

KIC 003847839

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})
003847839-01	OBS	No	503.087293	179.097912	330.6	13.771	7.8	7.6	1.14	6418	2.23	1.16
003847839-02	OBS	No	2.075996	131.634289	21.2	6.143	7.3	6.5	1.14	6418	0.61	1748.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003847839-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003847839-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

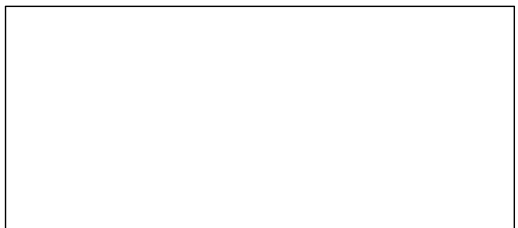
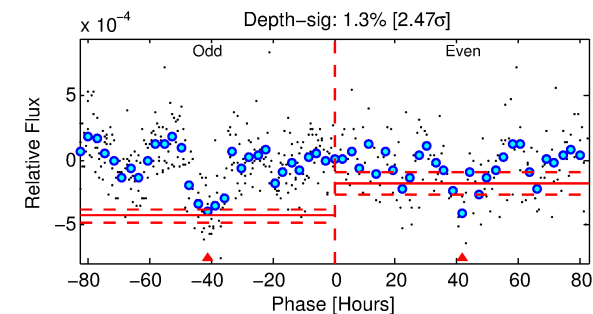
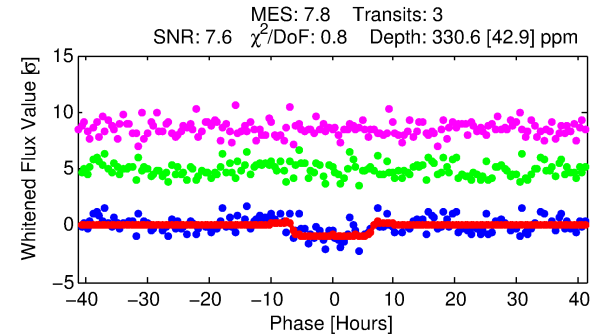
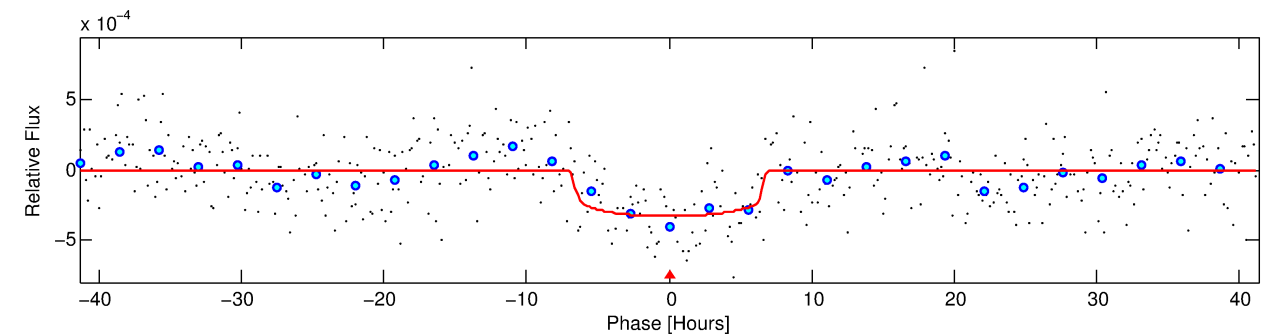
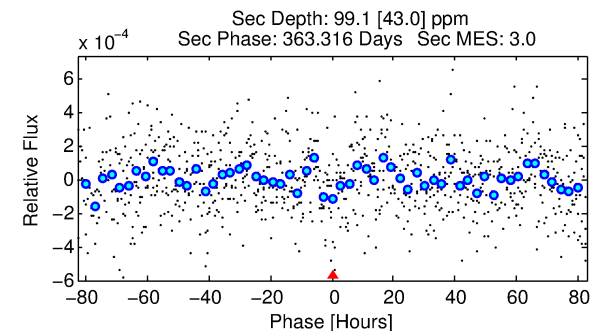
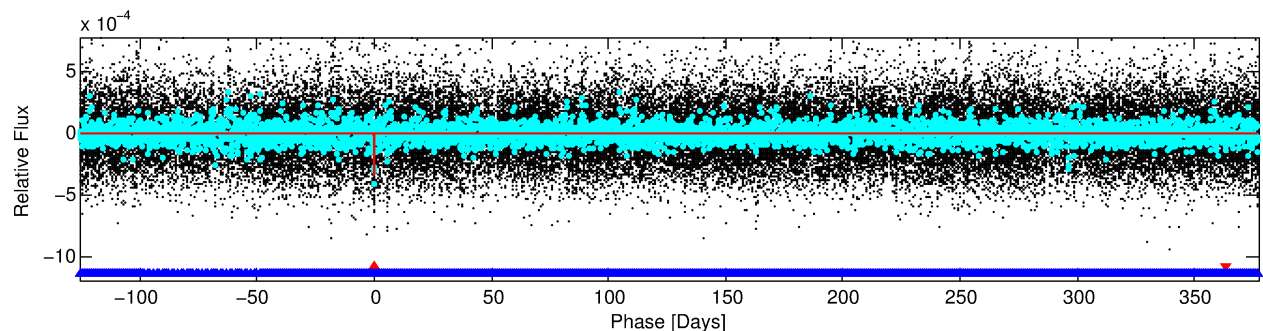
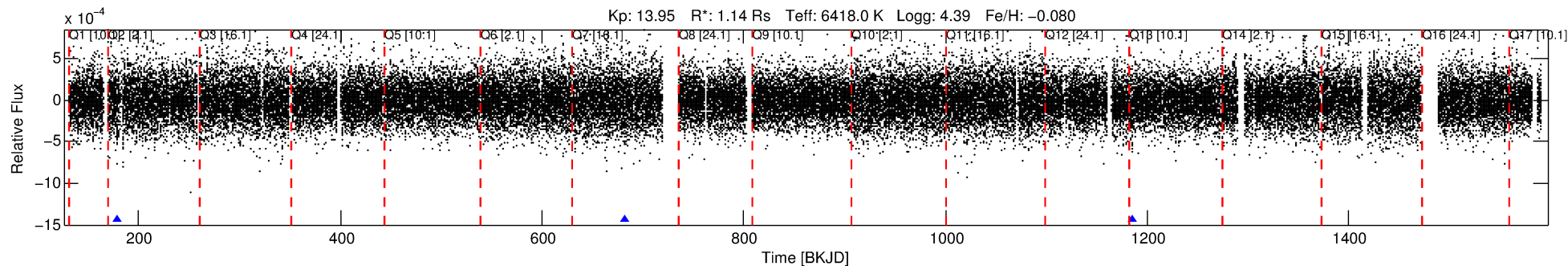
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003847839-01

No Significant Match Found

DV One-Page Summary

KIC: 3847839 Candidate: 1 of 2 Period: 503.087 d



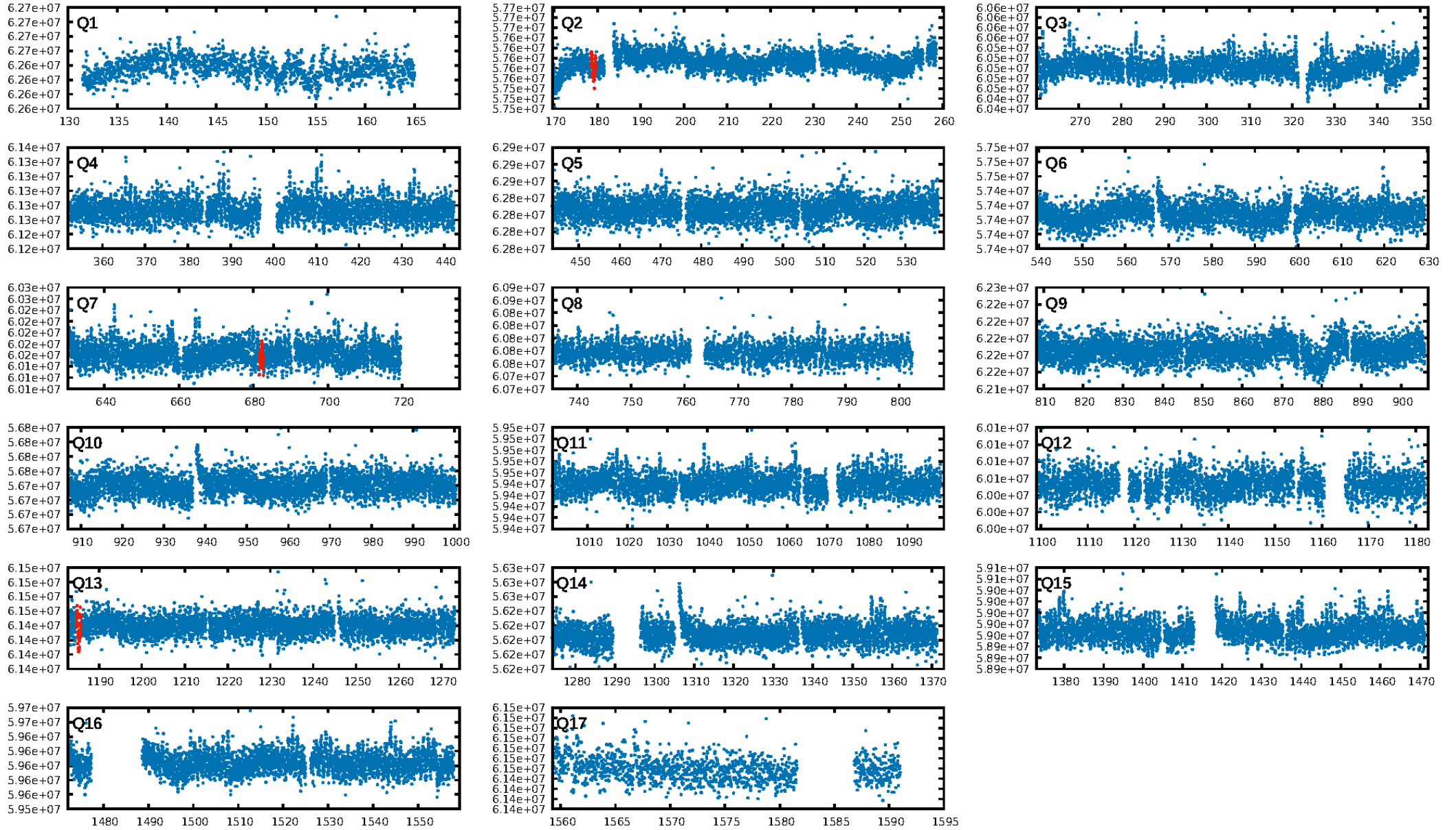
DV Fit Results:

