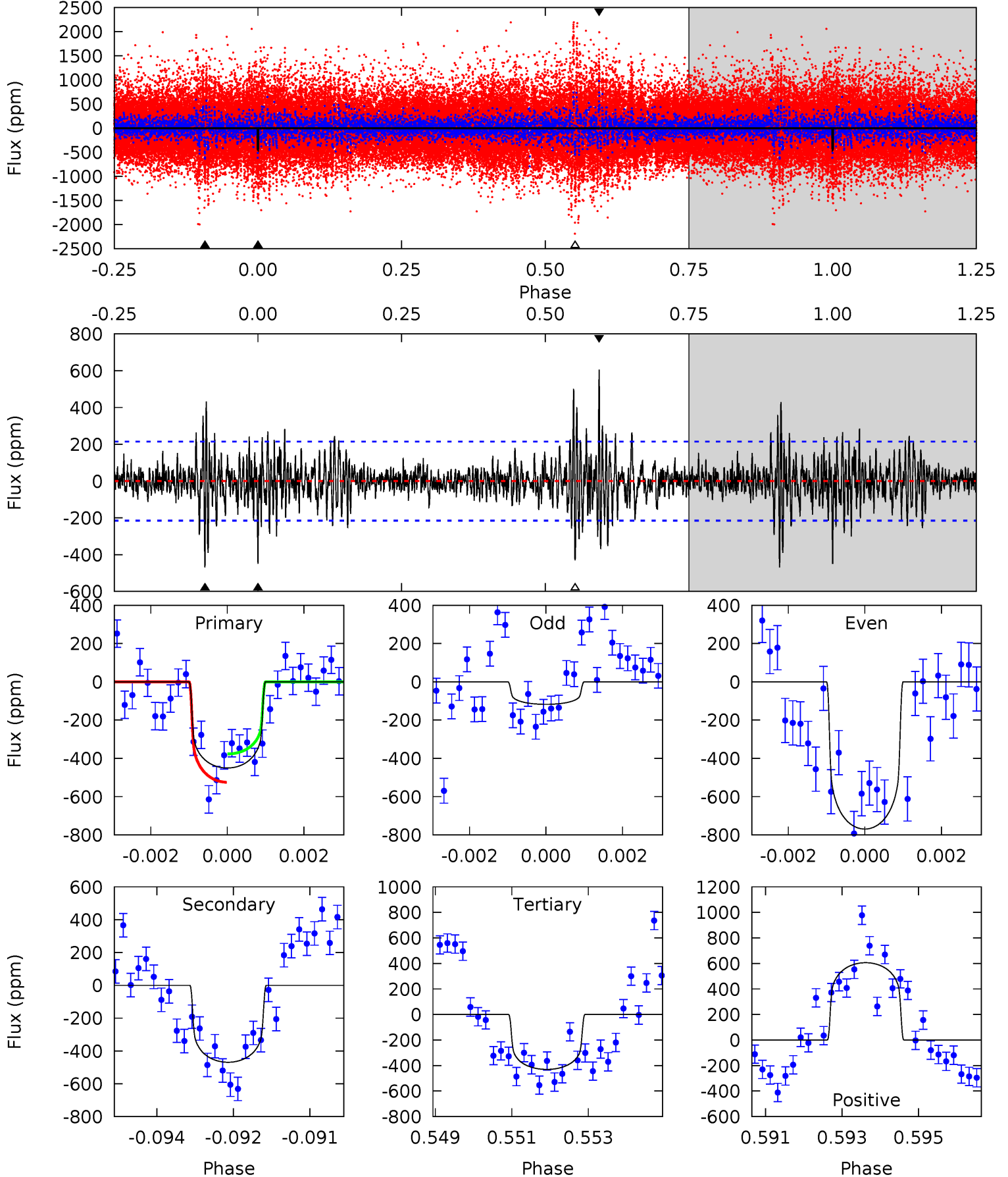
TCE 010271834-02 $P=369.527310$ Days $T_0=301.247712$ (BKJD)



