

KIC 004847801

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})
004847801-01	OBS	No	495.344898	527.698873	375.3	14.307	9.9	9.4	0.75	5162	1.62	0.27
004847801-02	OBS	8251.01	371.471743	341.964735	255.6	11.863	7.4	7.2	0.75	5162	1.46	0.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004847801-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—CENT_FEW_DIFFS—HALO_GHOST
004847801-02	OBS	FP	0.00	0	0	1	0	CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

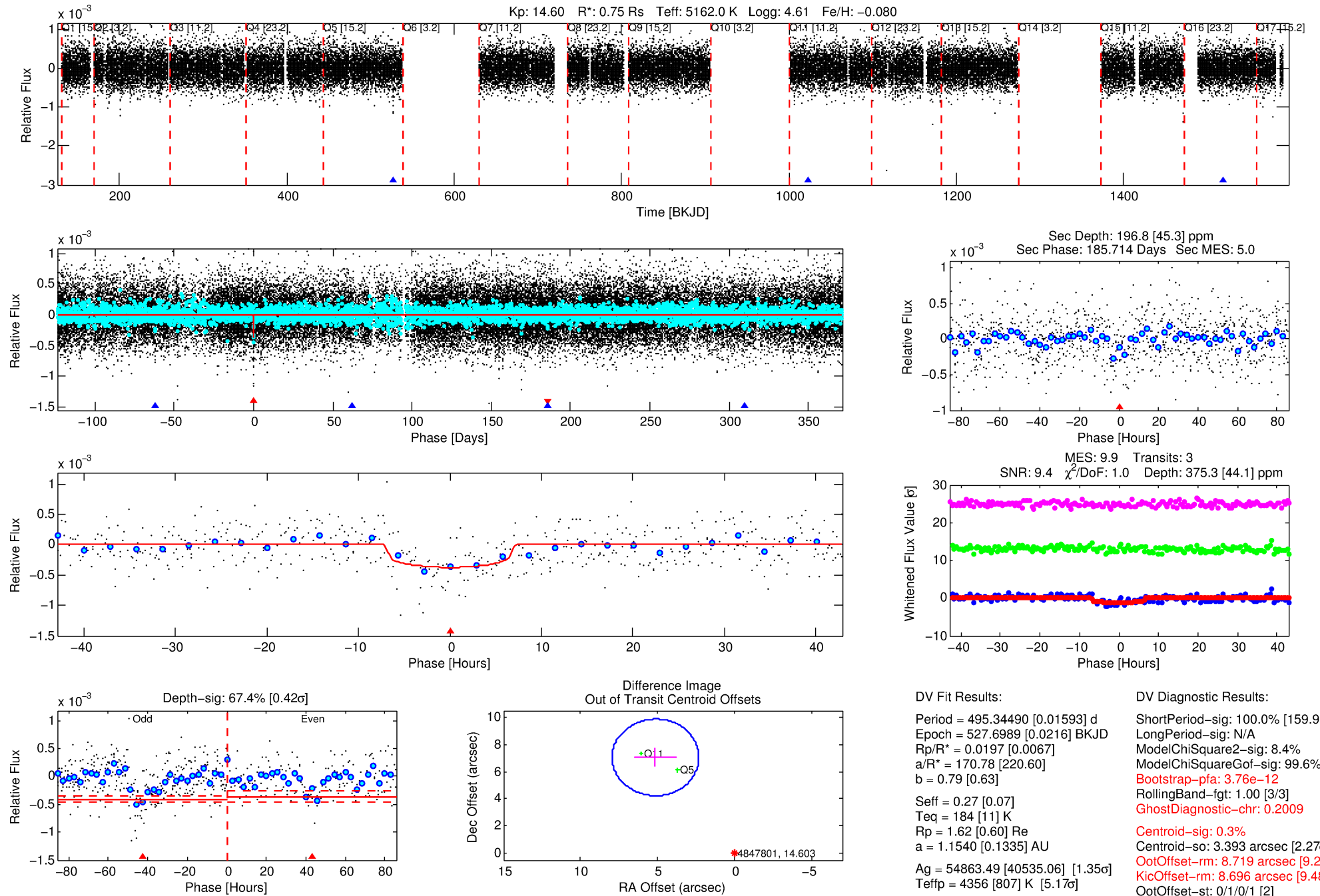
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004847801-01

No Significant Match Found

DV One-Page Summary

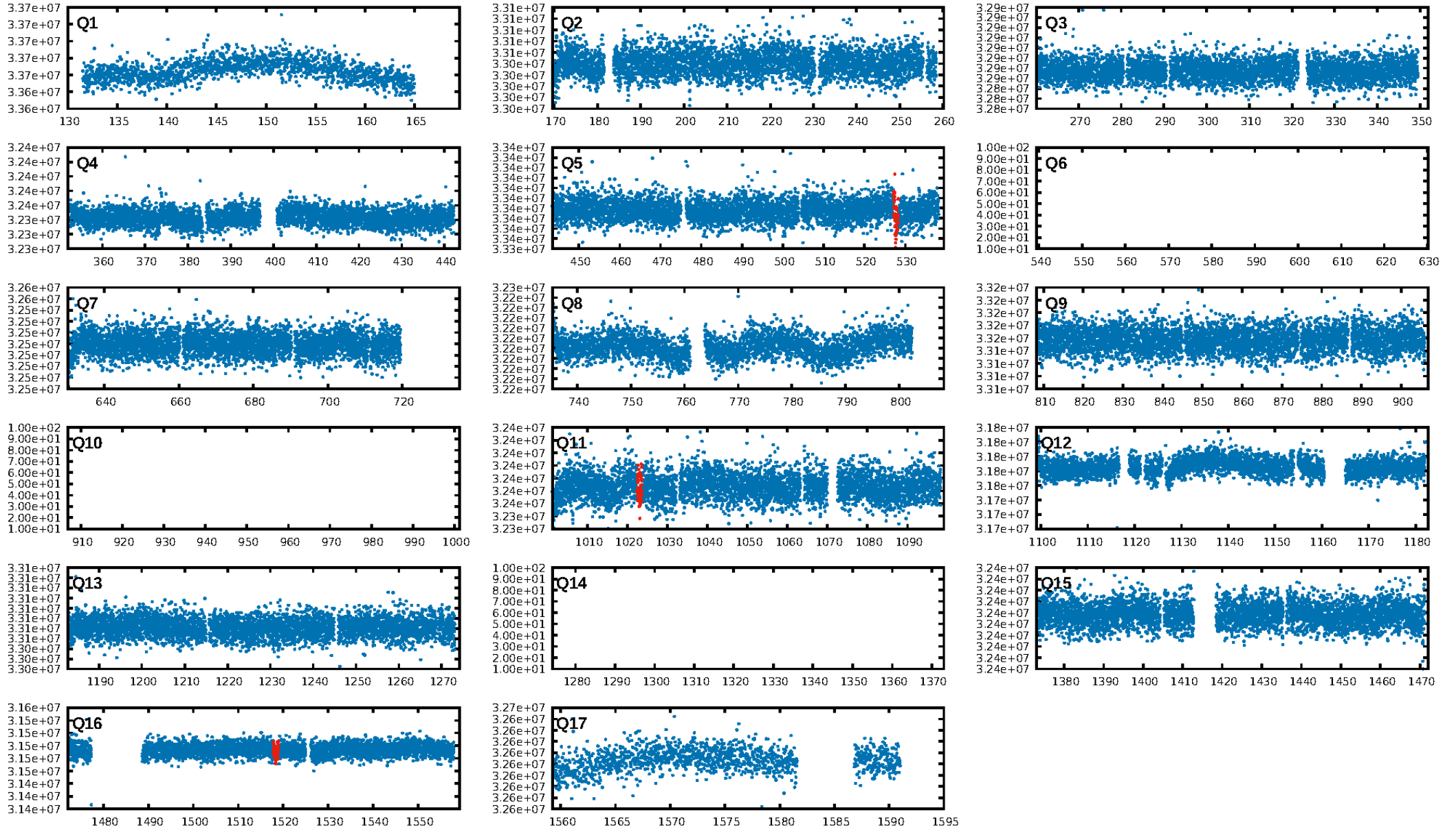
KIC: 4847801 Candidate: 1 of 2 Period: 495.345 d



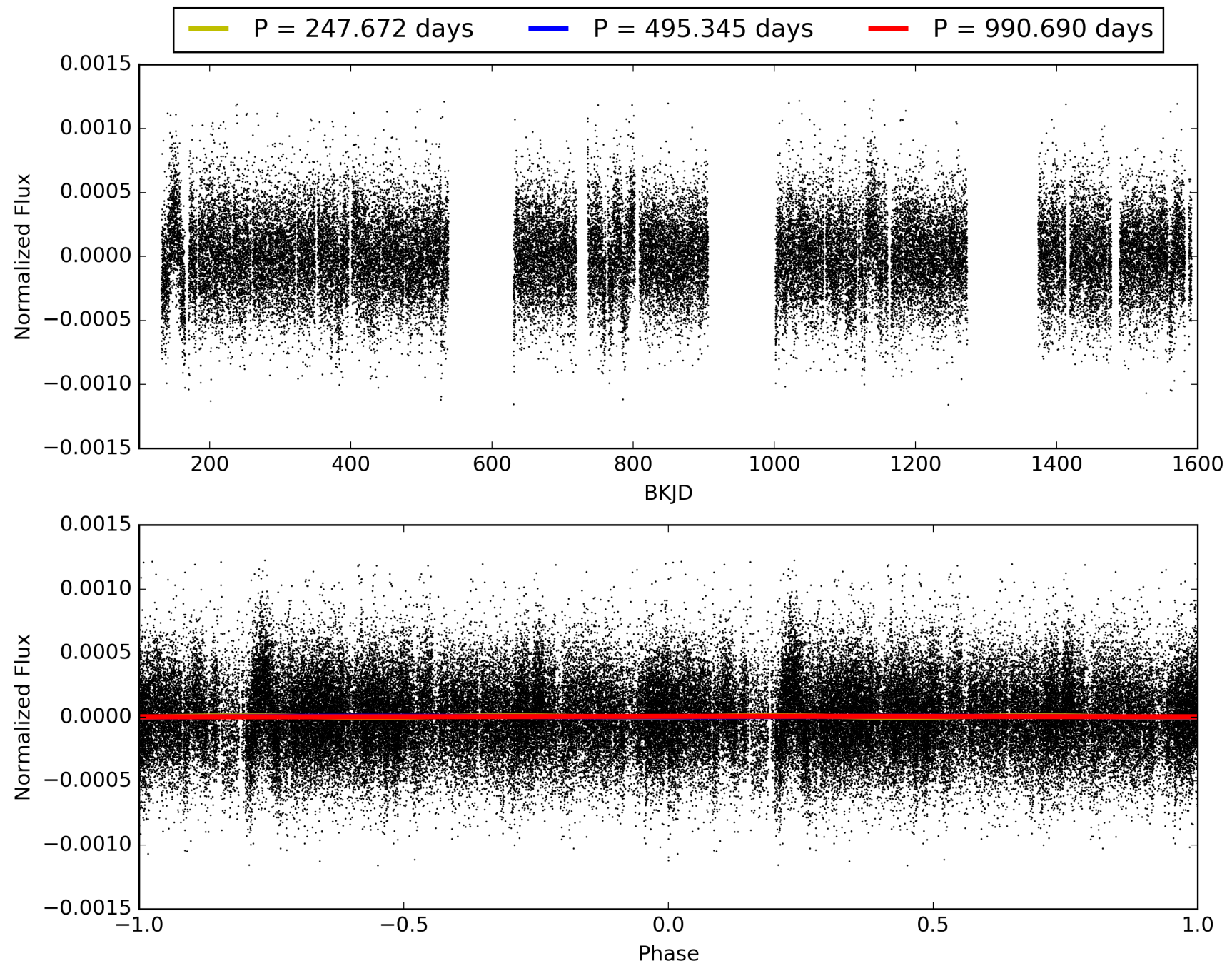
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:51:02 Z