Period = 503.08729 [0.01135] d
Epoch = 179.0979 [0.0145] BKJD
Rp/R* = 0.0179 [0.0050]
a/R* = 199.90 [285.39]
b = 0.72 [0.95]
Seff = 1.16 [0.50]
Teq = 264 [28] K
Rp = 2.23 [0.97] Re
a = 1.3056 [0.3634] AU
Ag = 18691.55 [15200.70] [1.23 σ]
Teffp = 4781 [865] K [5.2 σ]

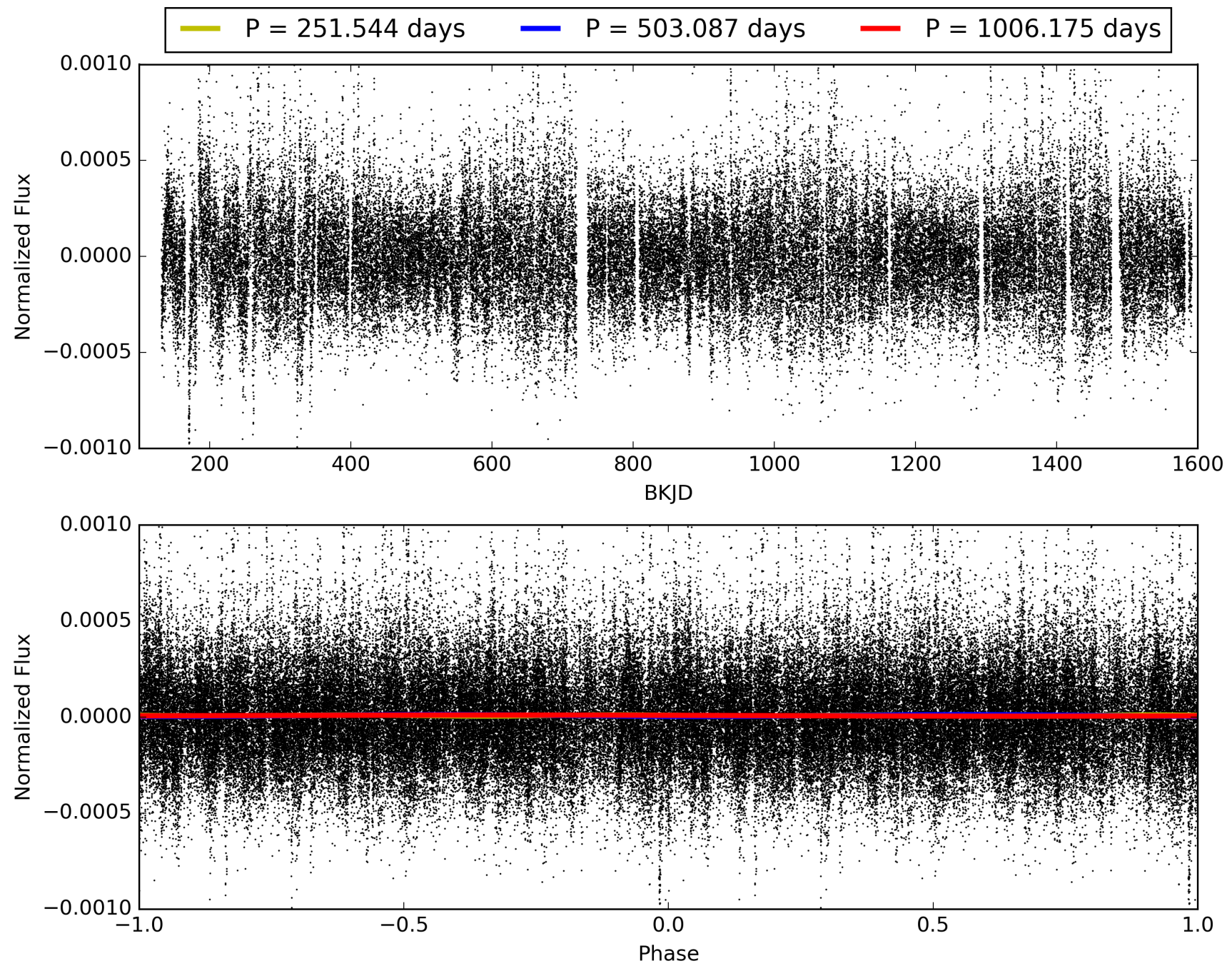
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [797.41 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.70e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.189
Centroid-sig: 85.7%
Centroid-so: 1.058 arcsec [0.40 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/2]