DV Model-Shift Uniqueness Test

010271834-02, P = 369.516676 Days, E = 301.252677 Days

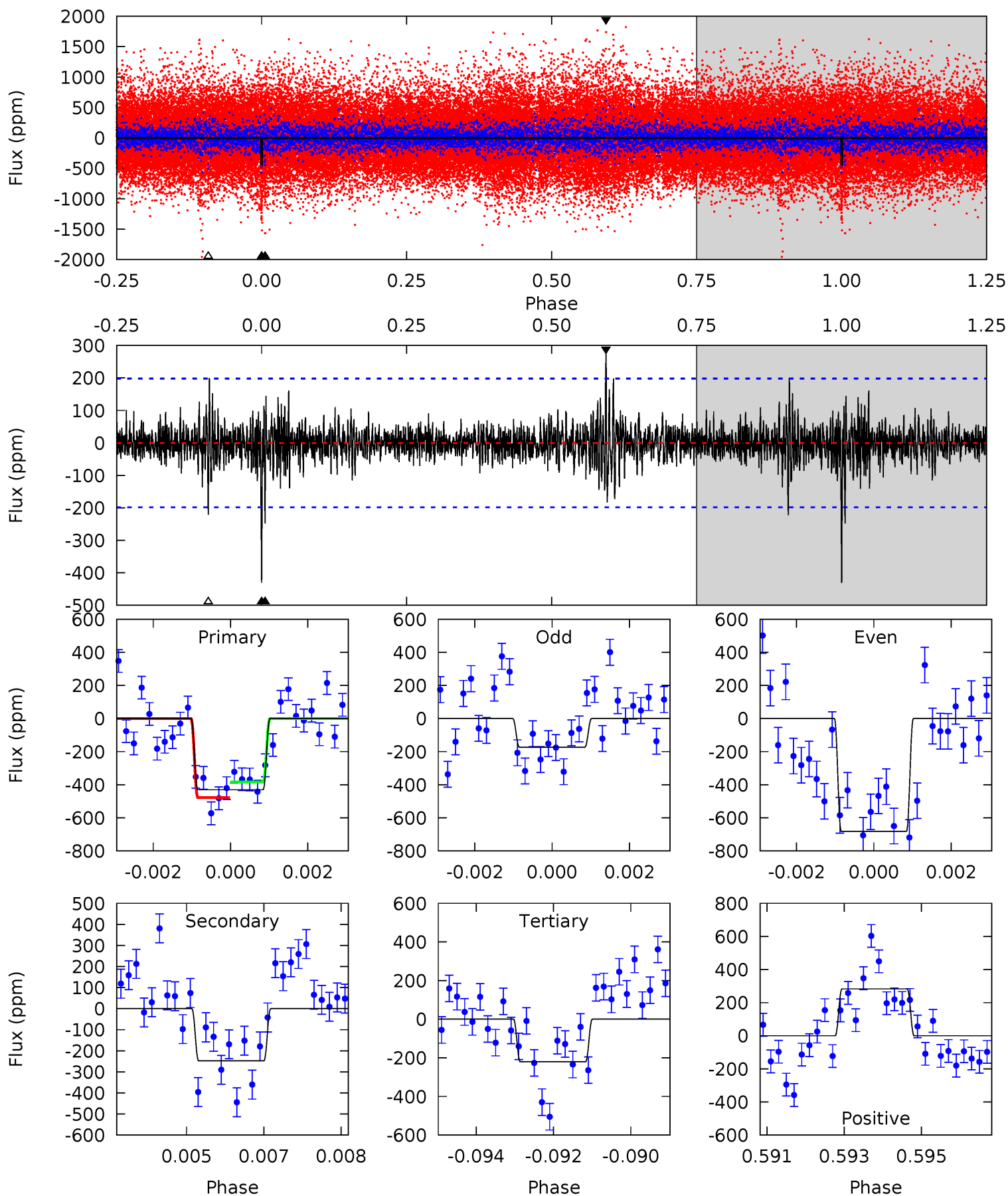
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	11.7	10.8	15.1	5.37	3.15	2.32	0.50	-3.88	0.96	-3.42	8.10	0.68	0.56	1.85