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

TCE 004847801-01, PDC Light Curves

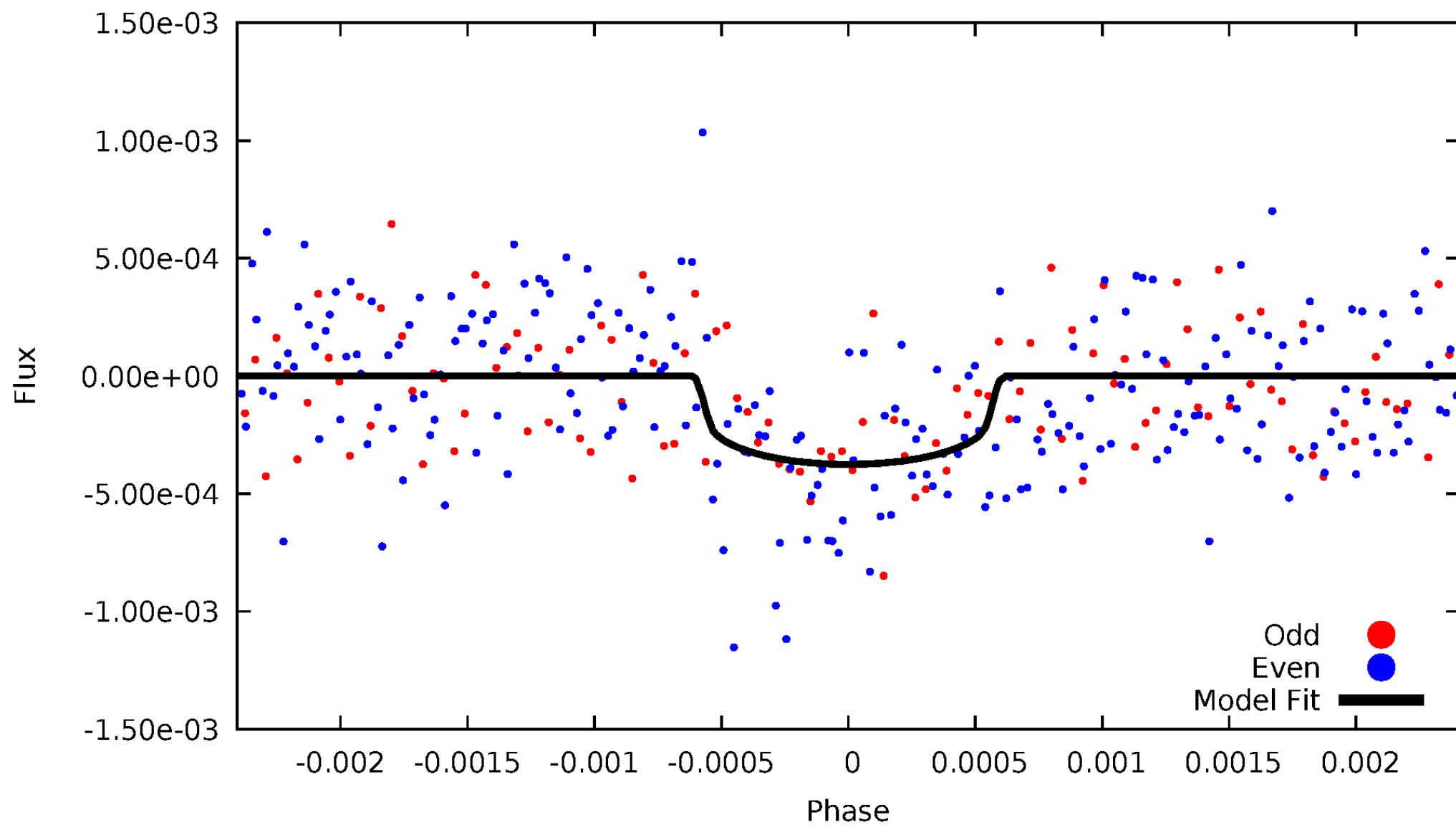


TCE 004847801-01



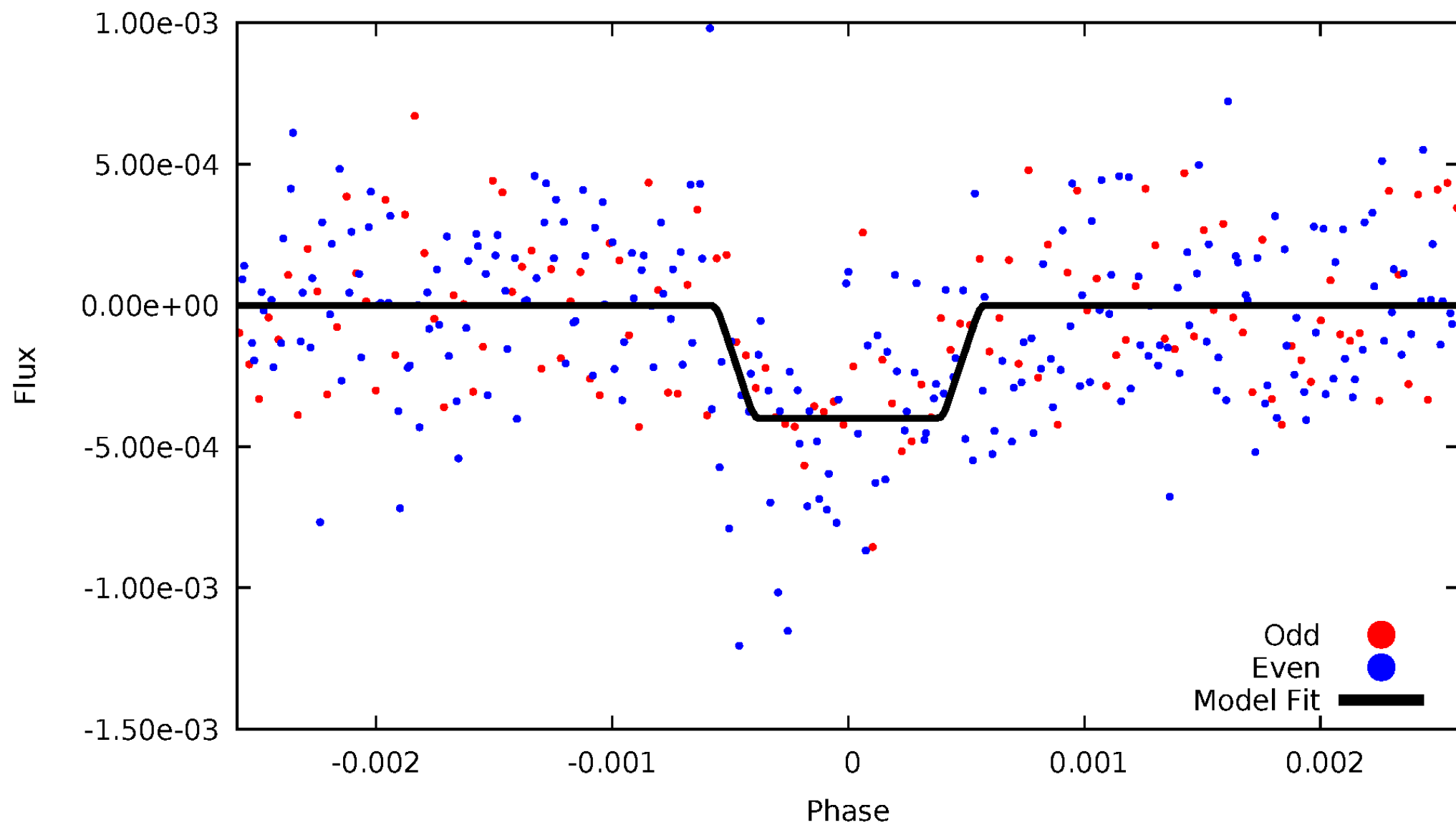
DV Odd/Even

TCE 004847801-01



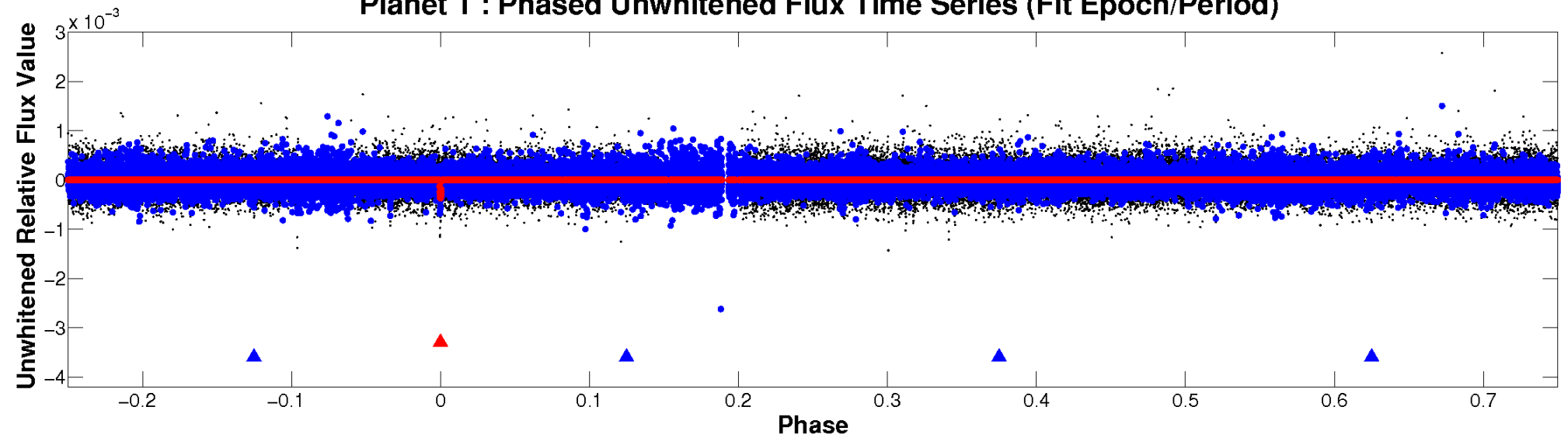
ALT Odd/Even

TCE 004847801-01

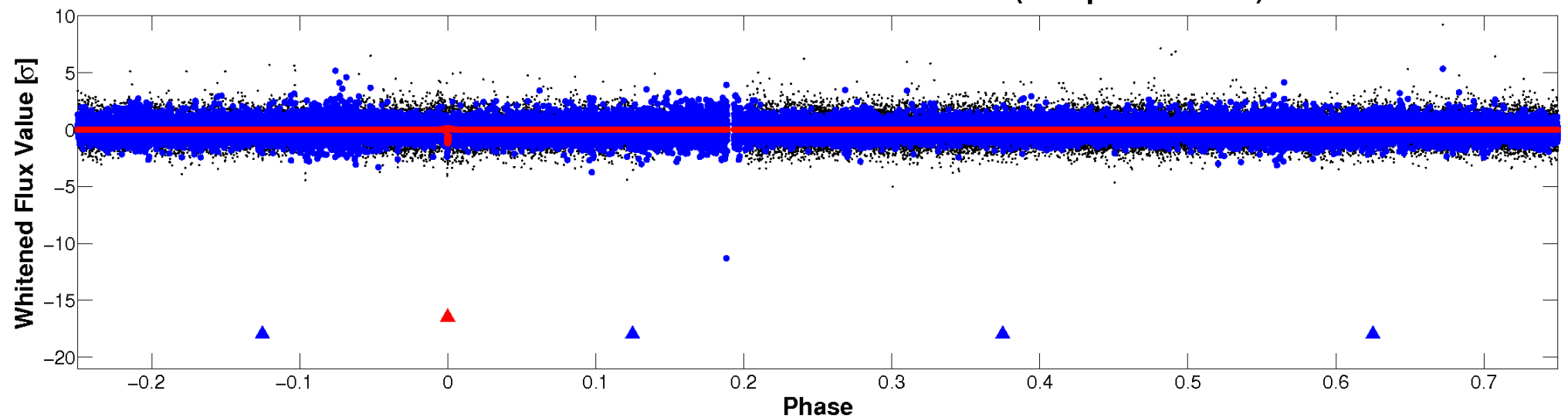


Non-Whitened Vs. Whitened Light Curve

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

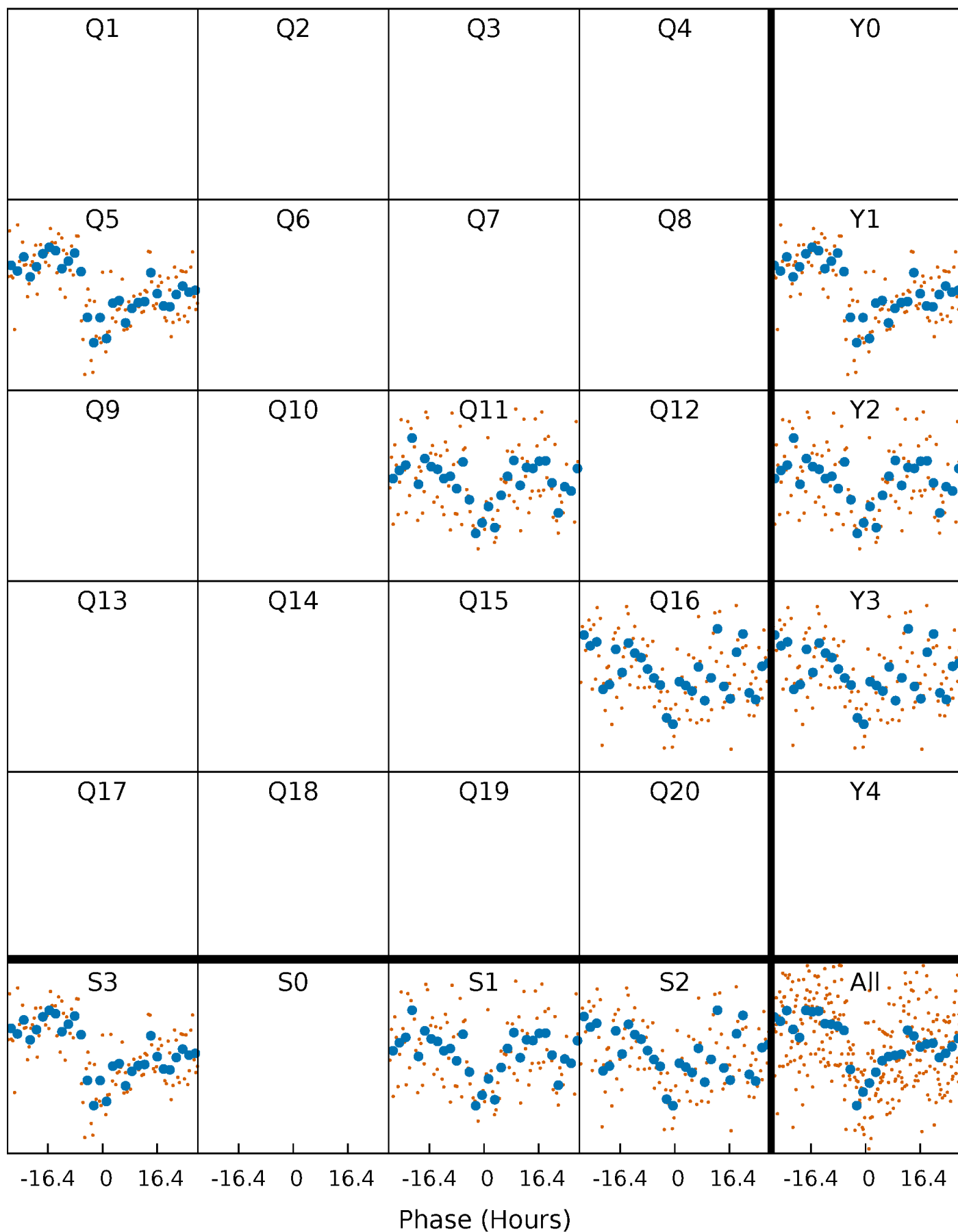


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



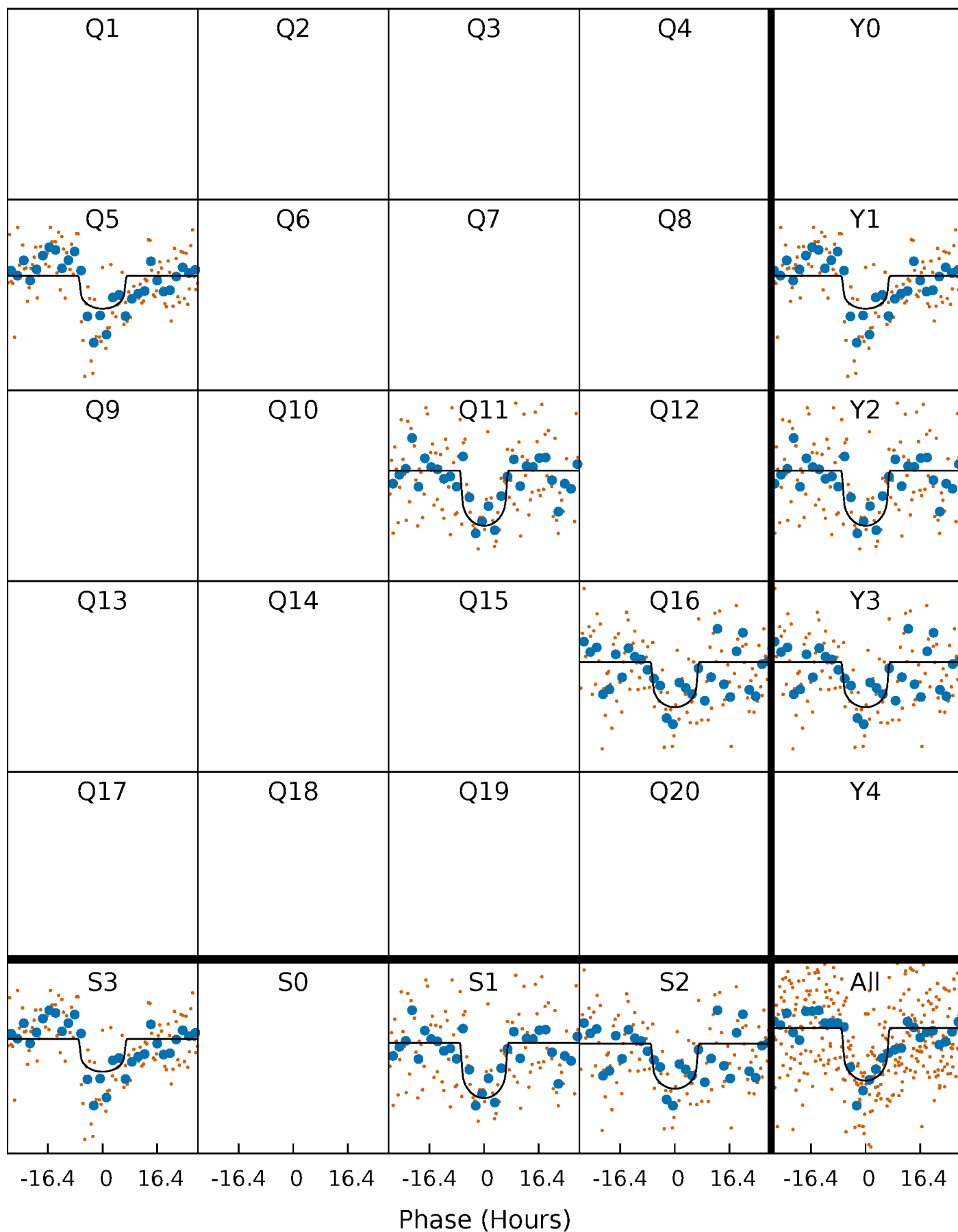
PDC Quarter-Phased Transit Curves

TCE 004847801-01 P=495.344898 Days $T_0=527.698873$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004847801-01 $P=495.344898$ Days $T_0=527.698873$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