TCE 003847839-01, PDC Light Curves

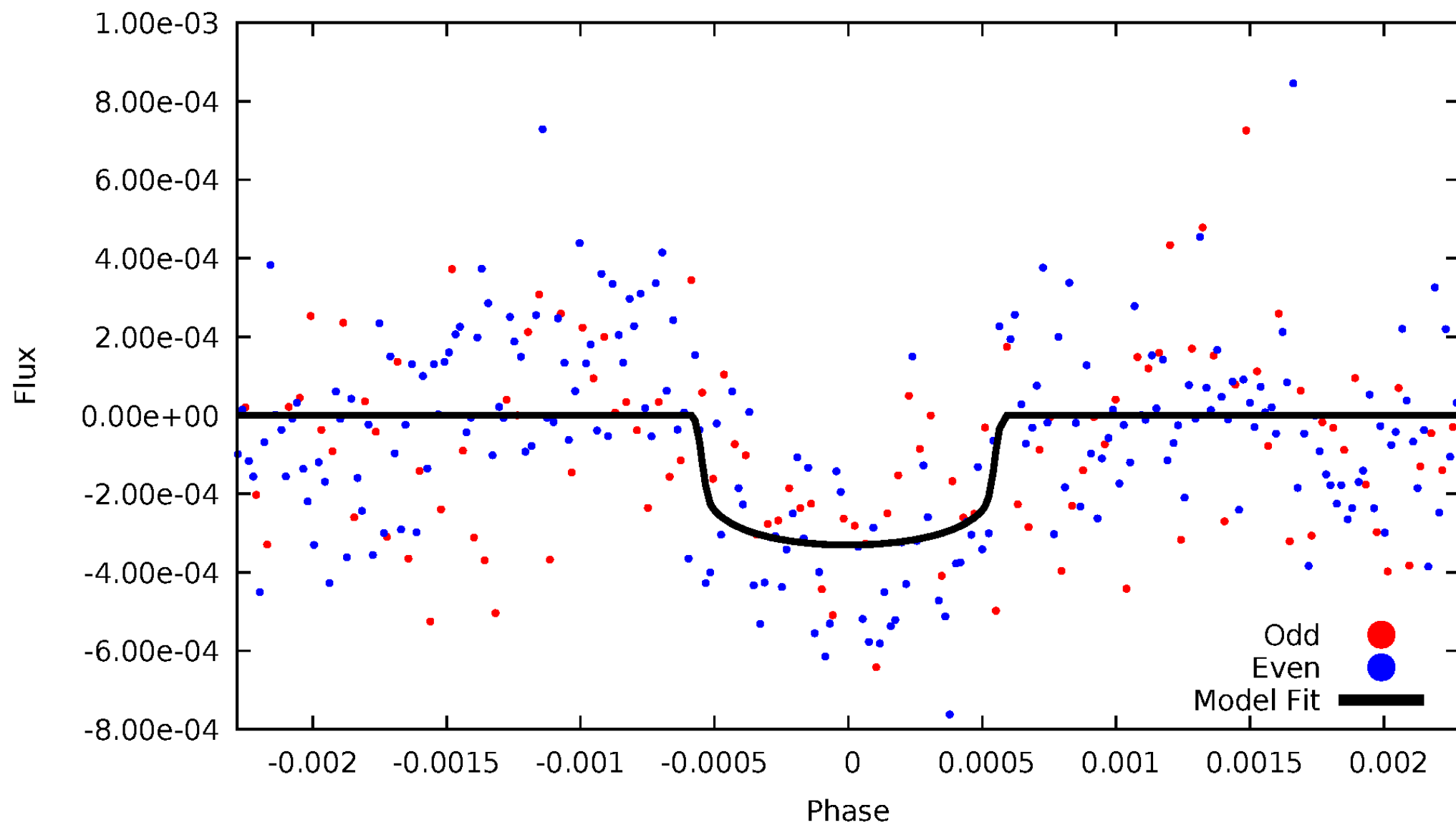


TCE 003847839-01



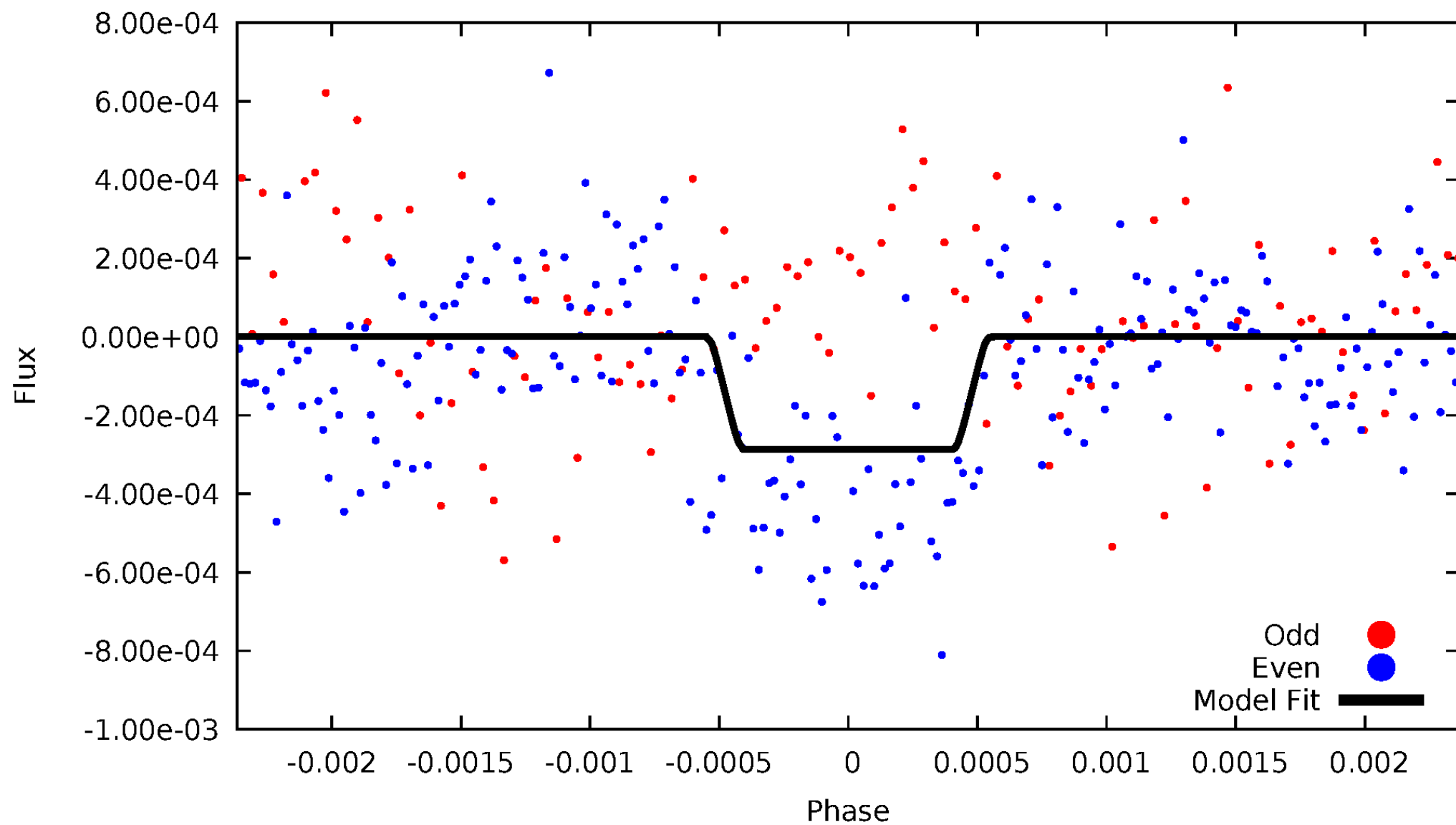
DV Odd/Even

TCE 003847839-01



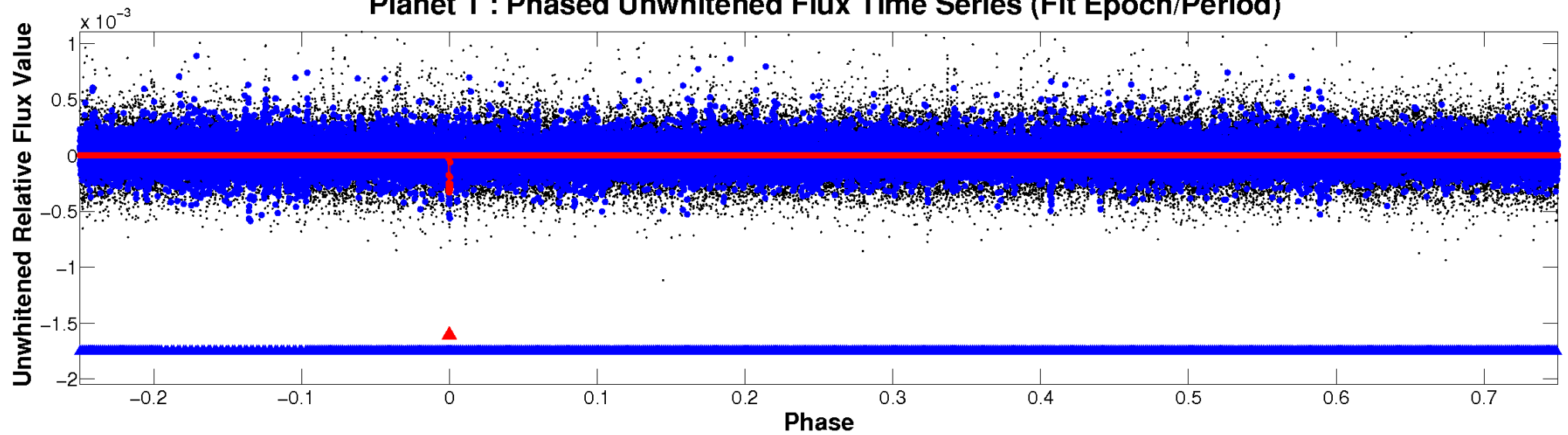
ALT Odd/Even

TCE 003847839-01

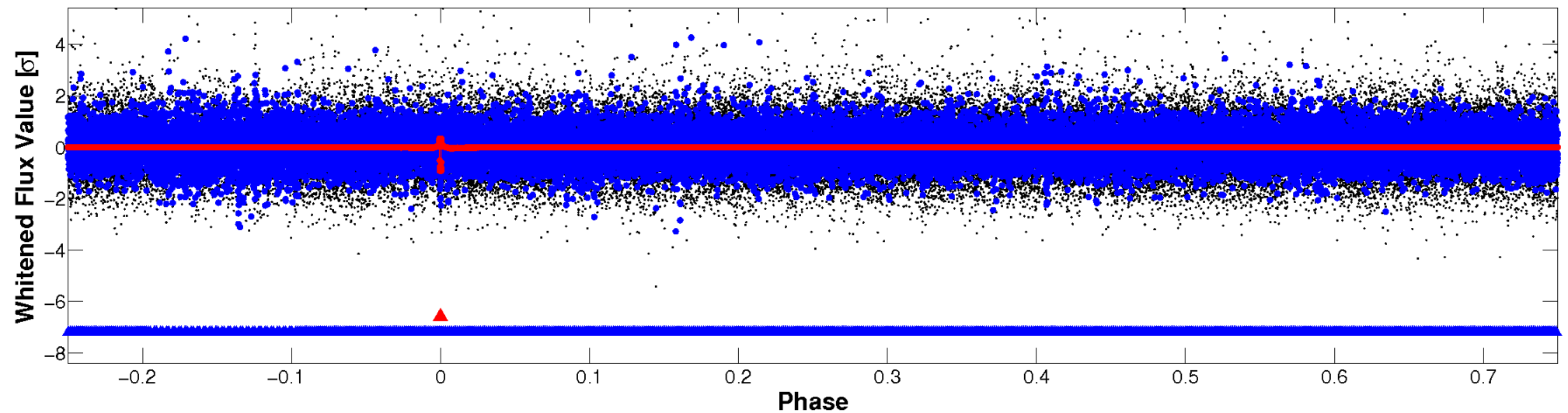


Non-Whitened Vs. Whitened Light Curve