Alt Model-Shift Uniqueness Test

010271834-02, P = 369.527310 Days, E = 301.247712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.69	5.98	7.66	5.36	3.15	1.15	5.67	3.99	0.72	-0.96	6.91	0.63	0.40	1.26



Stellar Parameters For KIC 010271834

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6153^{+171}_{-214}	$4.471^{+0.052}_{-0.208}$	$-0.140^{+0.300}_{-0.300}$	$0.993^{+0.307}_{-0.102}$	$1.065^{+0.139}_{-0.139}$	$1.531^{+0.428}_{-0.808}$
	+3%/-3%	+1%/-5%	+214%/-214%	+31%/-10%	+13%/-13%	+28%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010271834-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-469 ± 40	$2.70^{+0.95}_{-0.83}$	380^{+25}_{-19}	5855^{+1172}_{-740}	36698^{+39391}_{-16746}
Alt.	-247 ± 37	$2.45^{+0.90}_{-0.92}$	380^{+29}_{-19}	5287^{+1162}_{-629}	23360^{+33436}_{-11007}

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

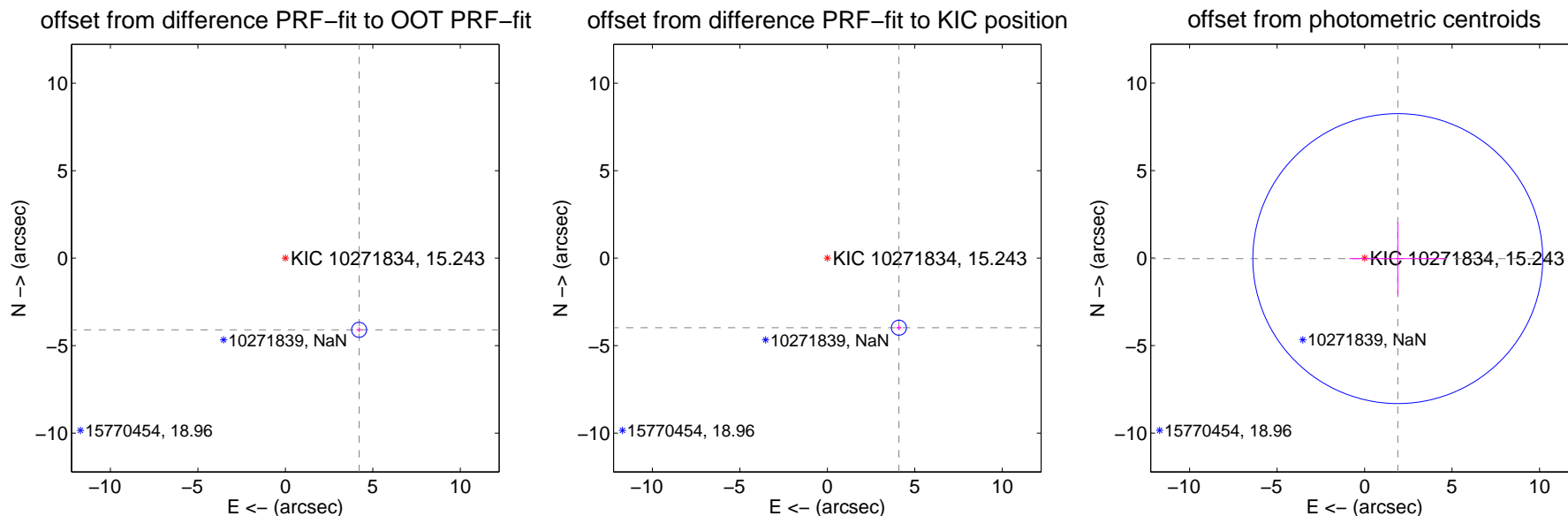
DV Centroid Data

Supplemental centroid analysis for 010271834-02. Kepler magnitude: 15.24. Transit SNR 6.54