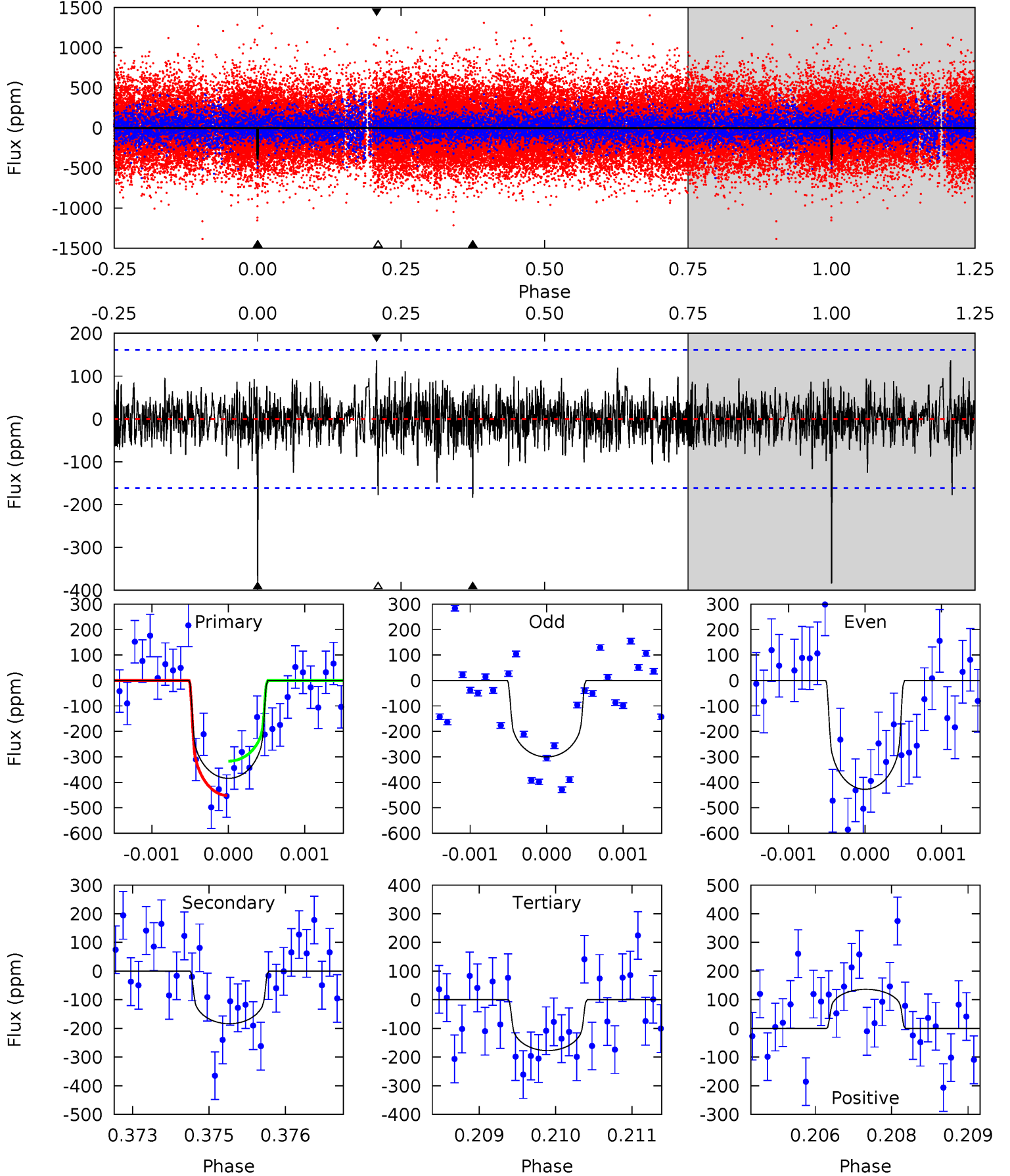
TCE 004847801-01 P=495.357173 Days $T_0=527.704764$ (BKJD)



DV Model-Shift Uniqueness Test

004847801-01, $P = 495.344898$ Days, $E = 32.353975$ Days

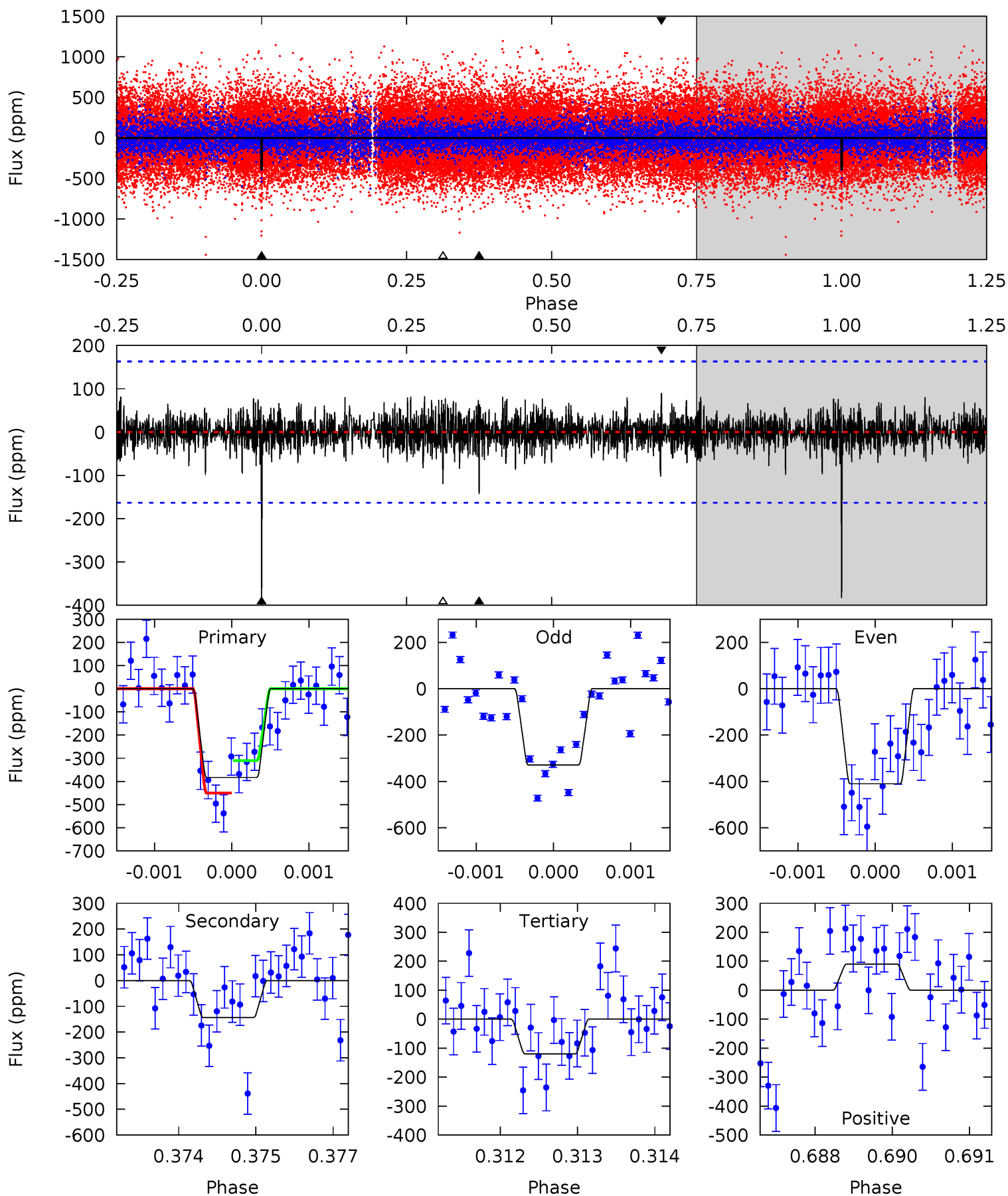
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	6.17	5.96	4.58	5.42	3.24	1.21	6.96	8.33	0.21	1.58	2.02	1.14	0.26	2.27



Alt Model-Shift Uniqueness Test

004847801-01, P = 495.357173 Days, E = 32.347591 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	4.78	3.98	3.01	5.43	3.25	0.87	8.75	9.72	0.80	1.77	1.26	1.17	0.19	2.33



Stellar Parameters For KIC 004847801

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5162^{+225}_{-204}	$4.605^{+0.030}_{-0.090}$	$-0.080^{+0.300}_{-0.300}$	$0.754^{+0.105}_{-0.065}$	$0.845^{+0.065}_{-0.098}$	$2.781^{+0.451}_{-0.771}$
	+4%/-4%	+1%/-2%	+375%/-375%	+14%/-9%	+8%/-12%	+16%/-28%
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 004847801-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-184 ± 30	$1.65^{+0.61}_{-0.61}$	261^{+13}_{-13}	4423^{+945}_{-526}	48377^{+72306}_{-23063}
Alt.	-144 ± 30	$1.66^{+0.58}_{-0.53}$	261^{+13}_{-12}	4221^{+878}_{-465}	37051^{+51125}_{-17630}

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

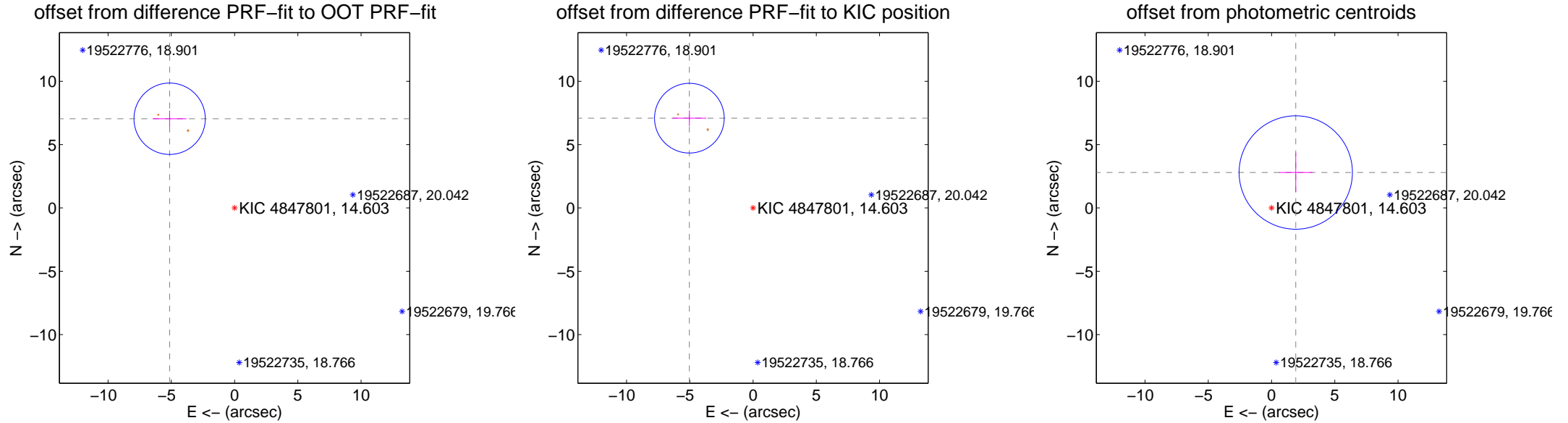
DV Centroid Data

Supplemental centroid analysis for 004847801-01. Kepler magnitude: 14.60. Transit SNR 9.36

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.719 \pm 0.940	9.28	5.135 \pm 1.335	7.046 \pm 0.637
PRF-fit source offset from KIC position	8.696 \pm 0.918	9.48	5.034 \pm 1.331	7.091 \pm 0.611
photometric centroid source offset	3.39 \pm 1.49	2.27	-1.92 \pm 1.32	2.80 \pm 1.57

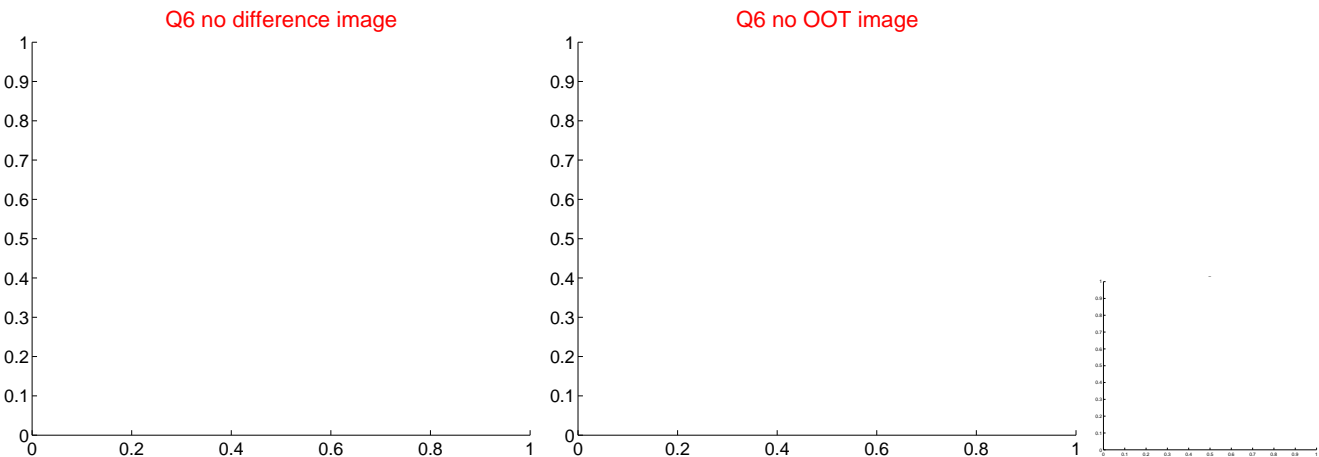
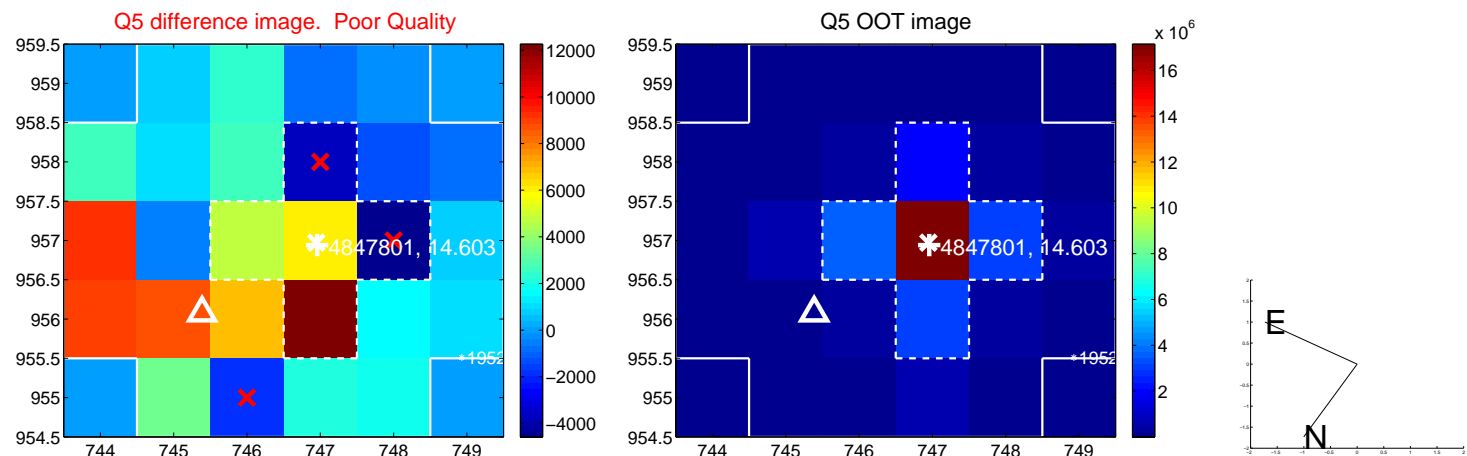


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

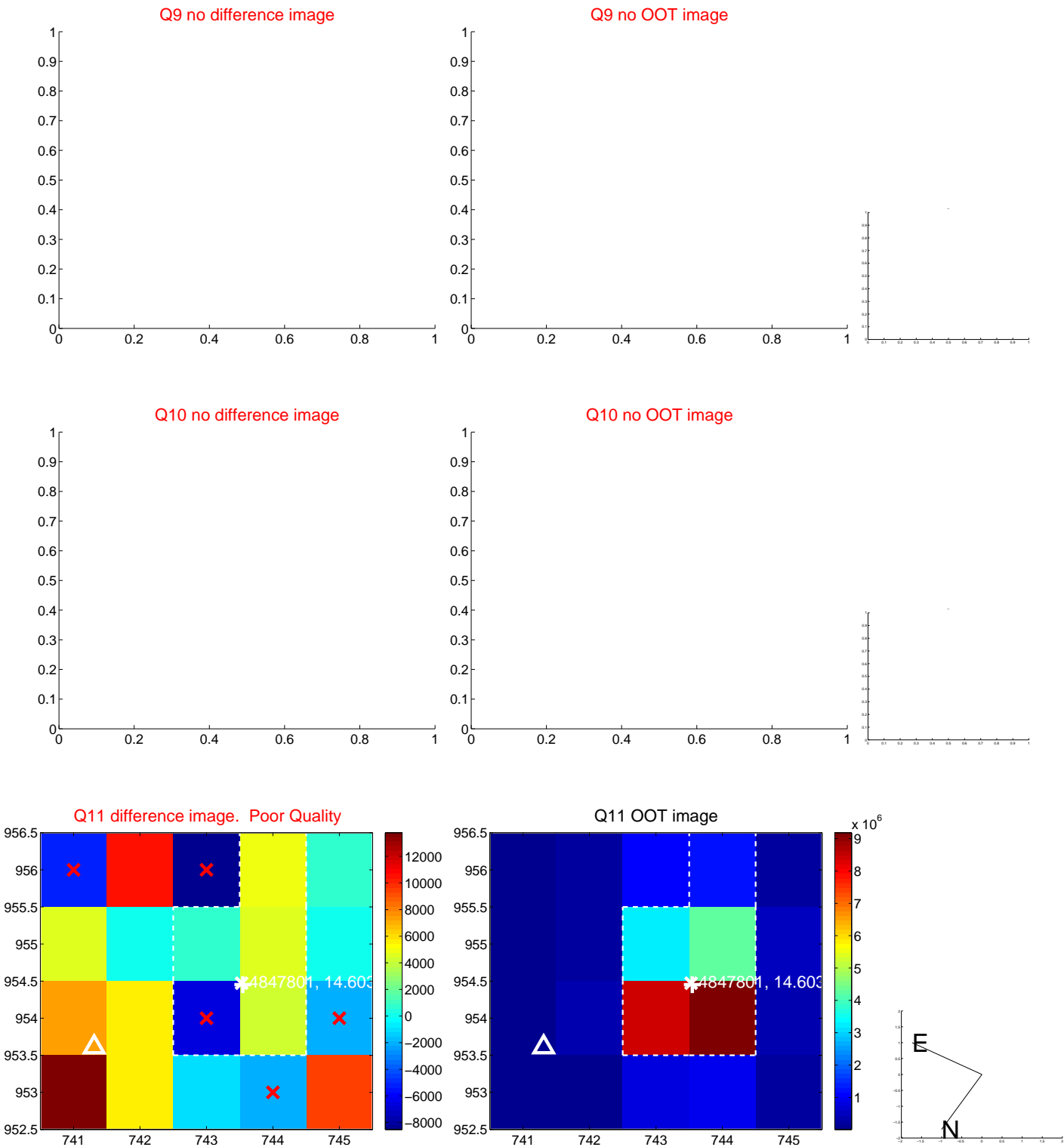
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