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

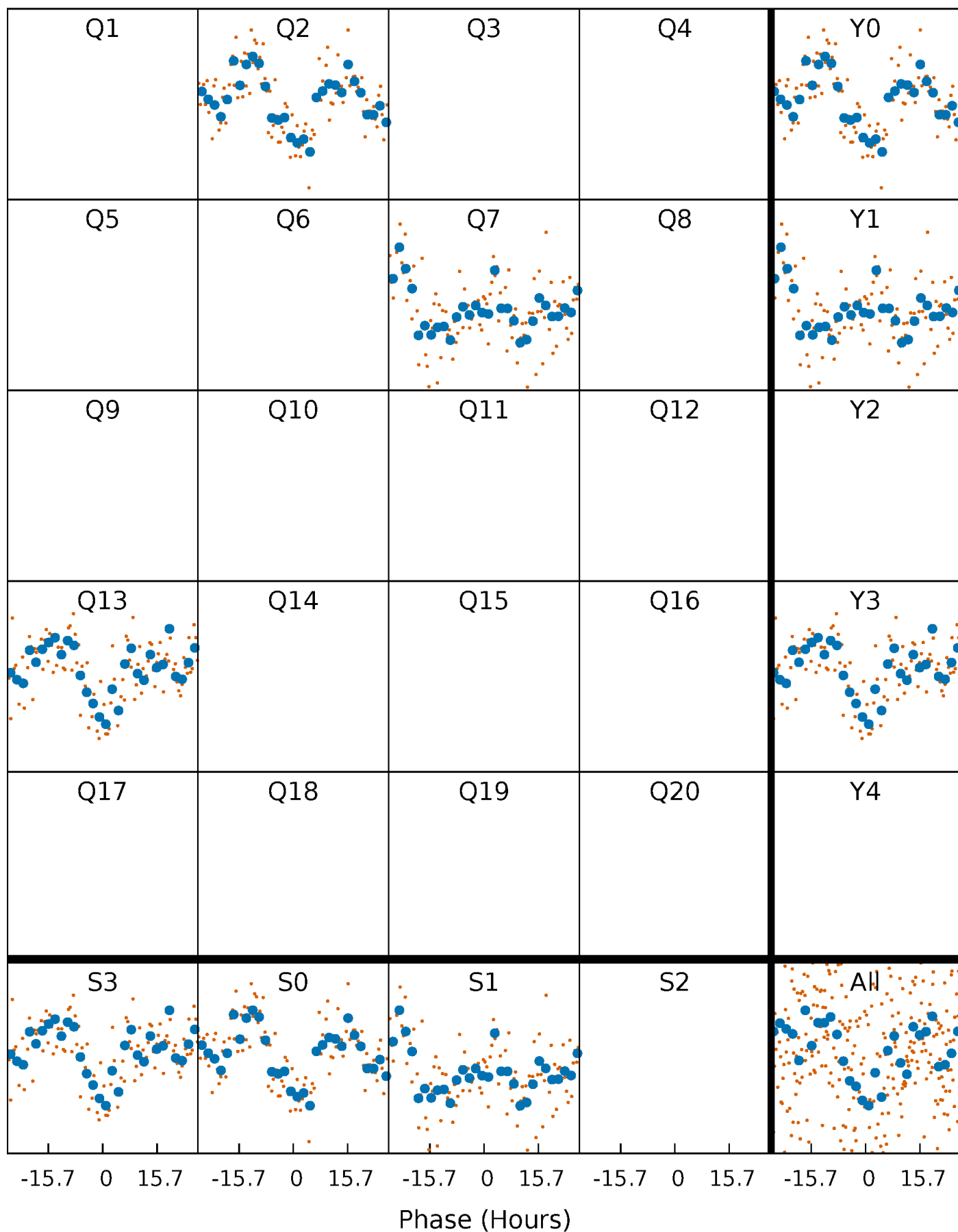


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



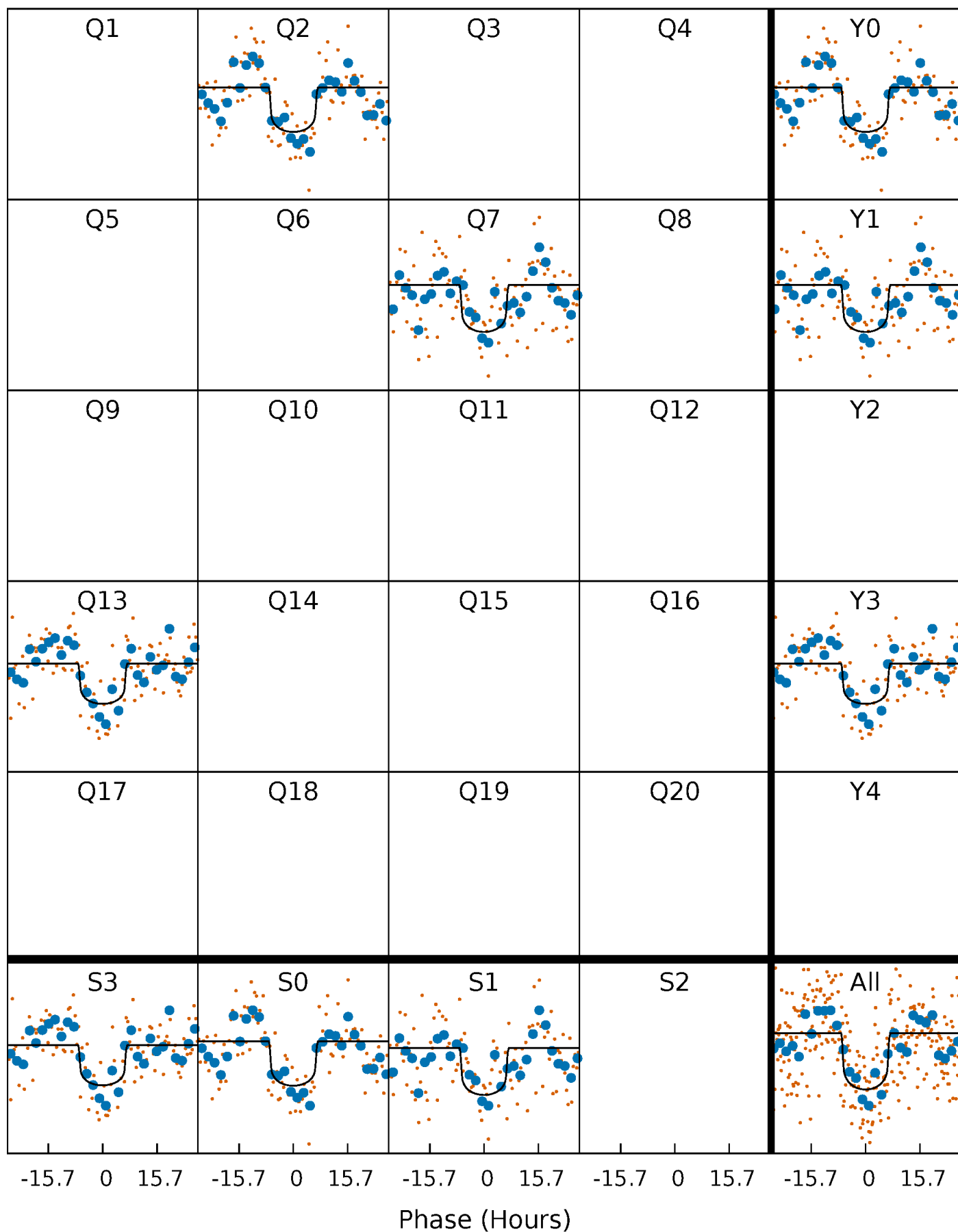
PDC Quarter-Phased Transit Curves

TCE 003847839-01 P=503.087293 Days $T_0=179.097912$ (BKJD)