There are 0 quarters with good PRF difference image offsets

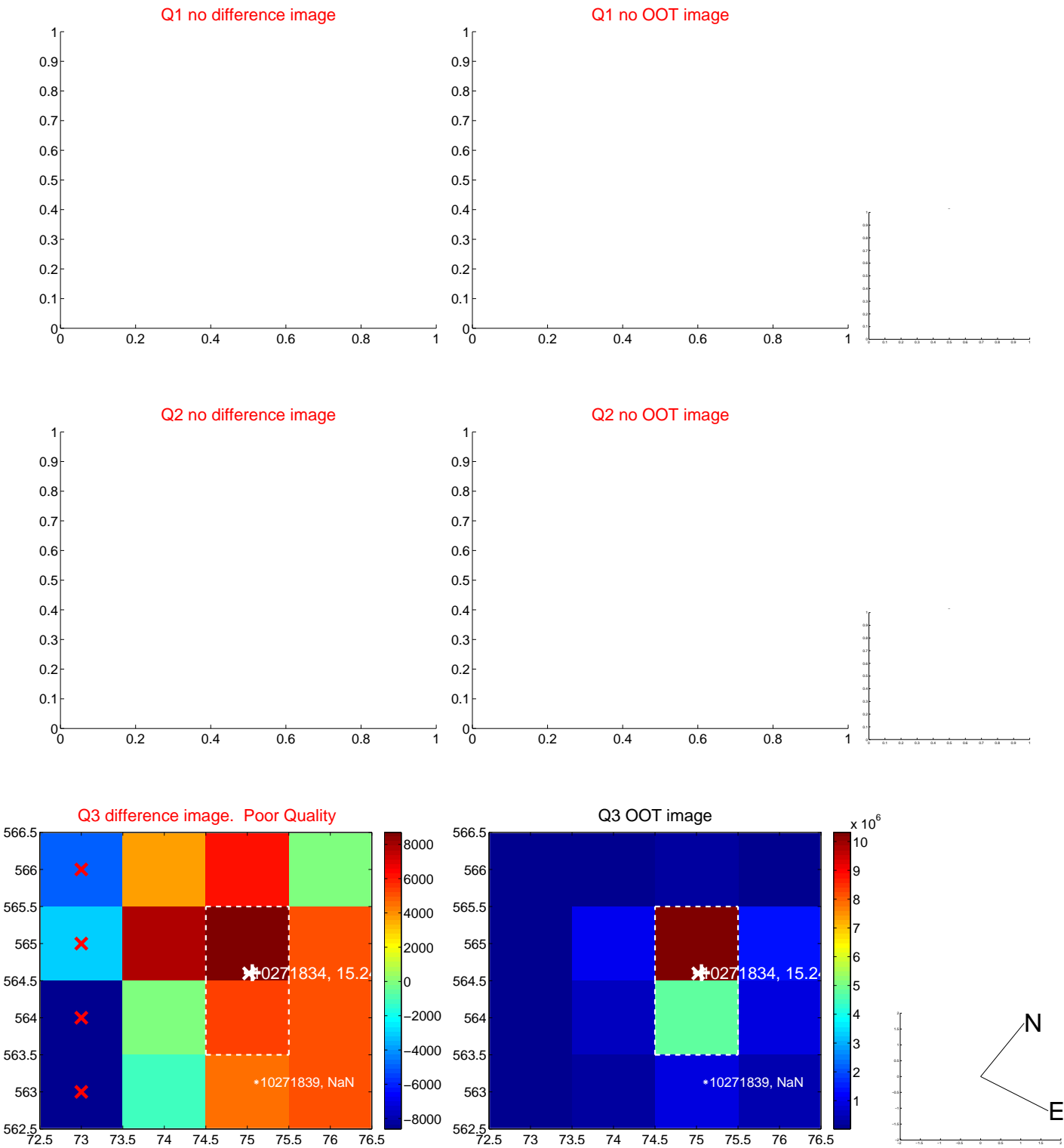
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.877 ± 0.143	41.10	-4.214 ± 0.144	-4.096 ± 0.142
PRF-fit source offset from KIC position	5.702 ± 0.143	39.88	-4.089 ± 0.144	-3.974 ± 0.142
photometric centroid source offset	1.90 ± 2.76	0.69	-1.90 ± 2.76	-0.03 ± 2.07