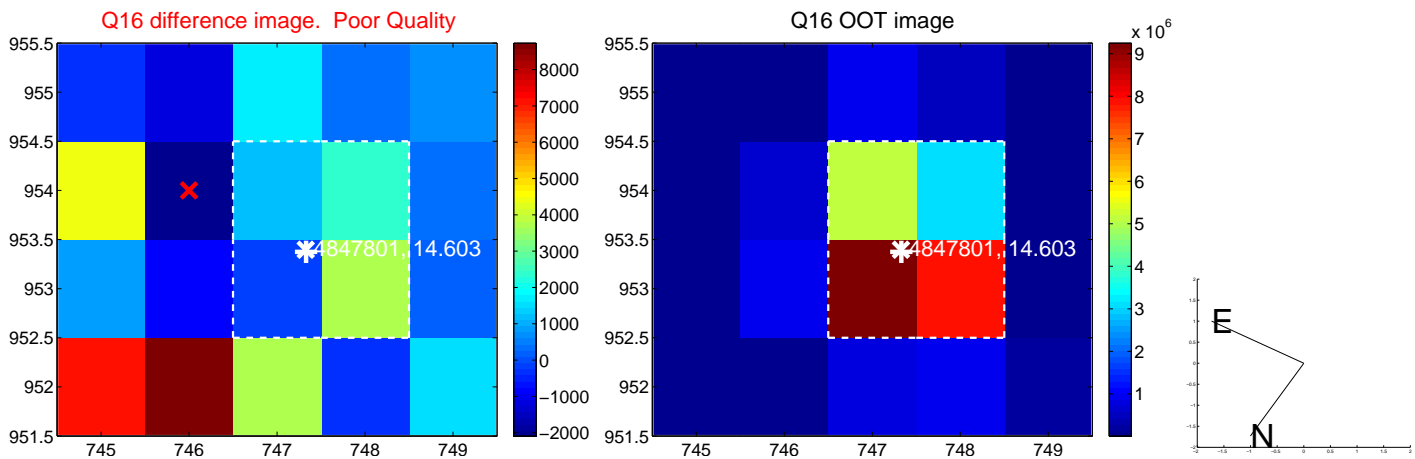
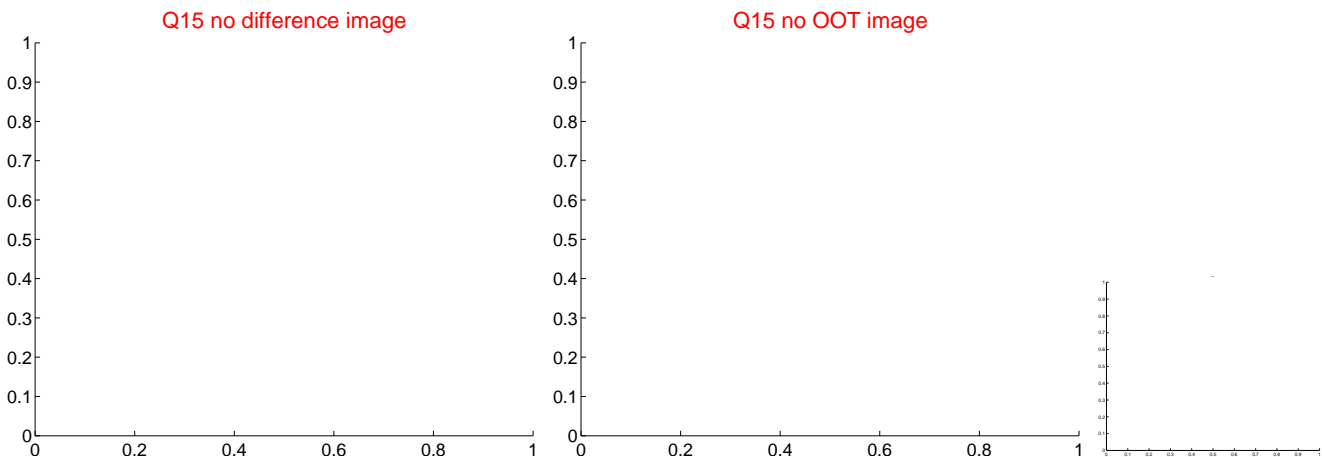
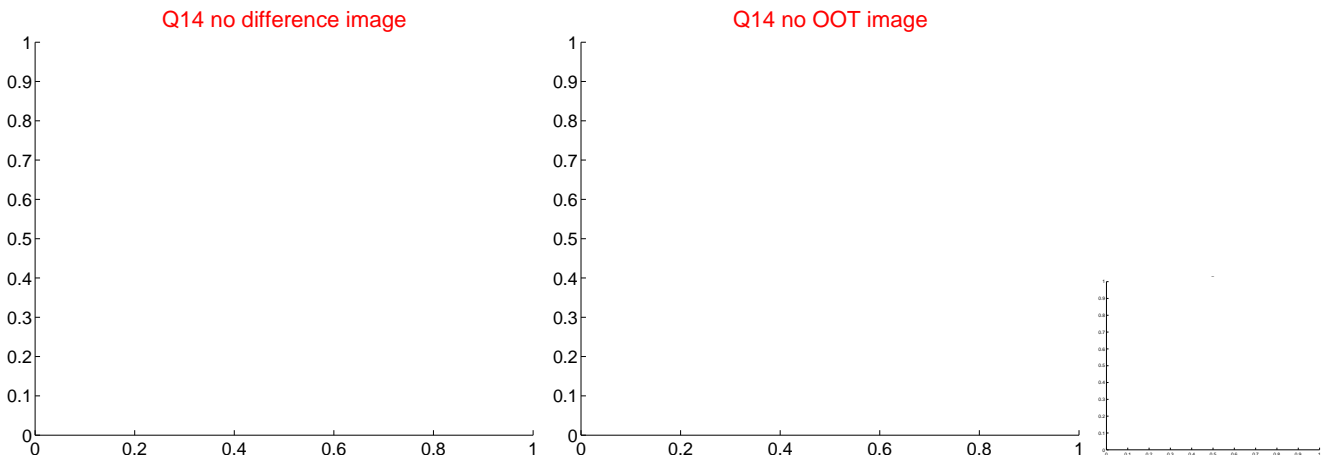
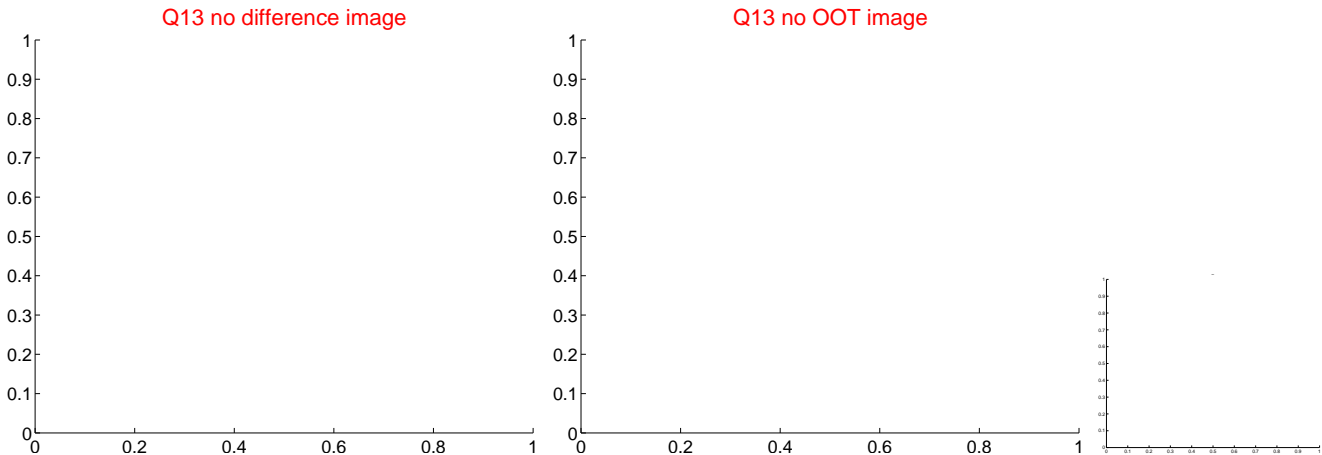
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



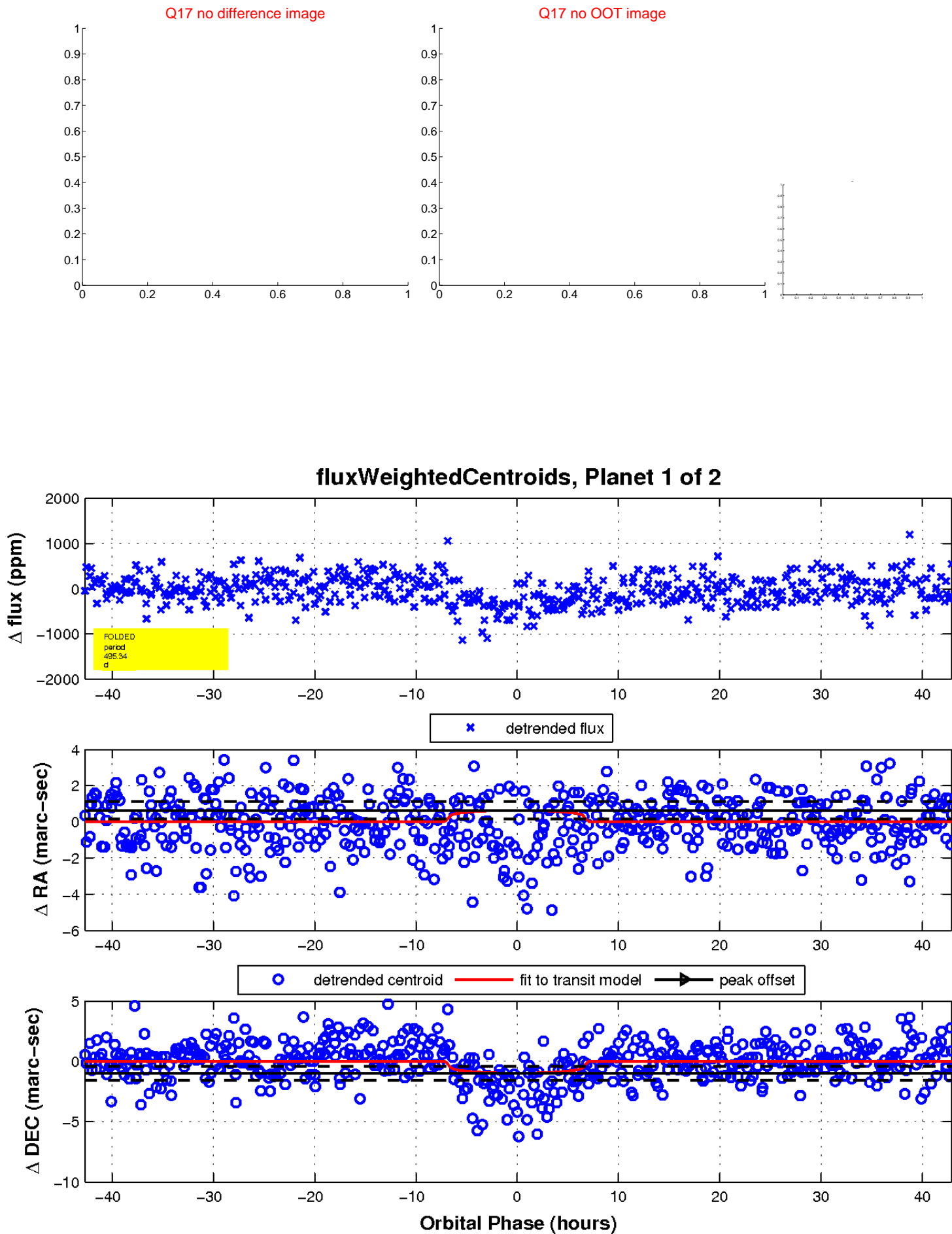
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

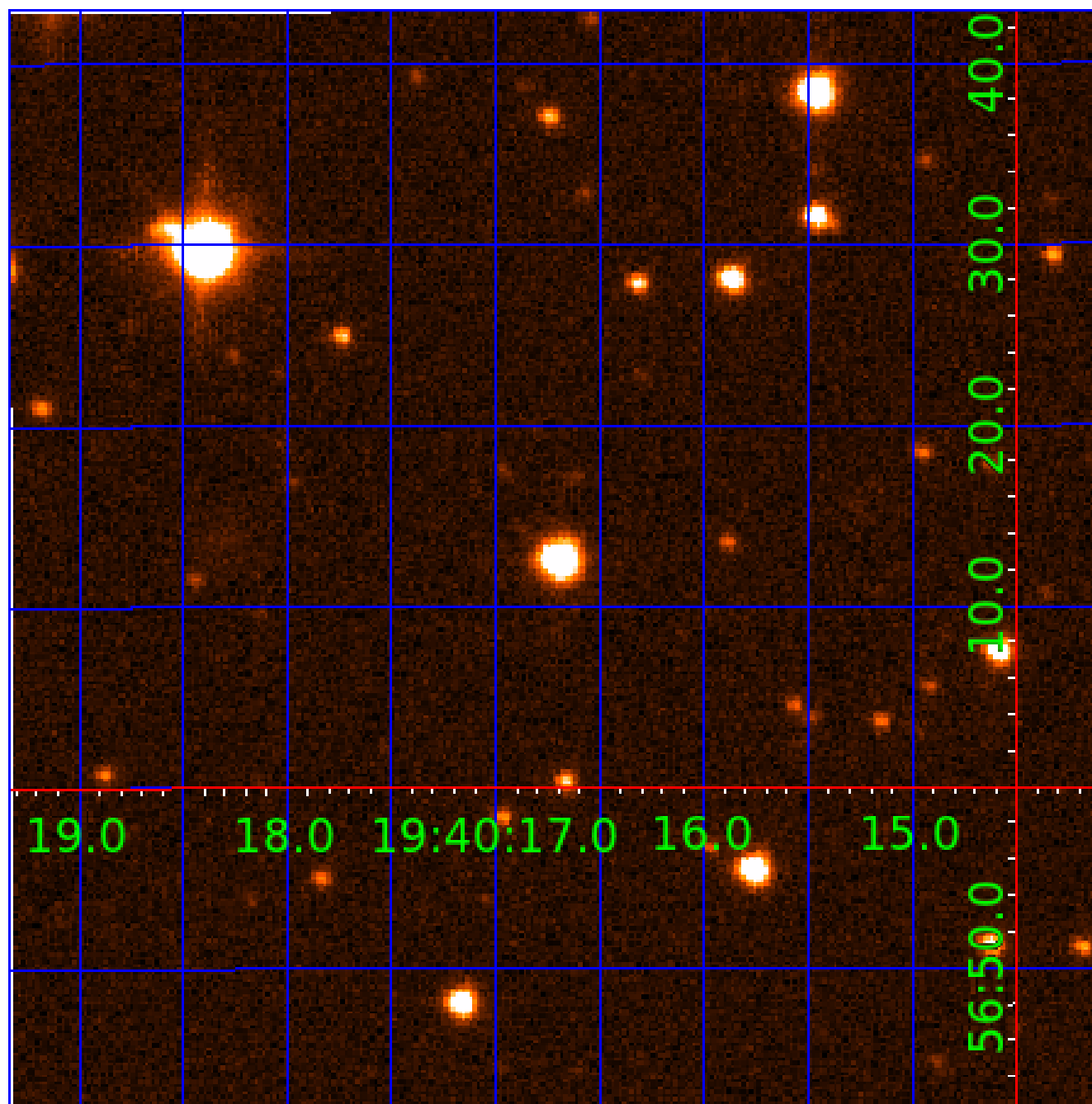


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004847801

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})
004847801-01	OBS	No	495.344898	527.698873	375.3	14.307	9.9	9.4	0.75	5162	1.62	0.27
004847801-02	OBS	8251.01	371.471743	341.964735	255.6	11.863	7.4	7.2	0.75	5162	1.46	0.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004847801-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL—CENT_FEW_DIFFS—HALO_GHOST
004847801-02	OBS	FP	0.00	0	0	1	0	CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