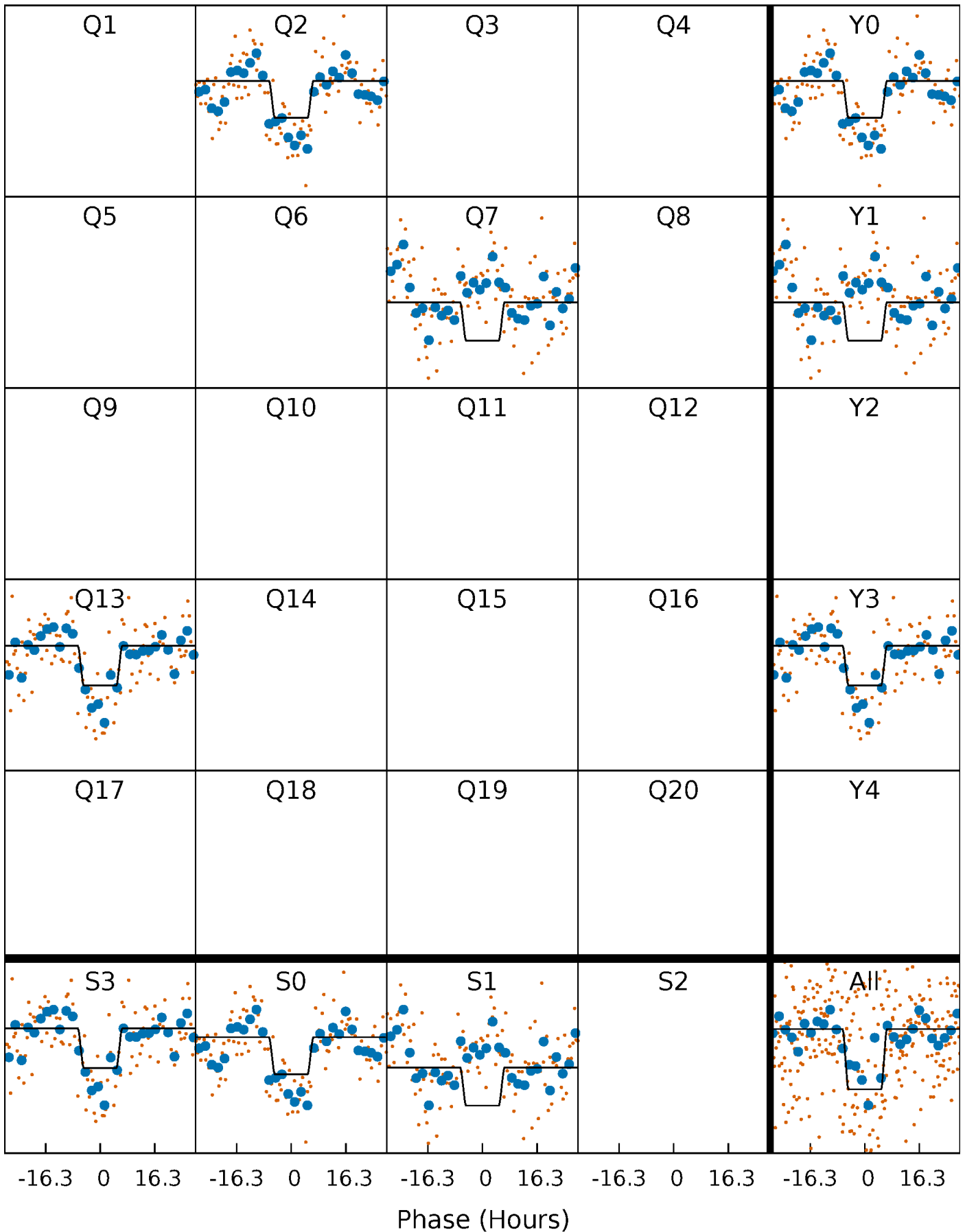
DV Quarter-Phased Transit Curves

TCE 003847839-01 P=503.087293 Days $T_0=179.097912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

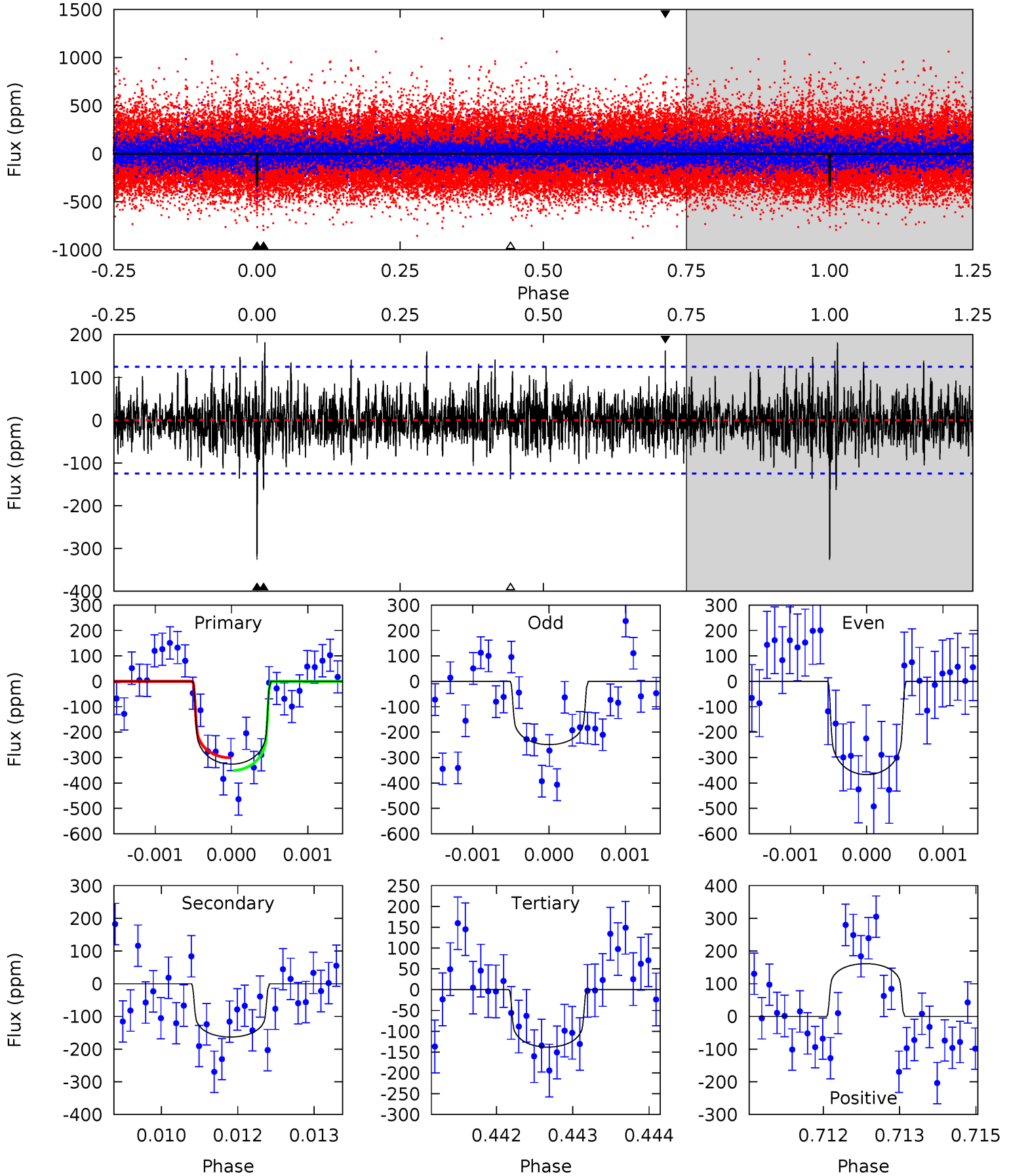
TCE 003847839-01 P=503.087870 Days $T_0=179.105664$ (BKJD)



DV Model-Shift Uniqueness Test

003847839-01, P = 503.087293 Days, E = 179.097912 Days

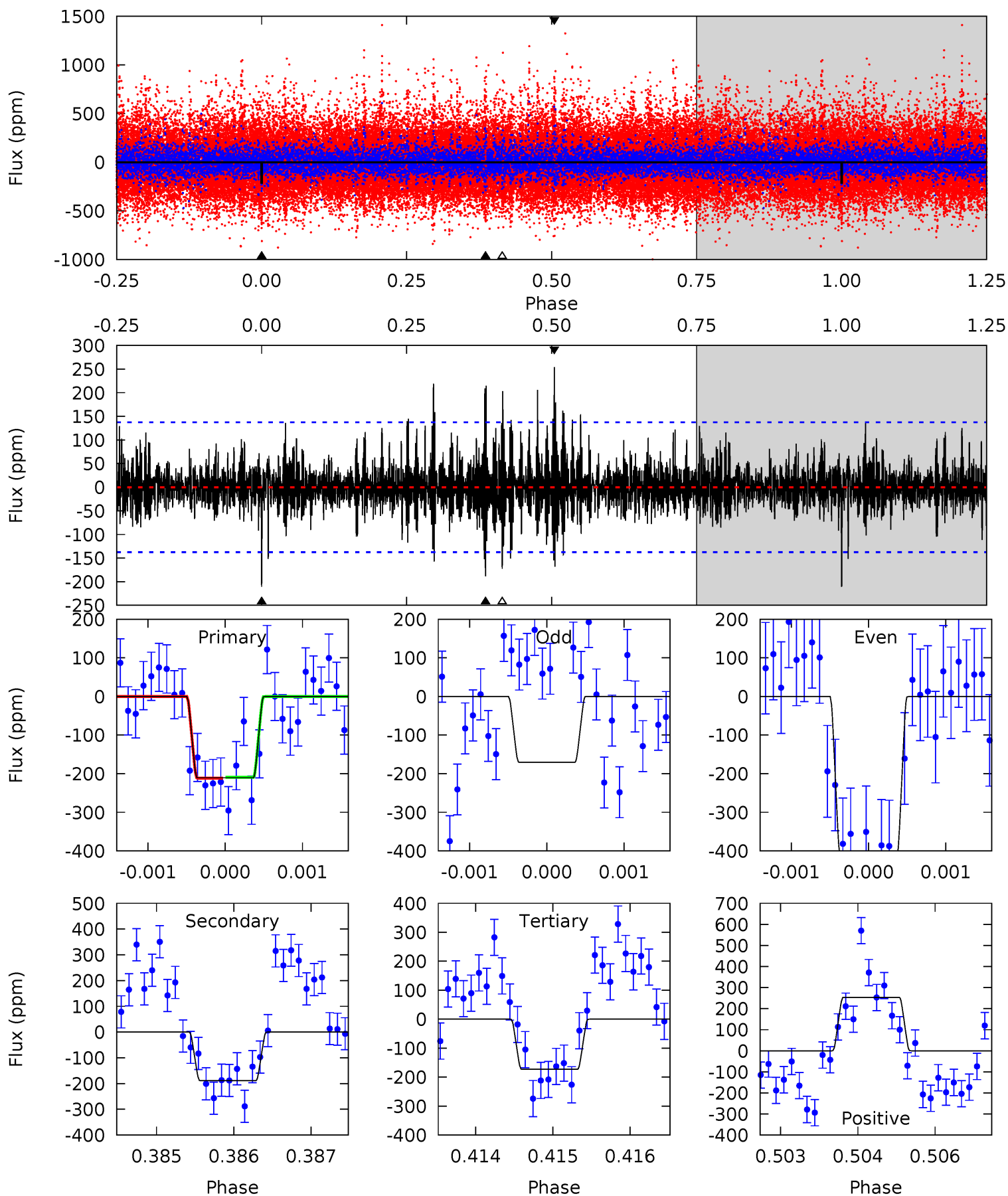
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	7.09	6.00	7.01	5.43	3.25	1.66	8.16	7.15	1.09	0.08	2.47	0.92	0.36	1.08