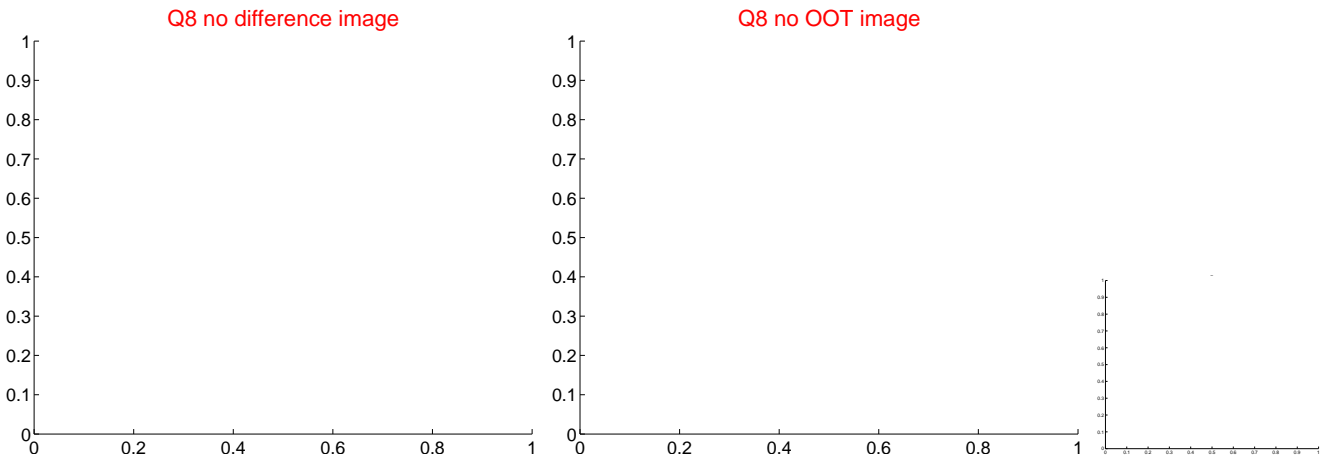
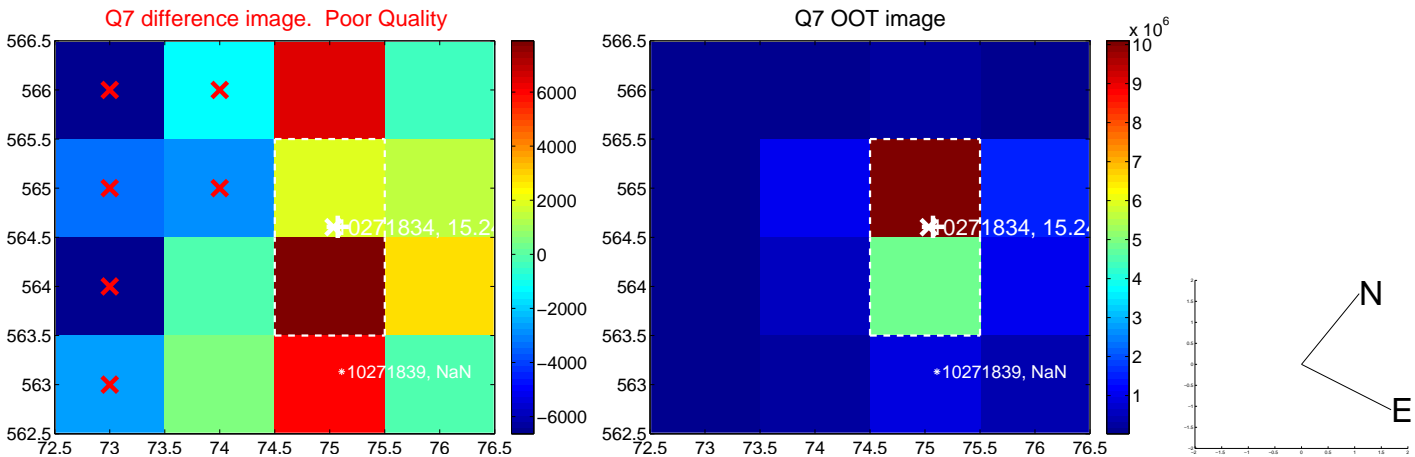