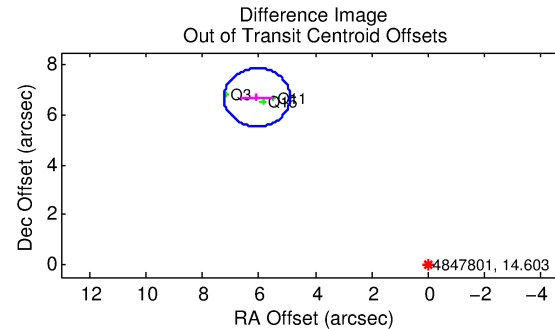
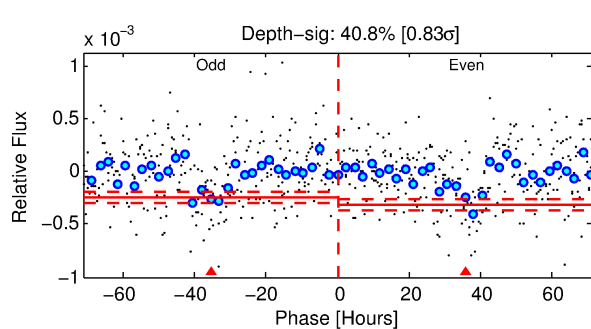
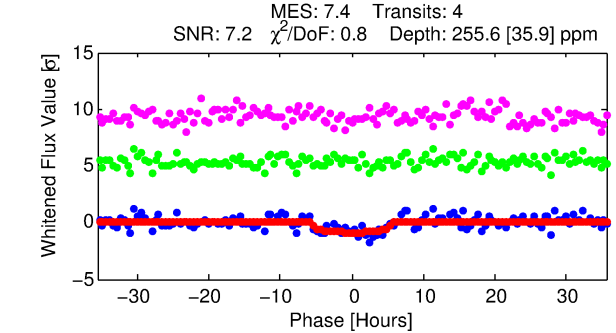
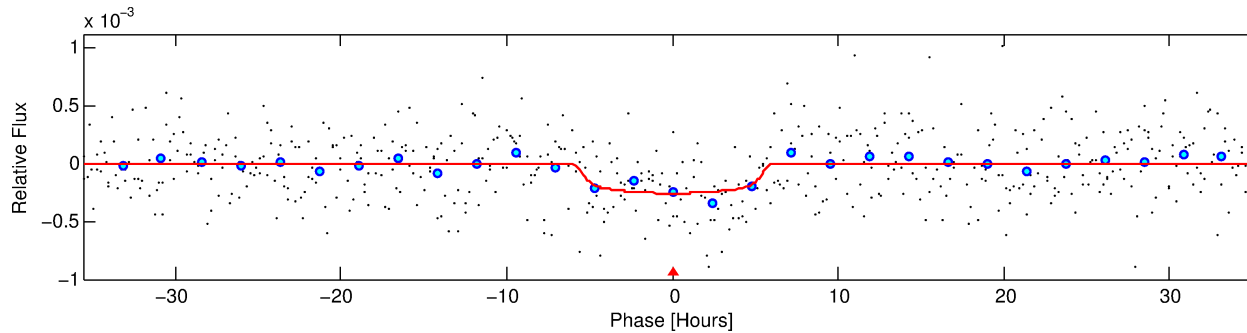
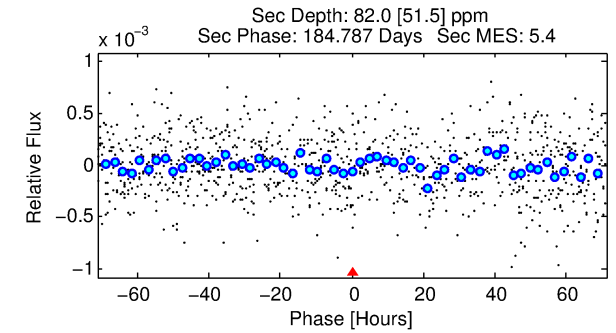
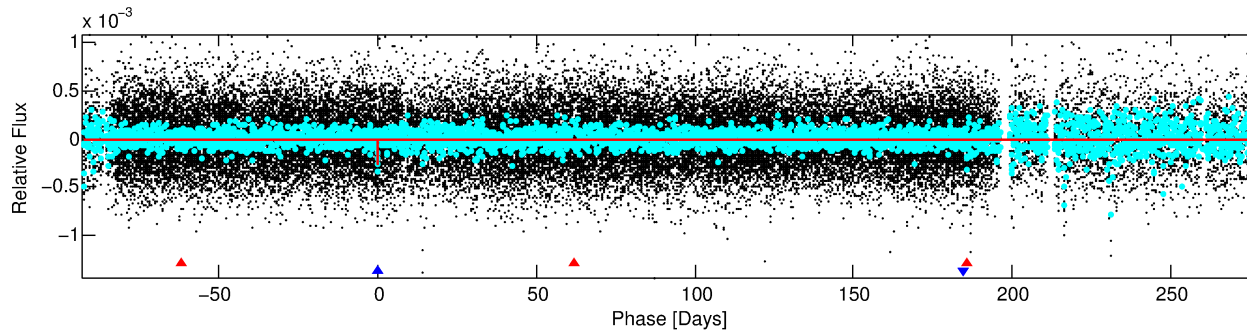
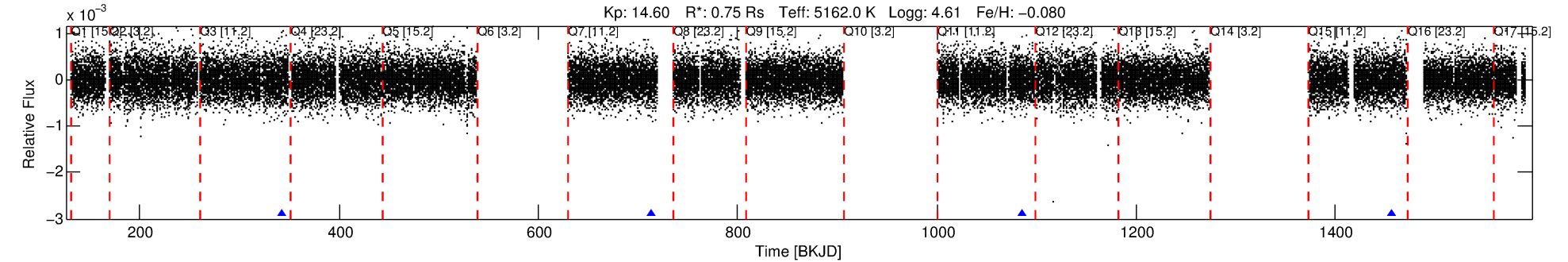
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004847801-02

No Significant Match Found

DV One-Page Summary

KIC: 4847801 Candidate: 2 of 2 Period: 371.472 d



DV Fit Results:

Period = 371.47174 [0.01443] d
Epoch = 341.9647 [0.0270] BKJD
Rp/R* = 0.0177 [0.0046]
a/R* = 114.04 [118.56]
b = 0.90 [0.23]
Seff = 0.40 [0.10]
Teq = 203 [12] K
Rp = 1.46 [0.43] Re
a = 0.9526 [0.1102] AU
Ag = 19295.50 [16063.12] [1.20σ]
Teffp = 3692 [770] K [4.53σ]

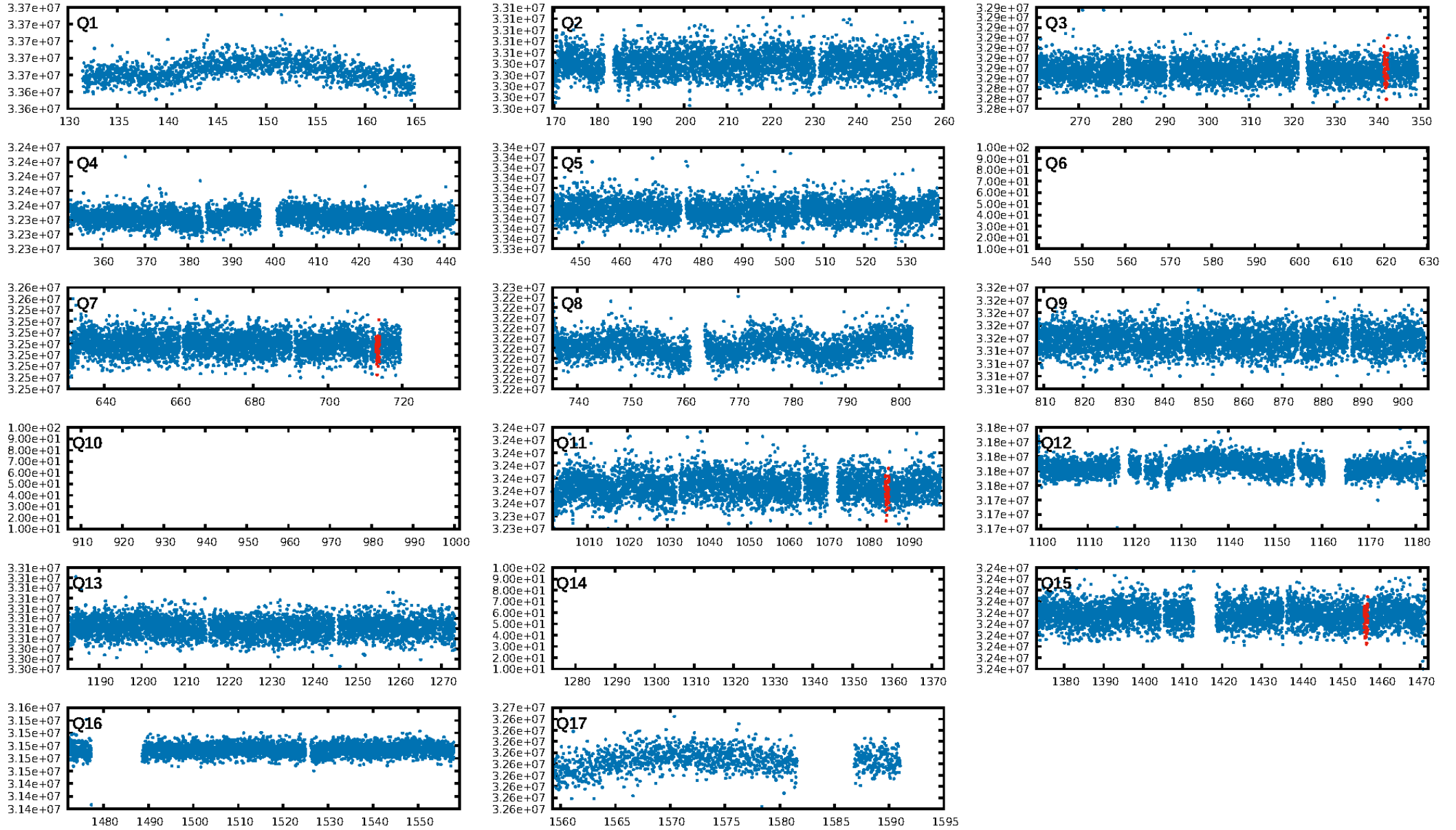
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [159.96σ]
ModelChiSquare2-sig: 60.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.30e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.03784
Centroid-sig: 0.0%
Centroid-so: 6.524 arcsec [3.28σ]
OotOffset-rm: 9.033 arcsec [23.17σ]
KicOffset-rm: 9.004 arcsec [23.24σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

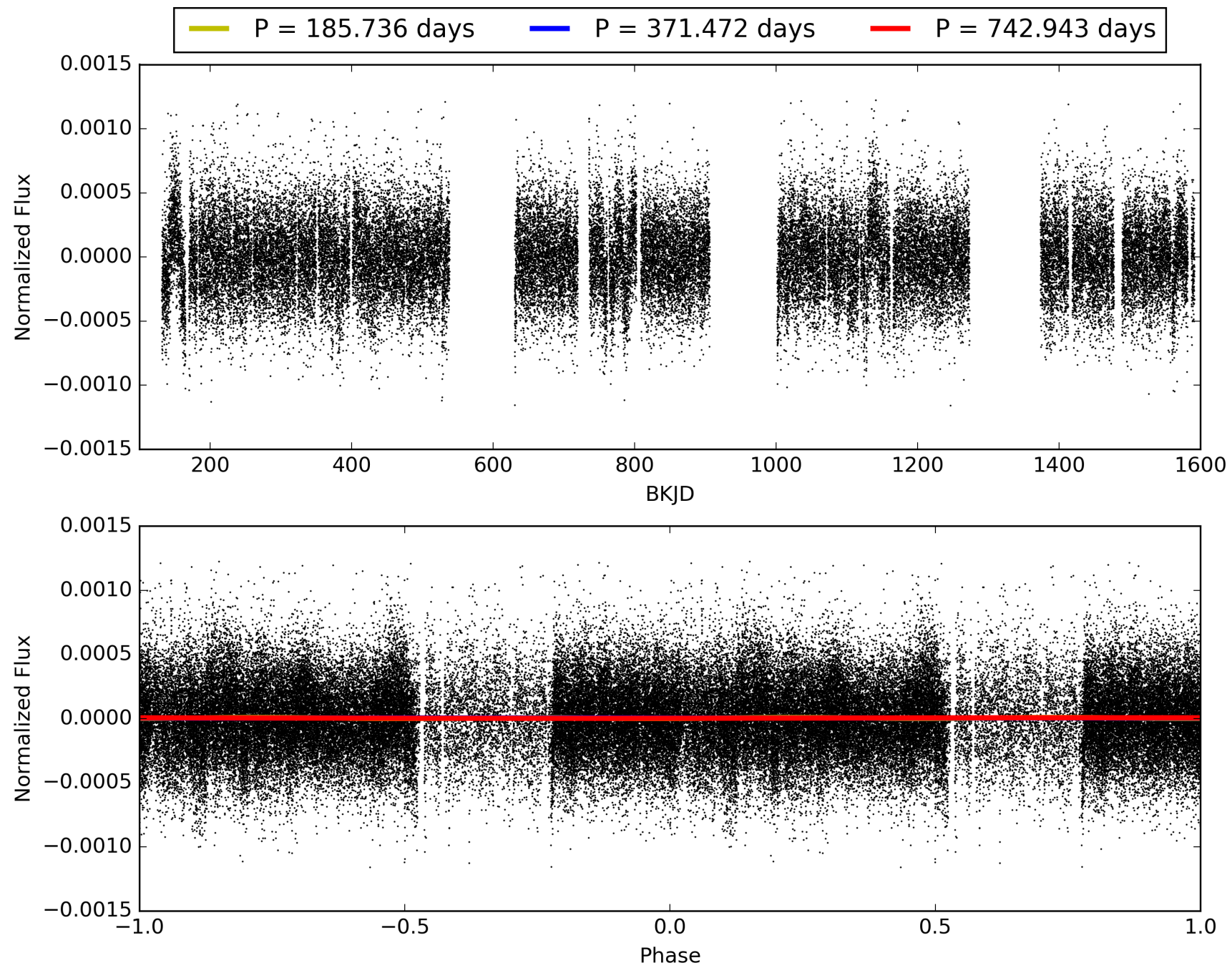
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:51:10 Z