Alt Model-Shift Uniqueness Test

003847839-01, P = 503.087870 Days, E = 179.105664 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.32	7.45	6.83	10.0	5.43	3.26	1.61	1.49	-1.71	0.62	-2.59	4.70	0.55	0.55	0.04



Stellar Parameters For KIC 003847839

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6418^{+179}_{-246}	$4.394^{+0.072}_{-0.217}$	$-0.080^{+0.250}_{-0.300}$	$1.139^{+0.381}_{-0.136}$	$1.172^{+0.169}_{-0.169}$	$1.117^{+0.356}_{-0.637}$
	+3%/-4%	+2%/-5%	+312%/-375%	+33%/-12%	+14%/-14%	+32%/-57%
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 003847839-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-163 ± 23	$2.34^{+0.74}_{-0.67}$	375^{+27}_{-20}	5368^{+918}_{-552}	26648^{+26276}_{-11602}
Alt.	-188 ± 25	$2.21^{+0.76}_{-0.69}$	376^{+28}_{-20}	5725^{+1137}_{-629}	35092^{+37417}_{-15242}

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

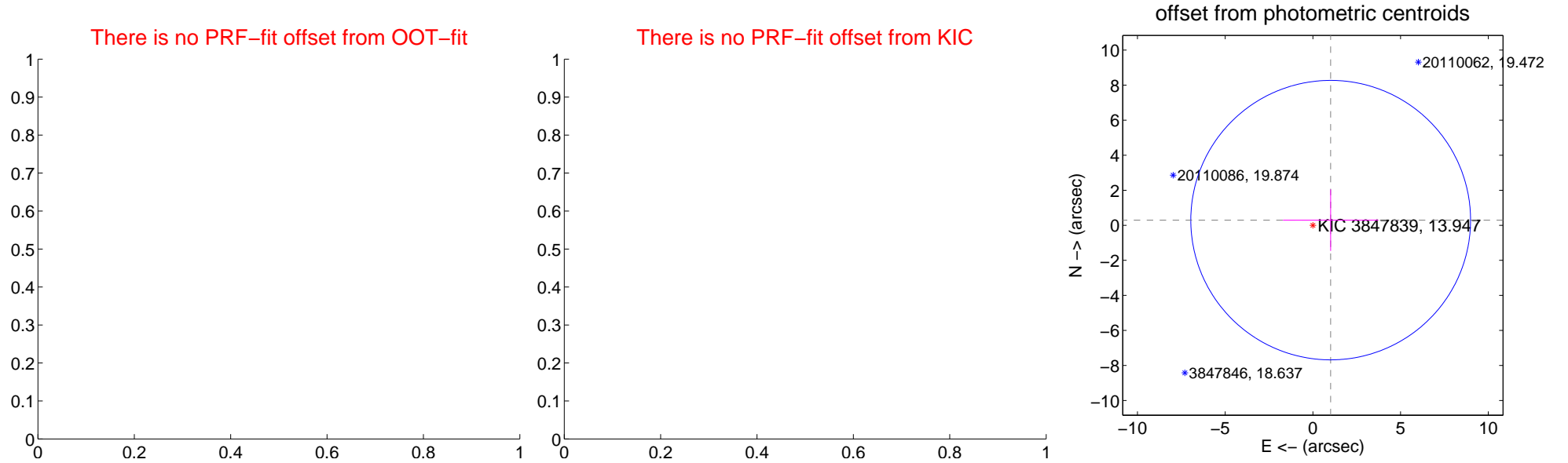
DV Centroid Data

Supplemental centroid analysis for 003847839-01. Kepler magnitude: 13.95. Transit SNR 7.60

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	1.06 ± 2.66	0.40	-1.02 ± 2.72	0.30 ± 1.75



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.

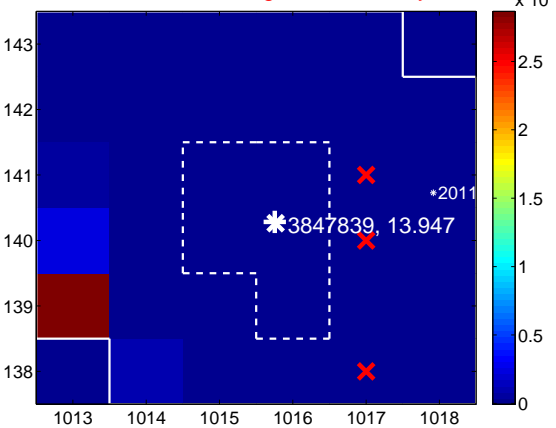
Q1 no difference image



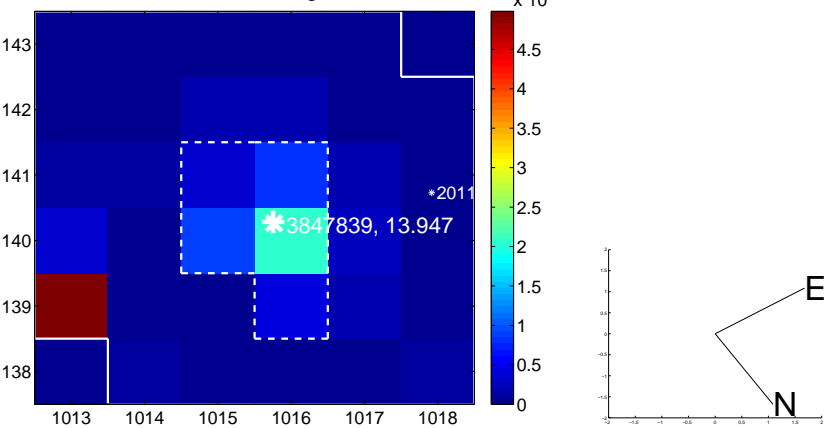
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



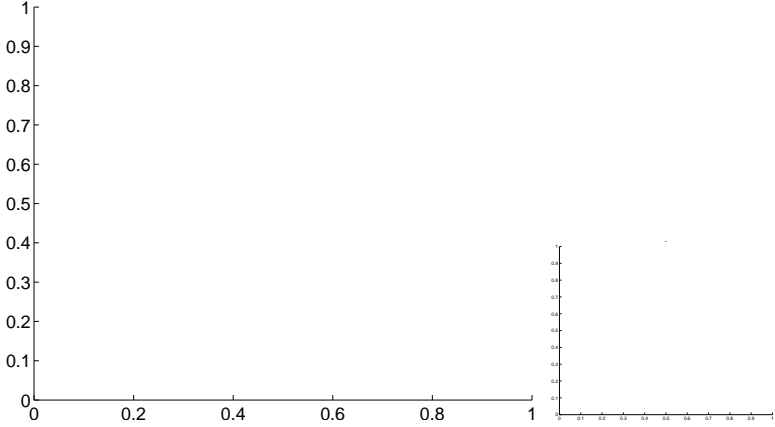
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



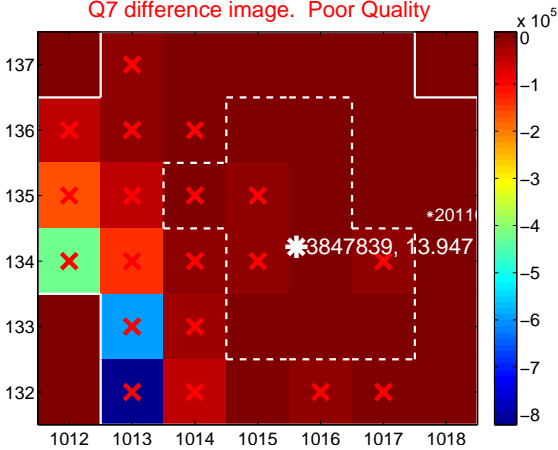
Q6 no difference image



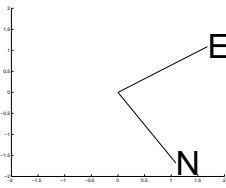
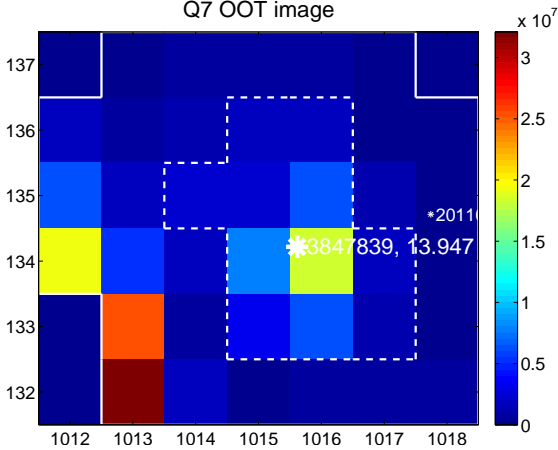
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