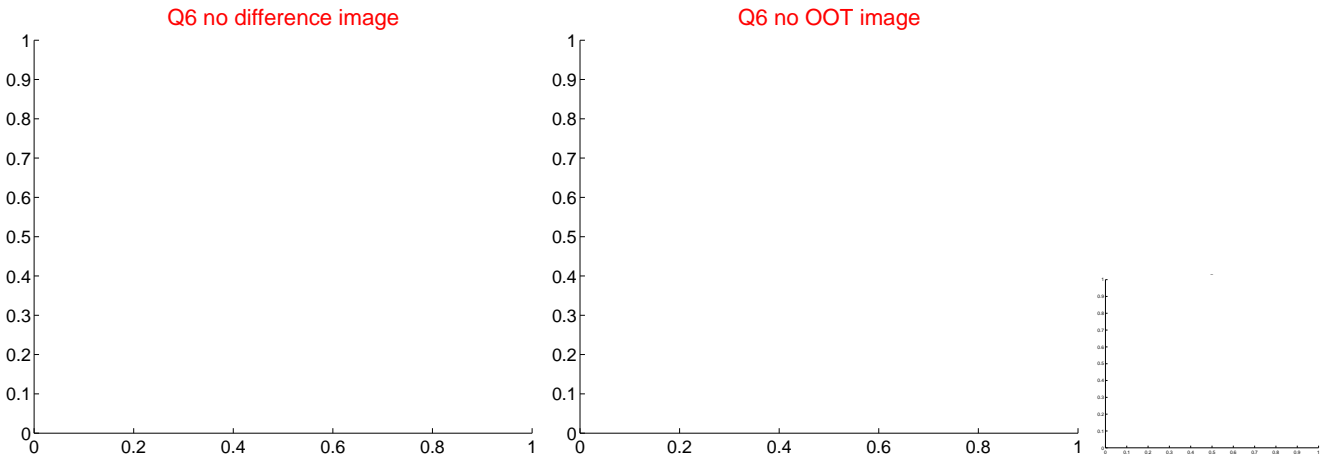
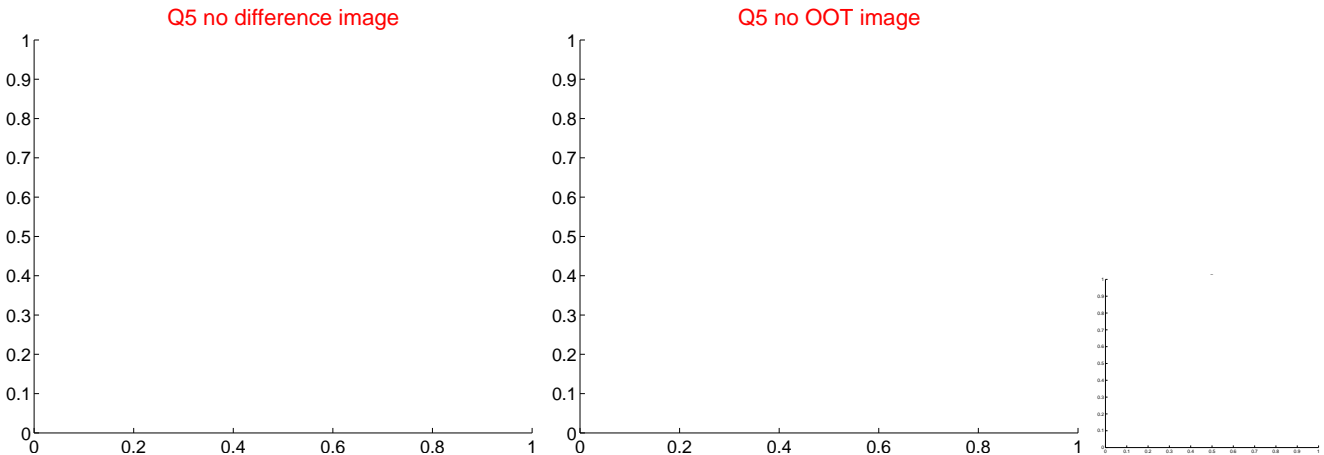