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

TCE 004847801-02, PDC Light Curves

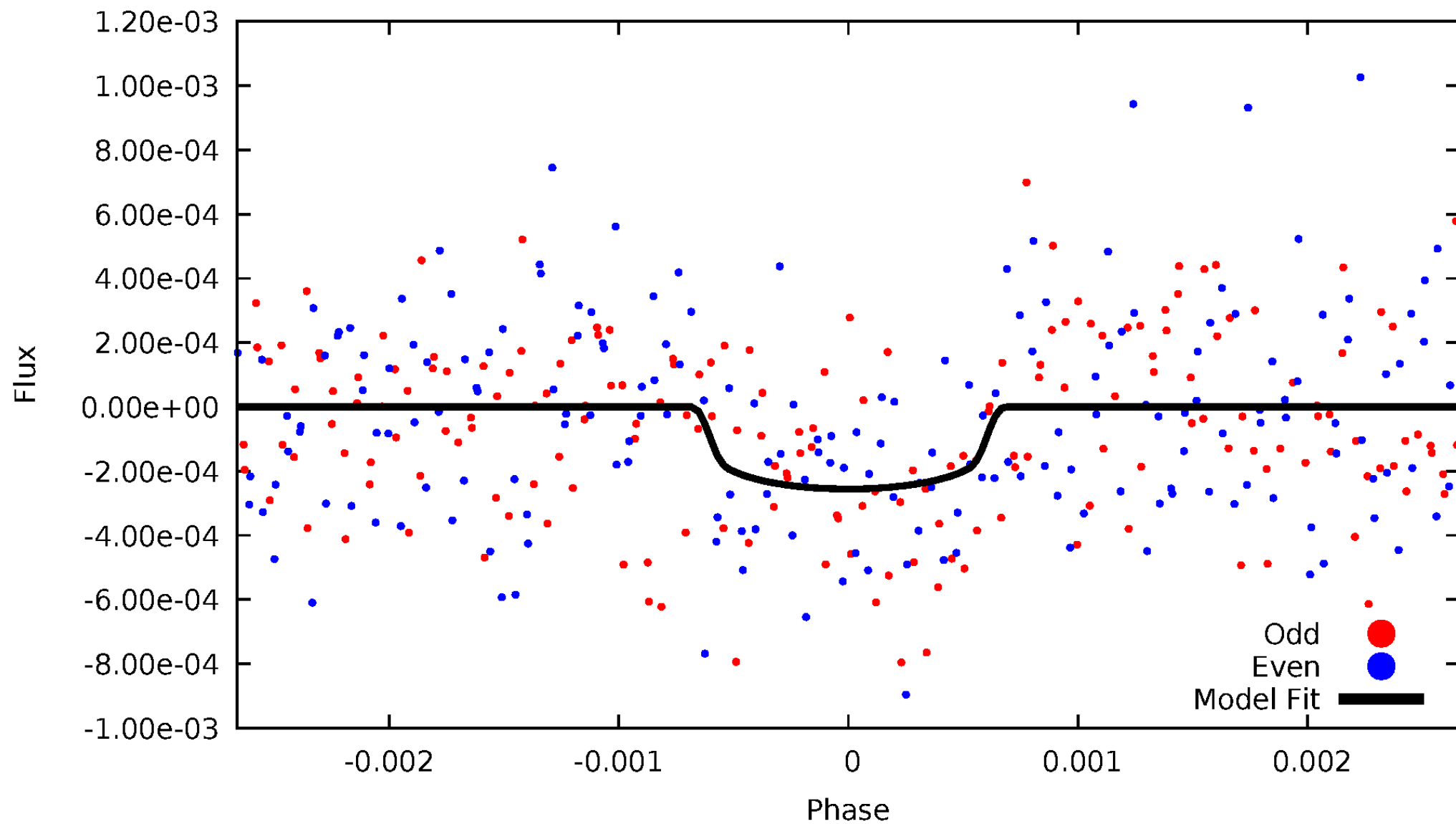


TCE 004847801-02



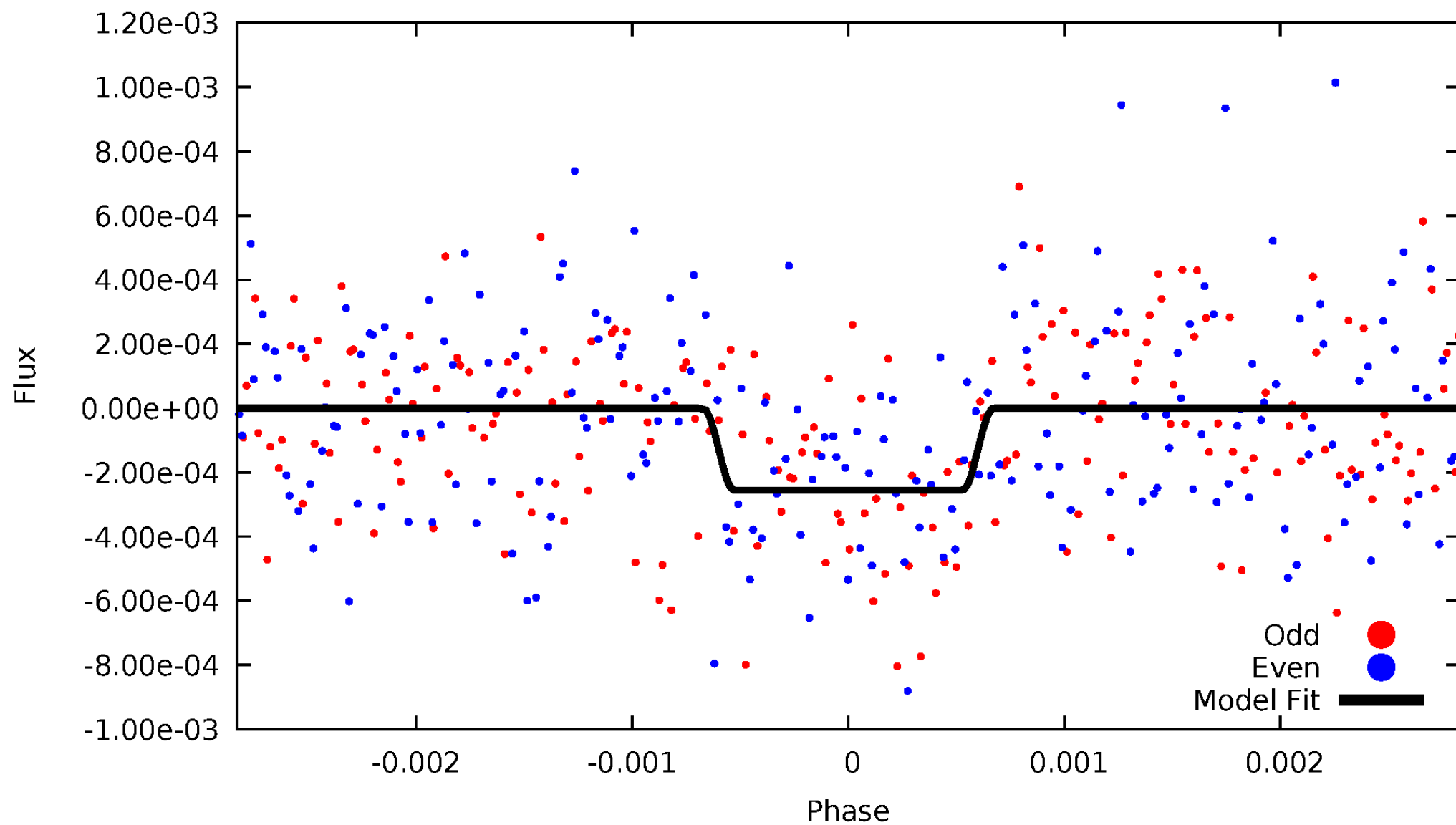
DV Odd/Even

TCE 004847801-02



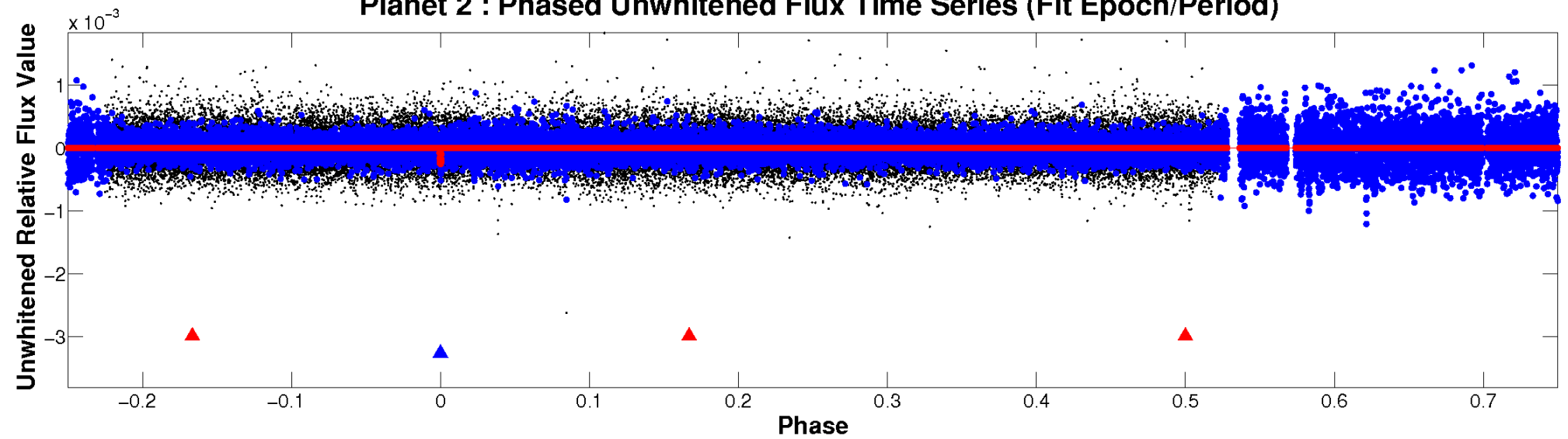
ALT Odd/Even

TCE 004847801-02

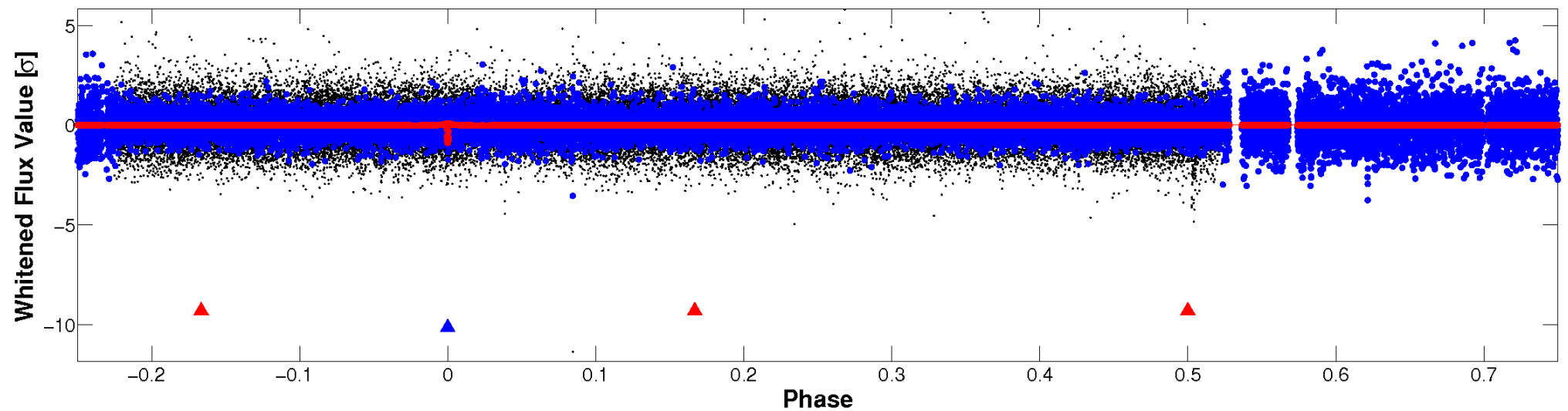


Non-Whitened Vs. Whitened Light Curve

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

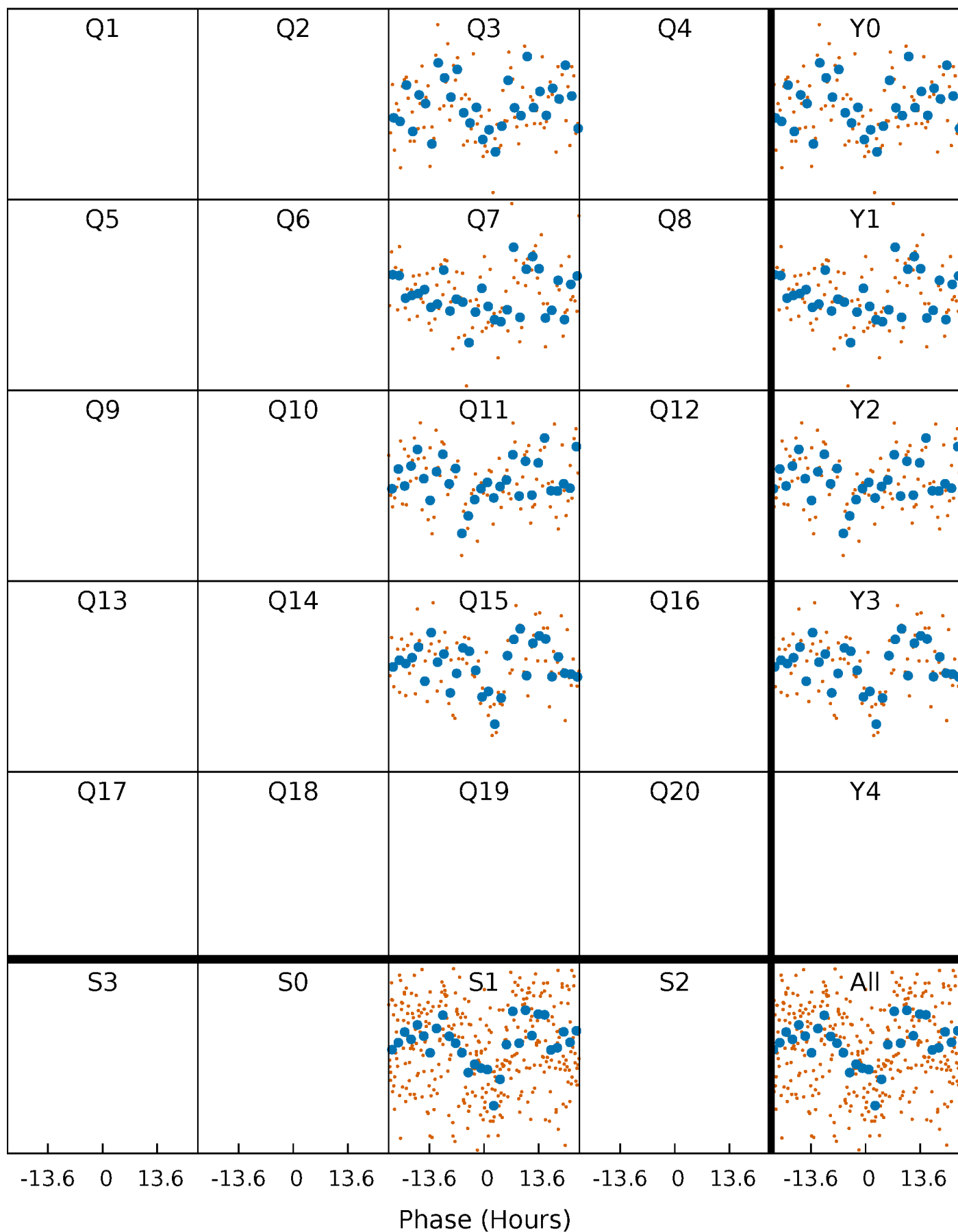


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



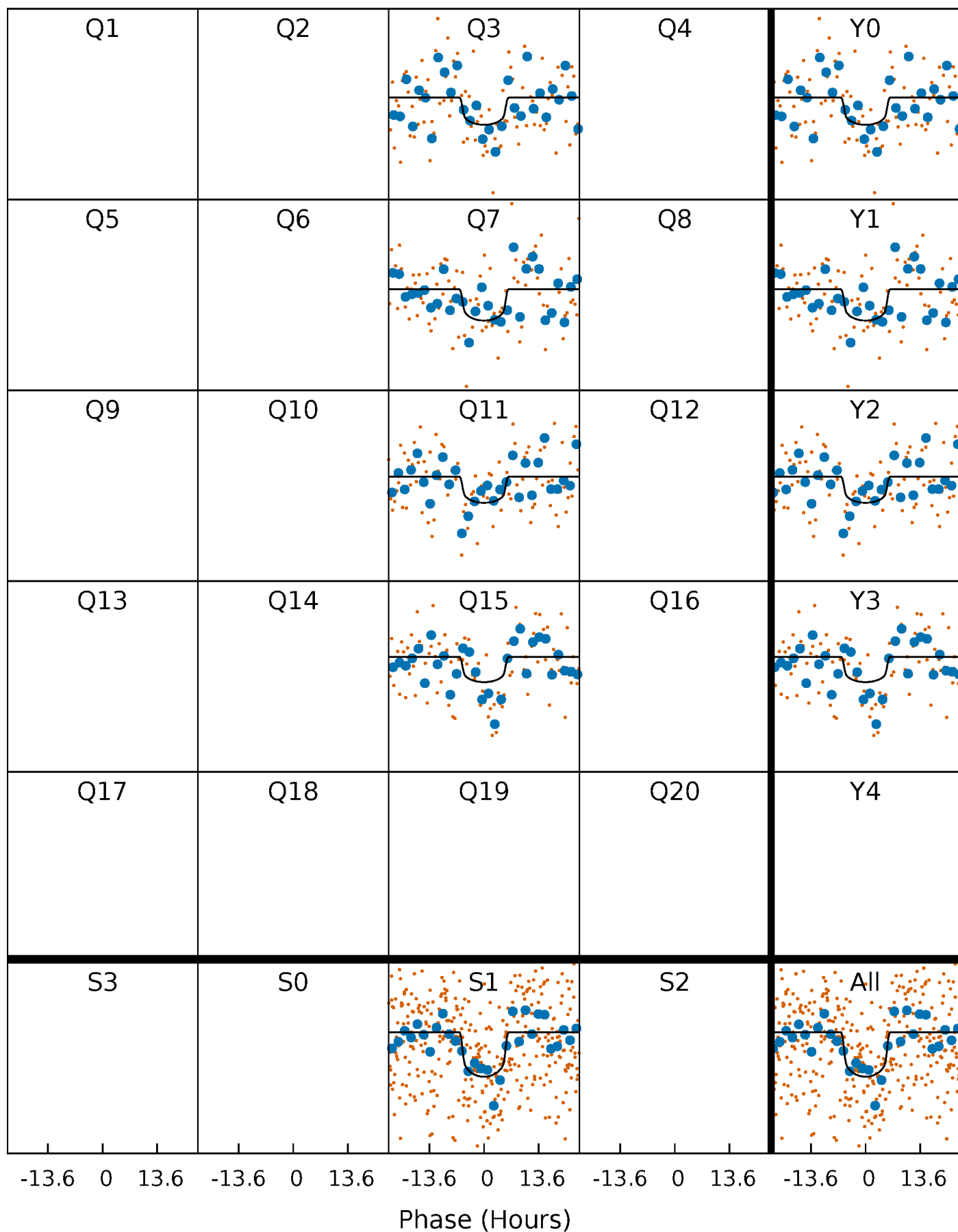
PDC Quarter-Phased Transit Curves

TCE 004847801-02 $P=371.471743$ Days $T_0=341.964735$ (BKJD)