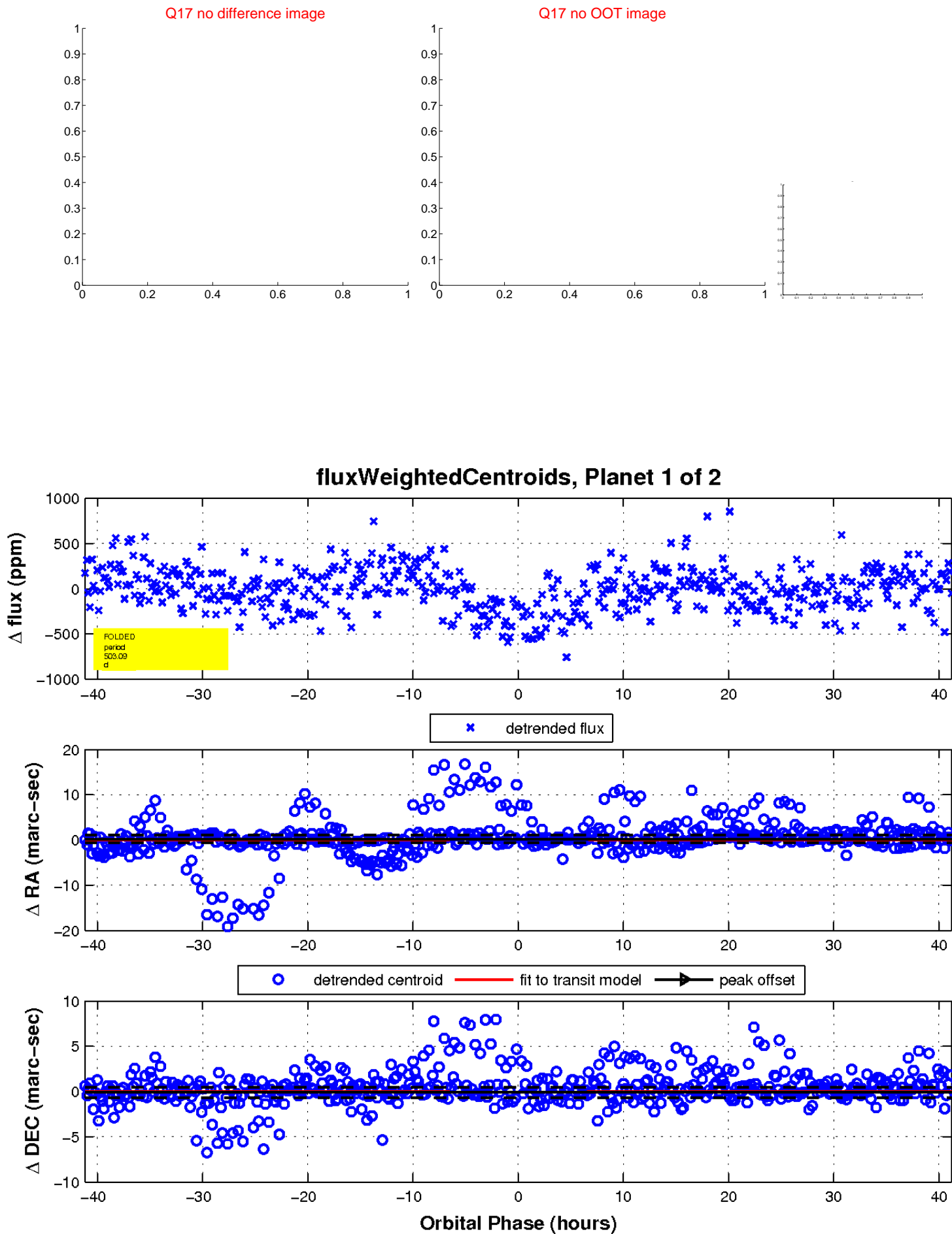
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

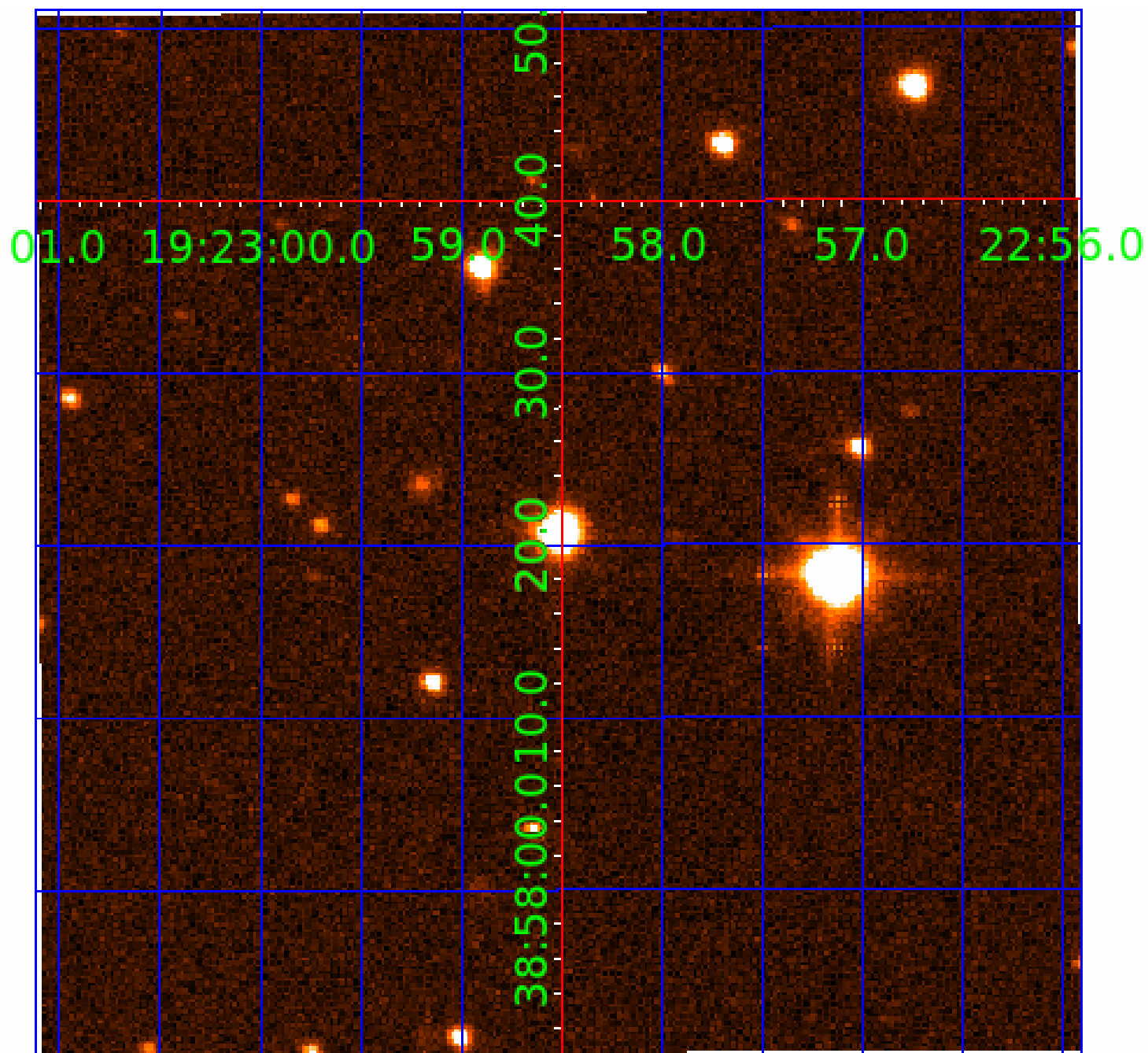


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003847839

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})
003847839-01	OBS	No	503.087293	179.097912	330.6	13.771	7.8	7.6	1.14	6418	2.23	1.16
003847839-02	OBS	No	2.075996	131.634289	21.2	6.143	7.3	6.5	1.14	6418	0.61	1748.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003847839-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003847839-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