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

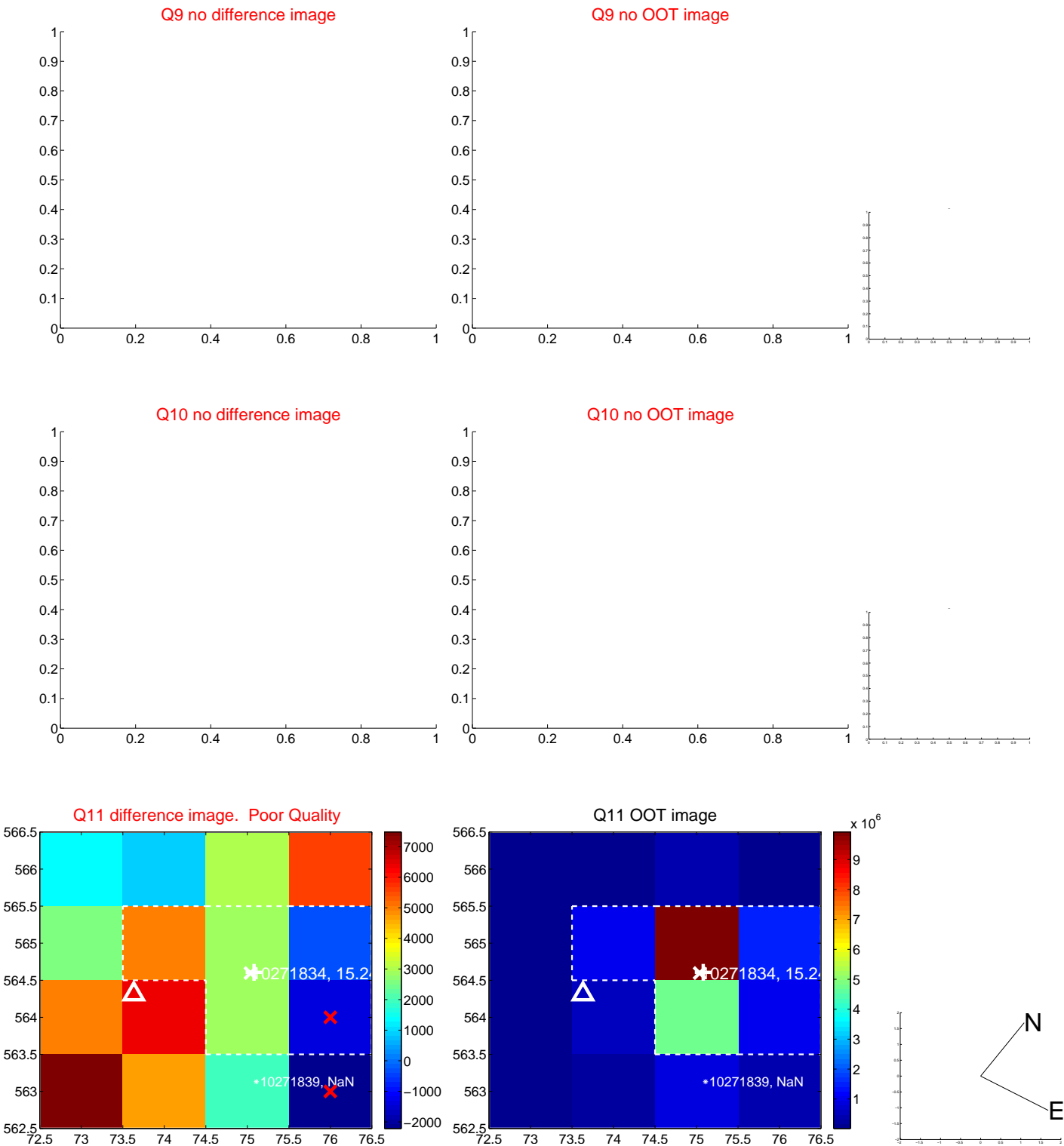
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