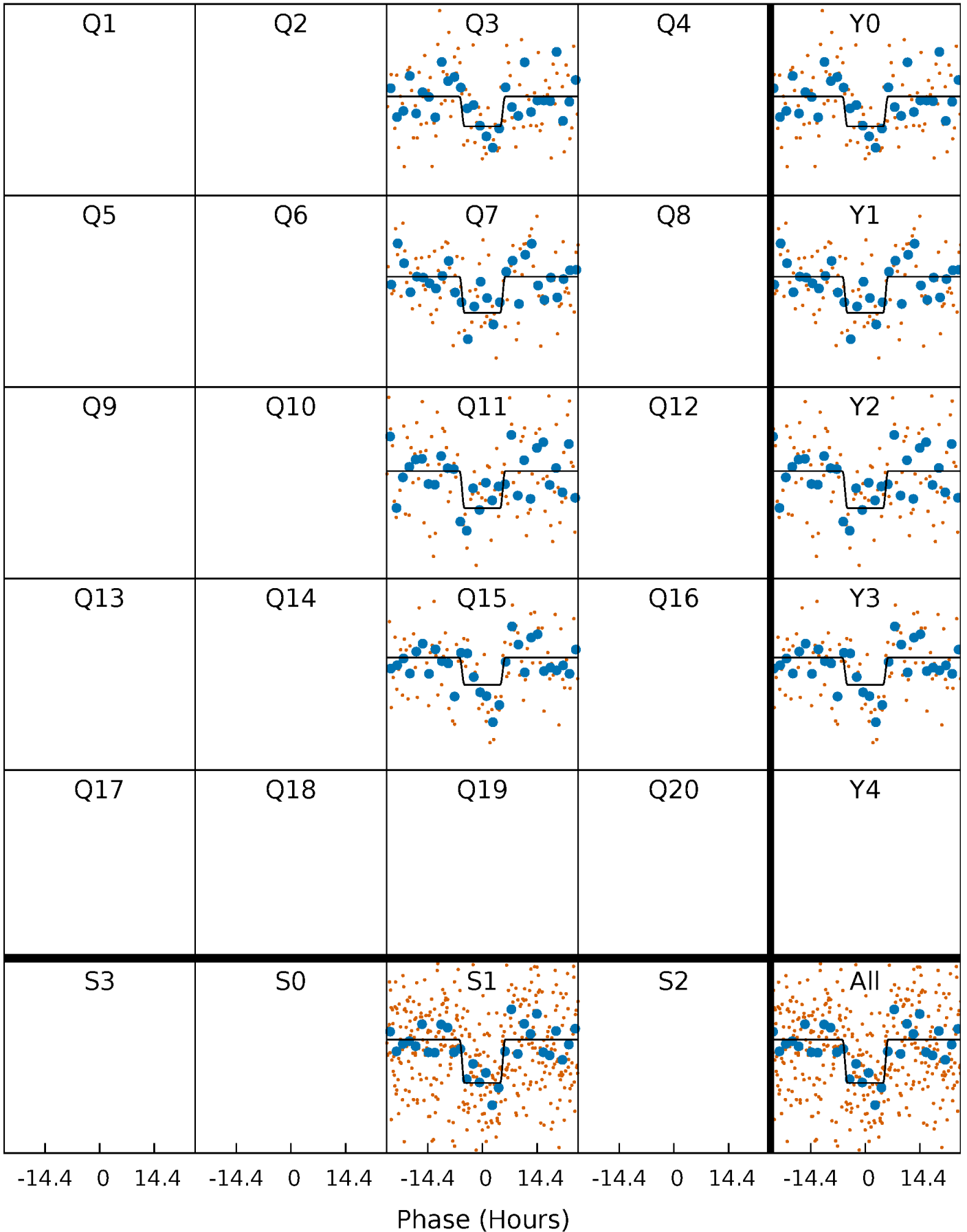
DV Quarter-Phased Transit Curves

TCE 004847801-02 $P=371.471743$ Days $T_0=341.964735$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

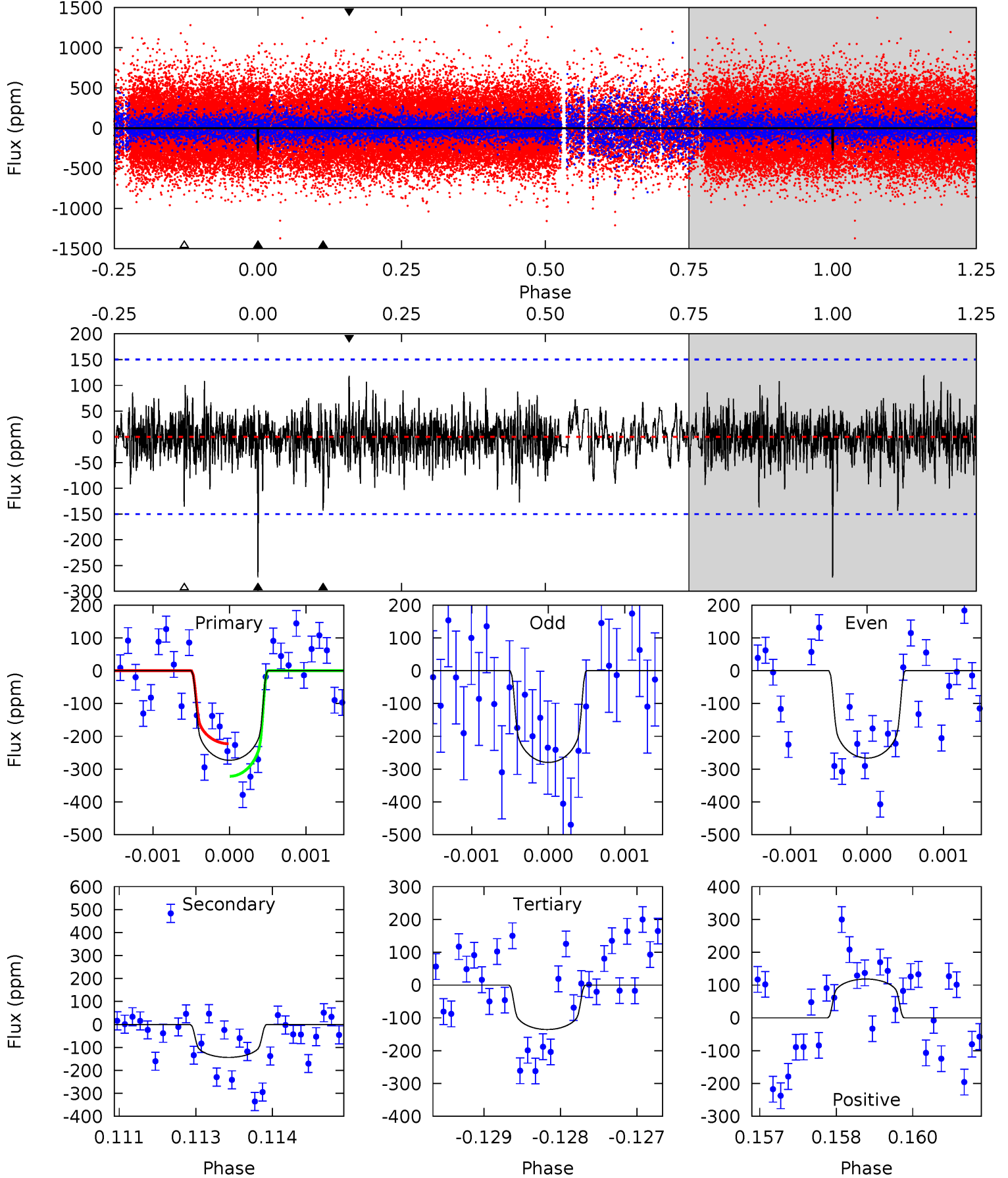
TCE 004847801-02 $P=371.475310$ Days $T_0=341.956046$ (BKJD)



DV Model-Shift Uniqueness Test

004847801-02, P = 371.471743 Days, E = 341.964735 Days

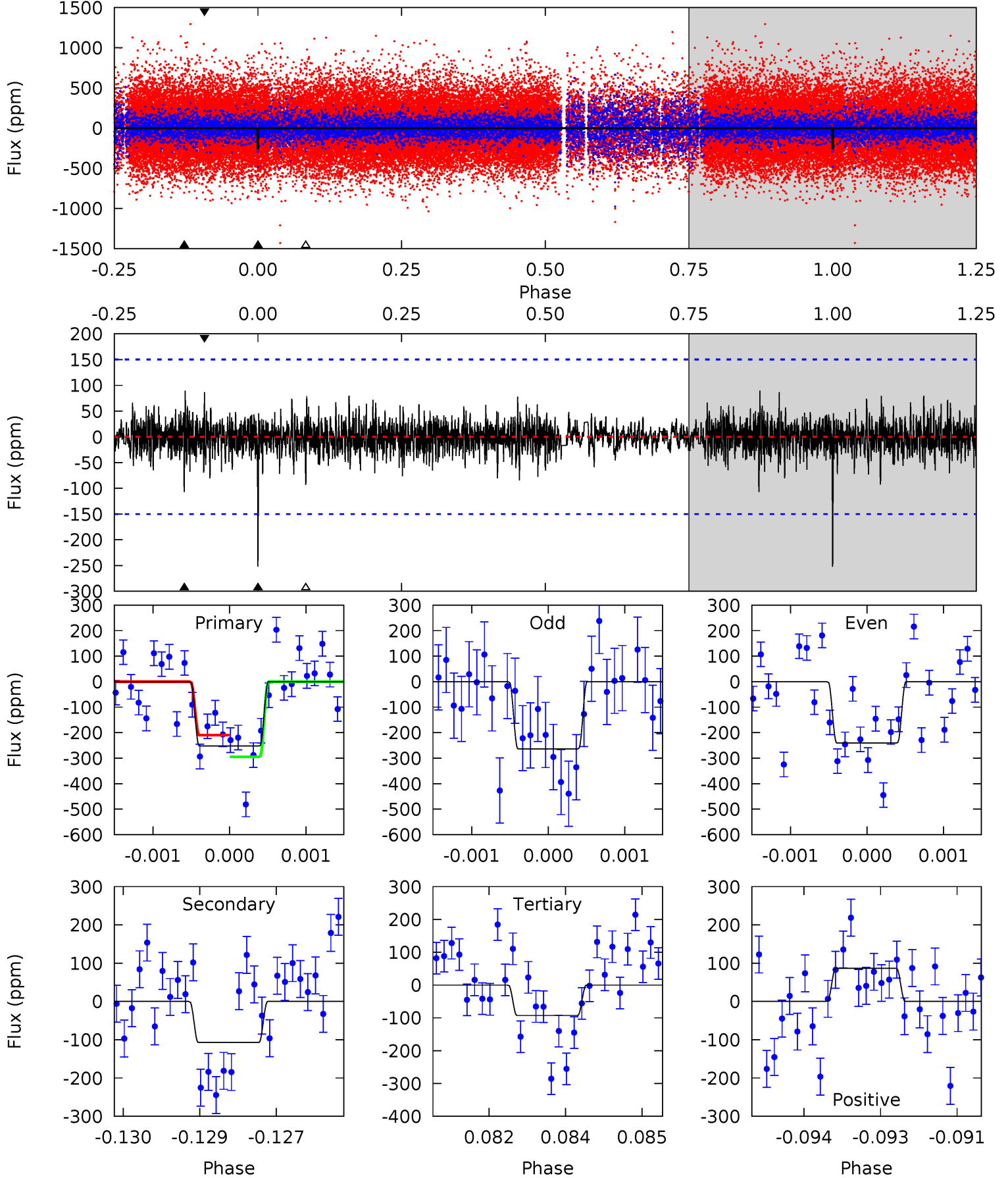
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.80	5.16	4.87	4.25	5.39	3.20	1.14	4.94	5.55	0.29	0.91	0.24	1.02	0.30	1.78



Alt Model-Shift Uniqueness Test

004847801-02, $P = 371.475310$ Days, $E = 341.956046$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.07	3.86	3.34	3.12	5.40	3.21	0.82	5.73	5.95	0.51	0.73	0.41	1.03	0.26	1.52



Stellar Parameters For KIC 004847801

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5162^{+225}_{-204}	$4.605^{+0.030}_{-0.090}$	$-0.080^{+0.300}_{-0.300}$	$0.754^{+0.105}_{-0.065}$	$0.845^{+0.065}_{-0.098}$	$2.781^{+0.451}_{-0.771}$
	+4%/-4%	+1%/-2%	+375%/-375%	+14%/-9%	+8%/-12%	+16%/-28%
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 004847801-02 / KOI 8251.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-144 ± 28	$1.49^{+0.43}_{-0.38}$	287^{+14}_{-14}	4406^{+610}_{-459}	31418^{+27076}_{-13298}
Alt.	-107 ± 28	$1.37^{+0.36}_{-0.39}$	287^{+15}_{-14}	4312^{+682}_{-453}	28477^{+27990}_{-12347}

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

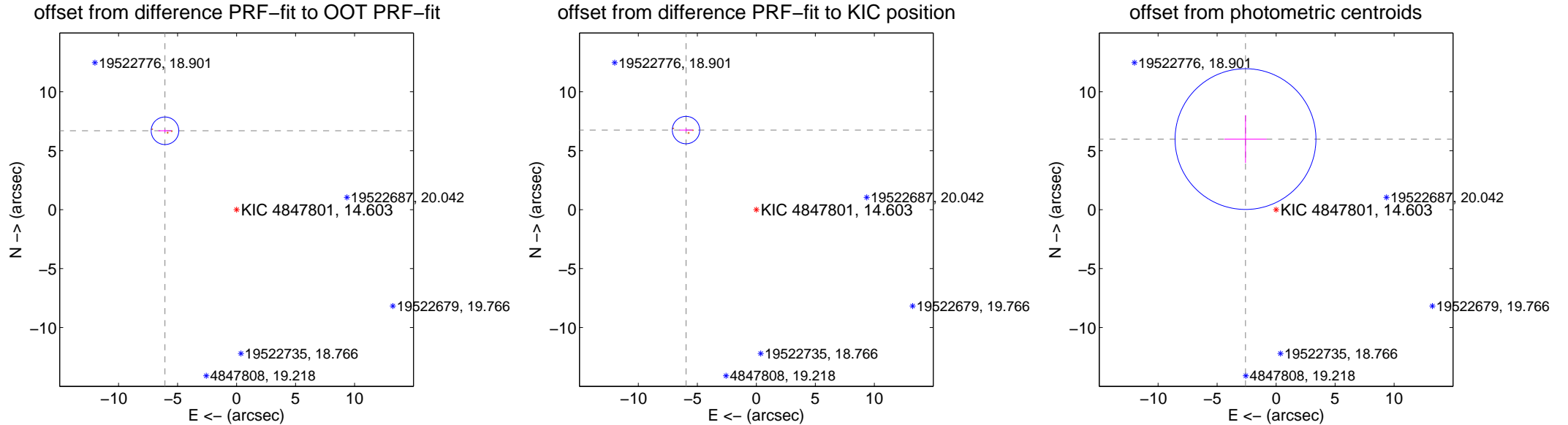
DV Centroid Data

Supplemental centroid analysis for 004847801-02. Kepler magnitude: 14.60. Transit SNR 7.17