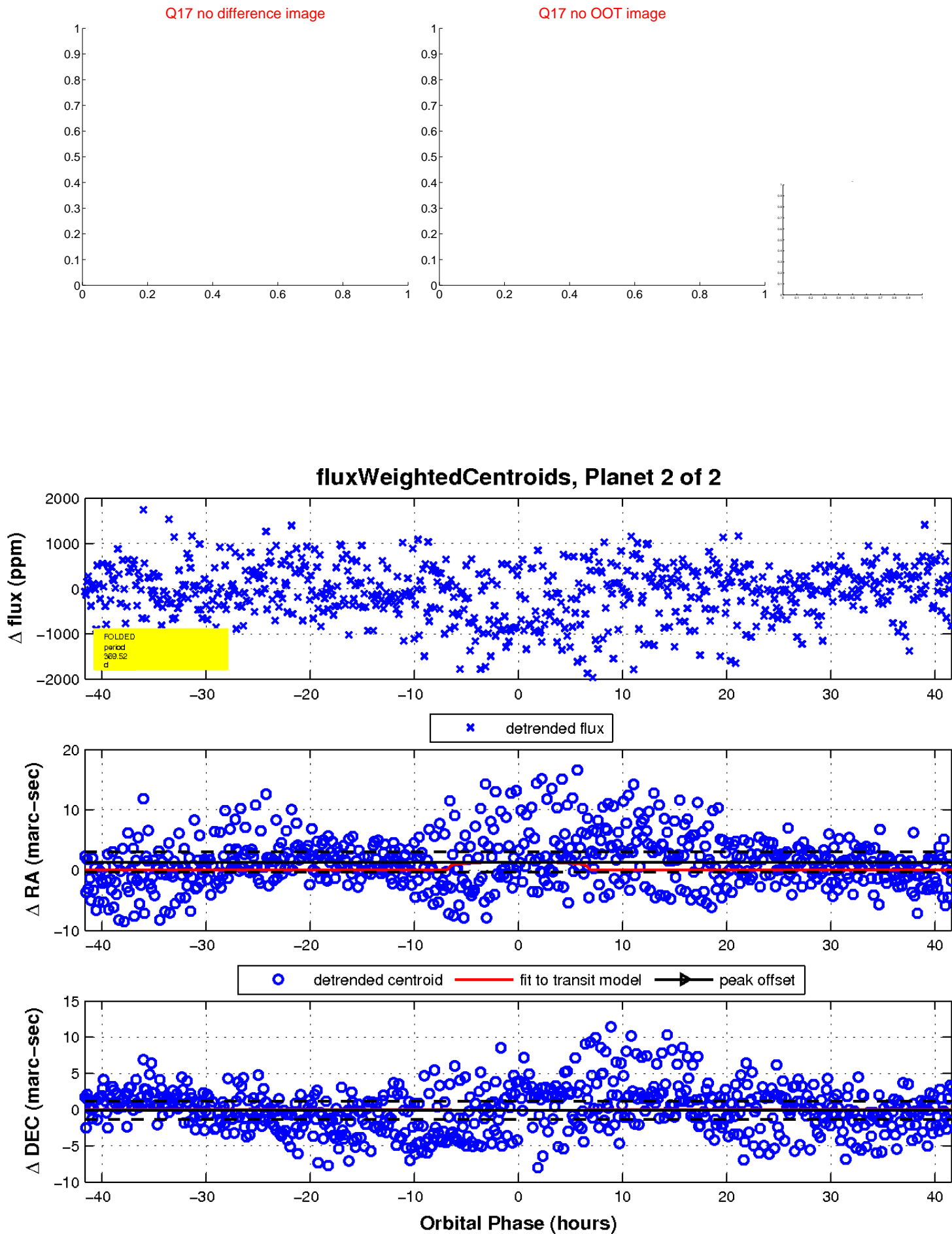
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