There are 0 quarters with good PRF difference image offsets

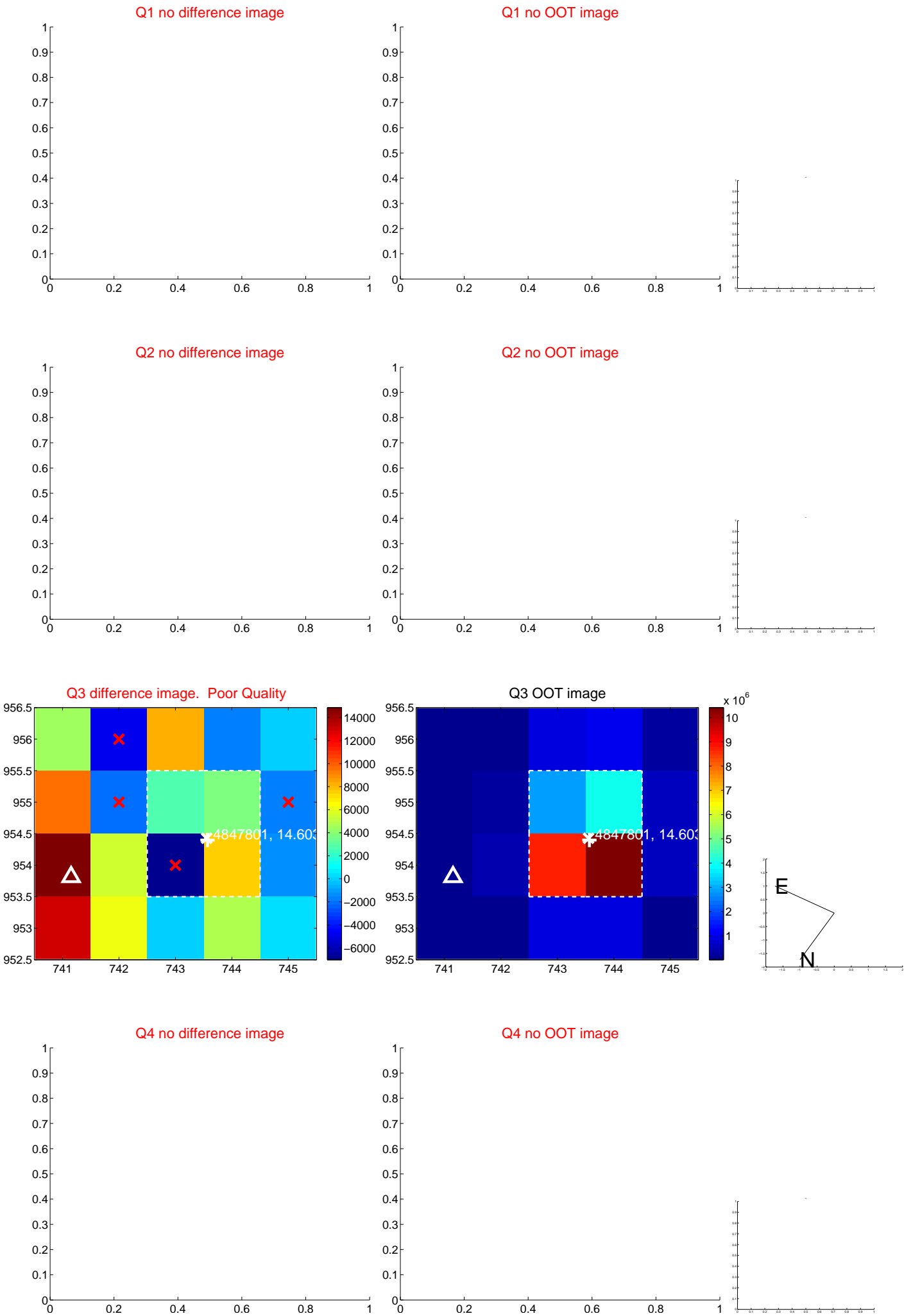
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.033 ± 0.390	23.17	6.067 ± 0.567	6.692 ± 0.114
PRF-fit source offset from KIC position	9.004 ± 0.387	23.24	5.959 ± 0.567	6.751 ± 0.129
photometric centroid source offset	6.52 ± 1.99	3.28	2.59 ± 1.79	5.99 ± 2.03



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.

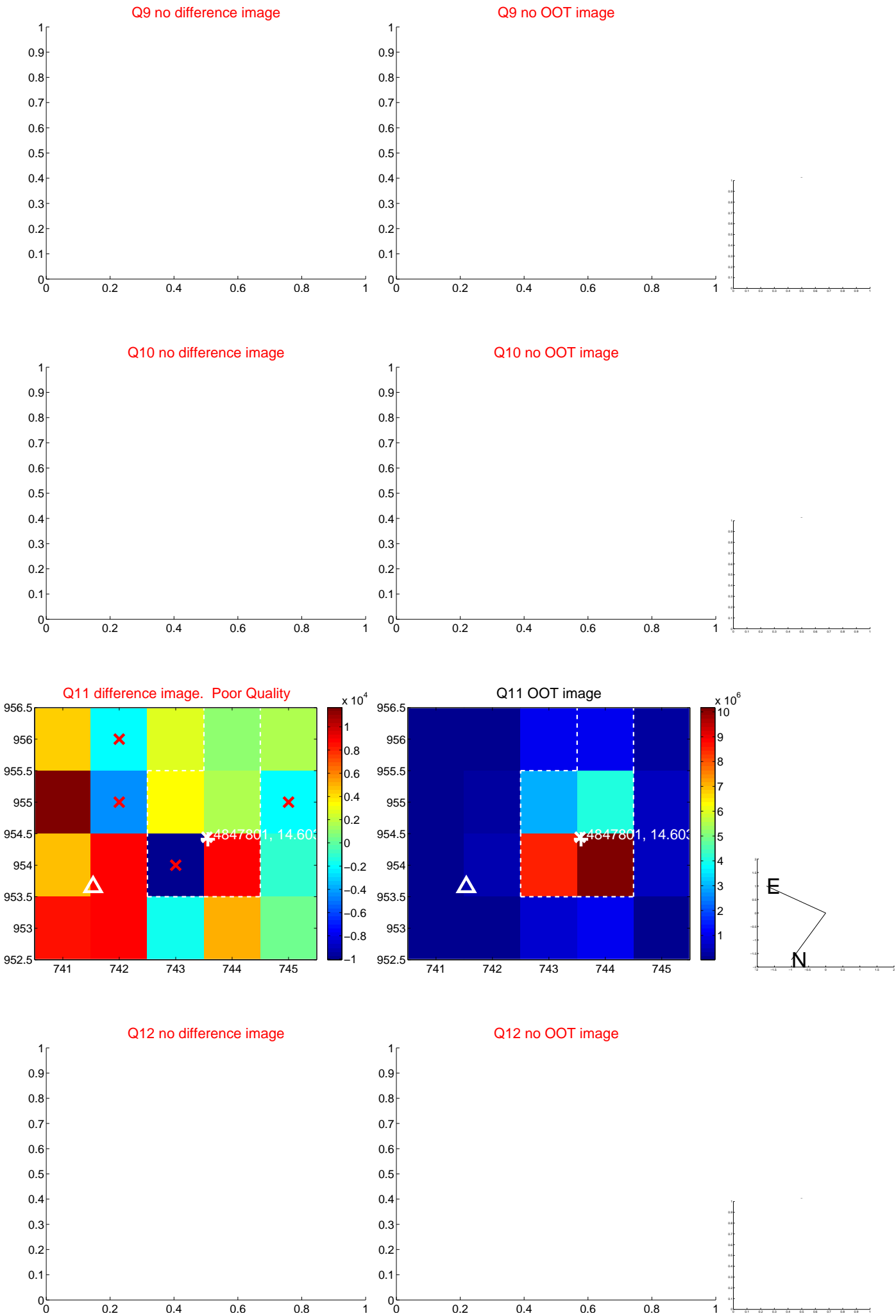
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



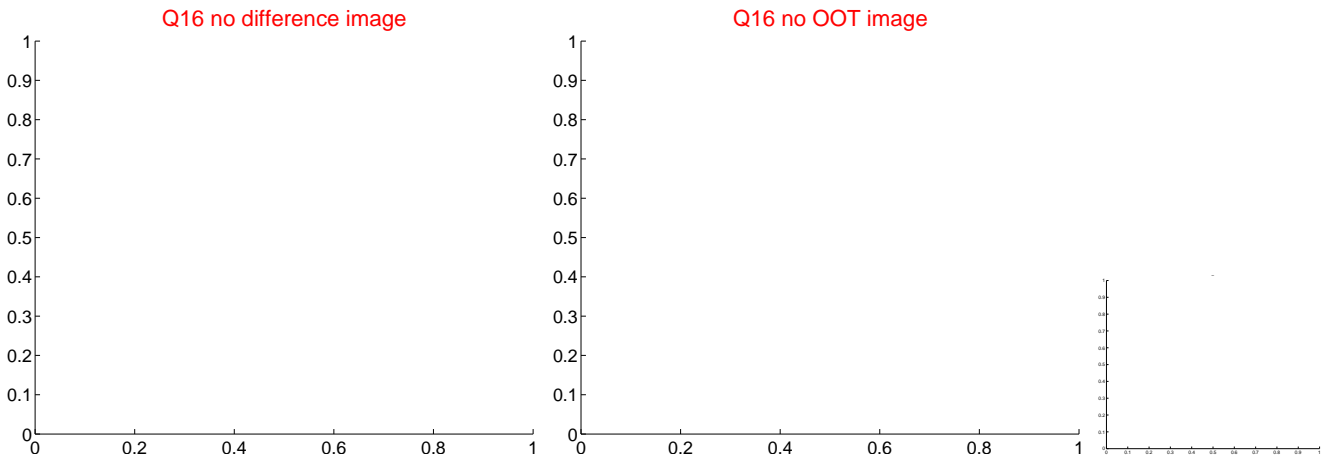
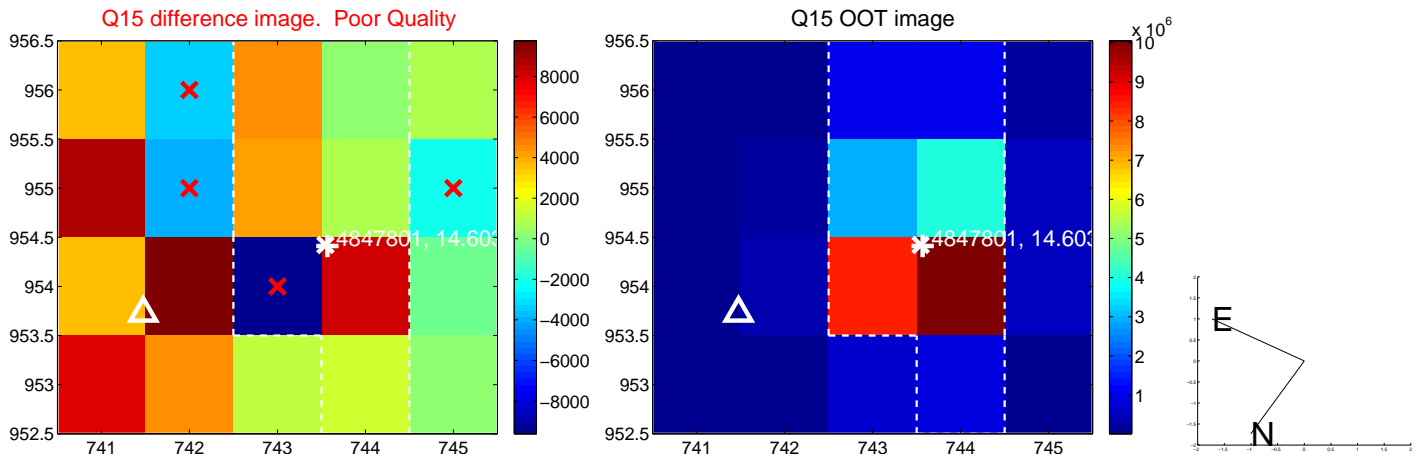
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



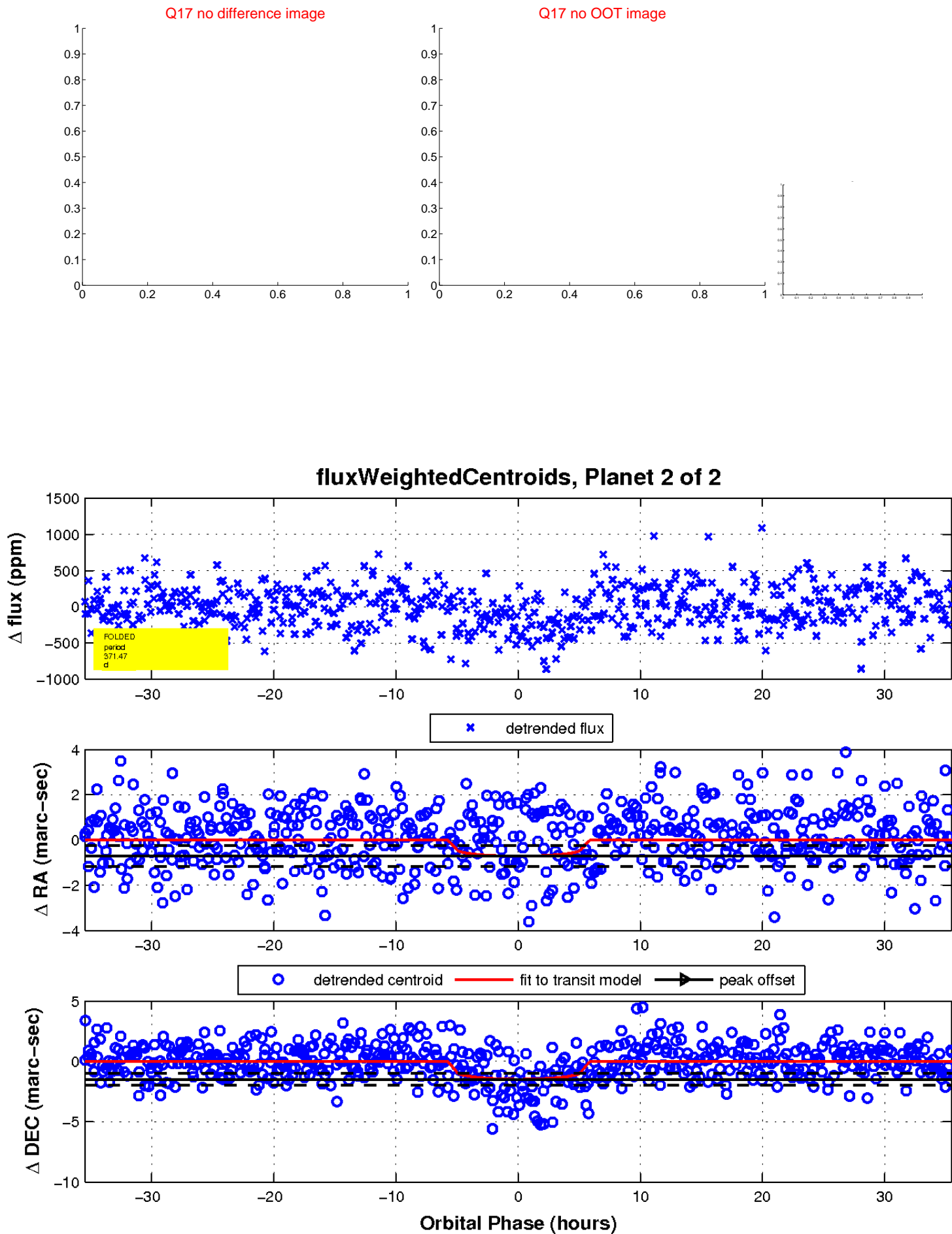
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