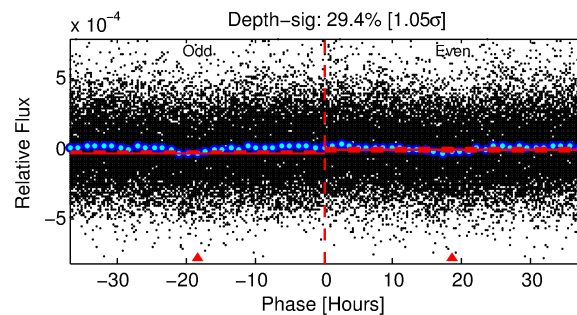
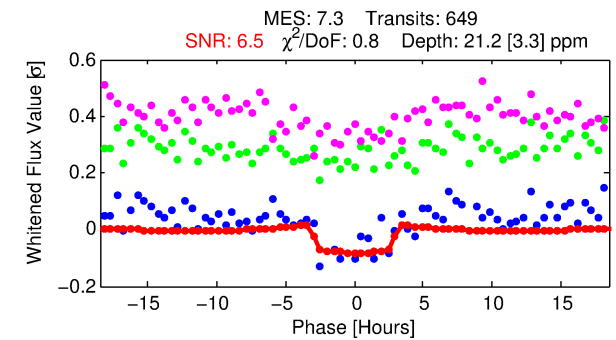
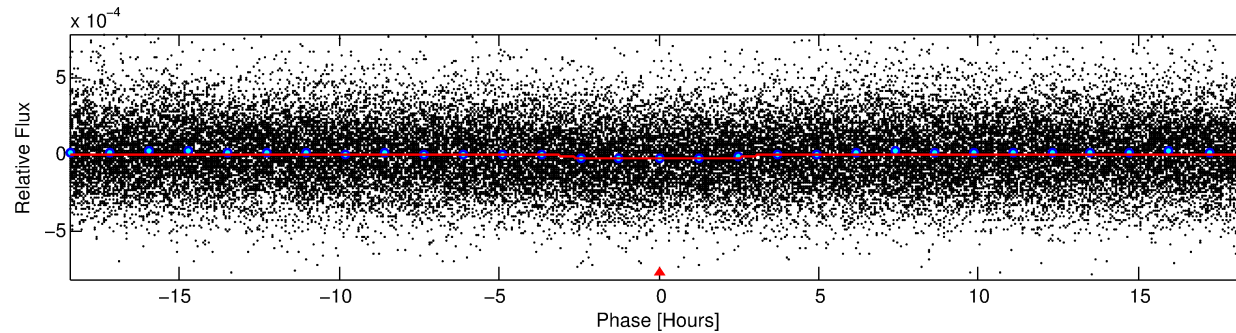
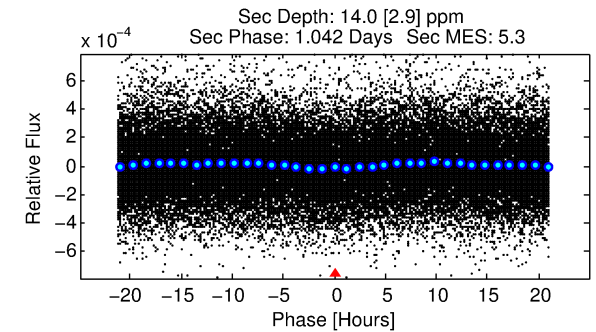
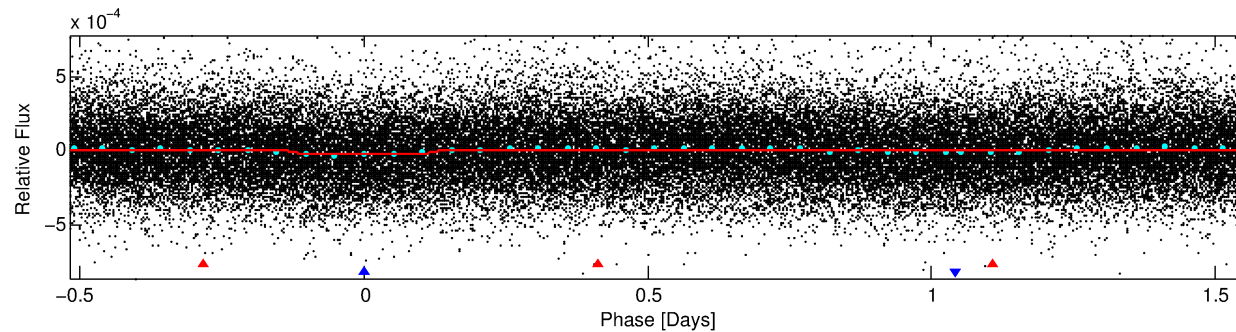
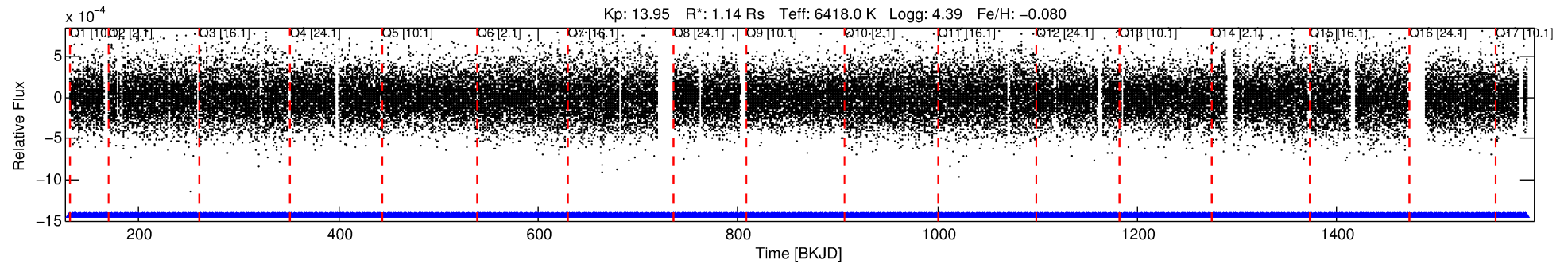
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003847839-02

No Significant Match Found

DV One-Page Summary

KIC: 3847839 Candidate: 2 of 2 Period: 2.076 d



DV Fit Results:

Period = 2.07600 [0.00003] d
Epoch = 131.6343 [0.0087] BKJD
Rp/R* = 0.0049 [0.0022]
a/R* = 1.49 [2.08]
b = 0.90 [0.55]
Seff = 1748.00 [750.21]
Teff = 1649 [177] K
Rp = 0.61 [0.35] Re
a = 0.0336 [0.0093] AU
Ag = 23.11 [23.39] [0.95σ]
Teffp = 5589 [1316] K [2.97σ]

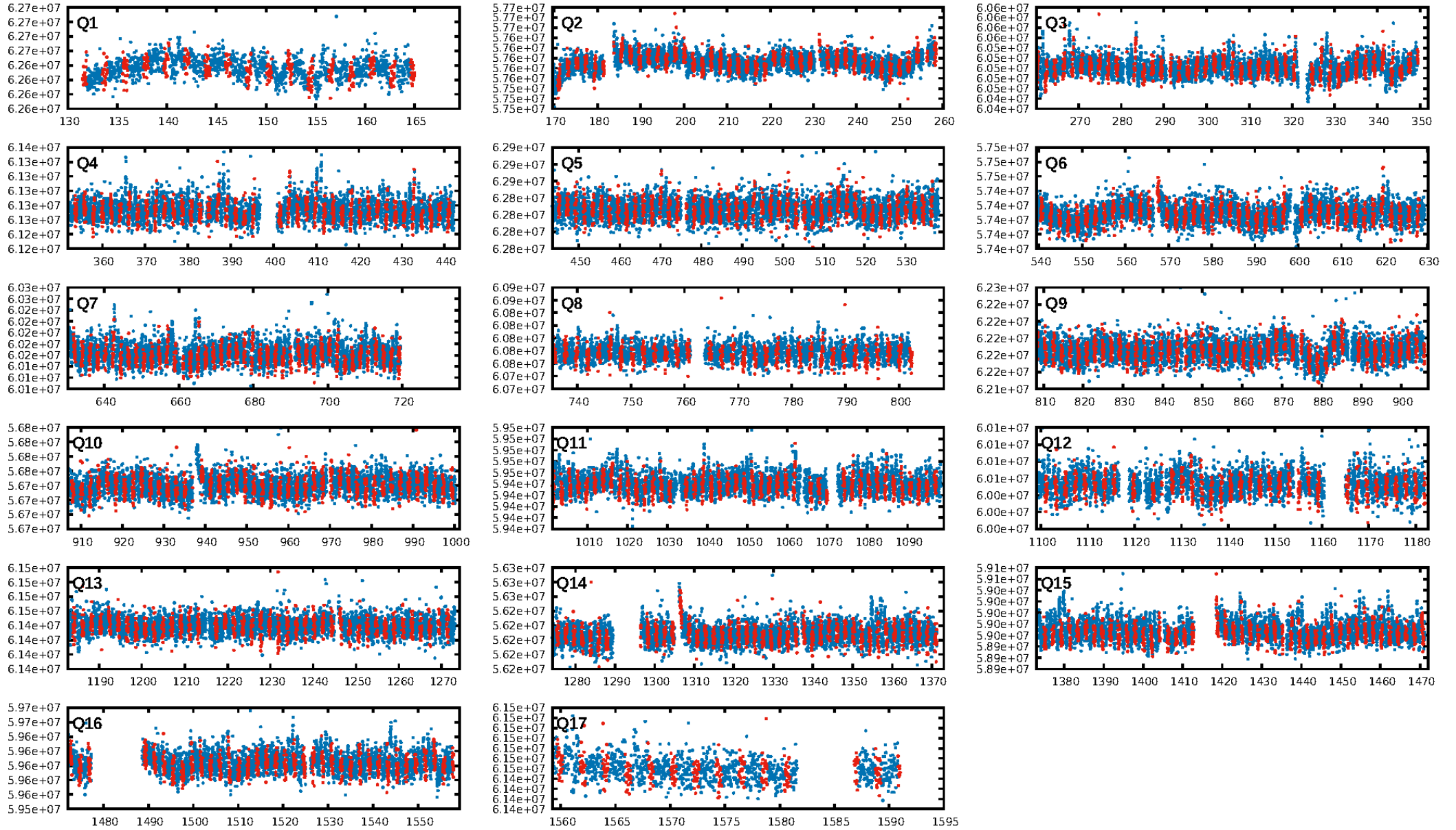
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [797.41σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.48e-11
RollingBand-fgt: 1.00 [618/618]
GhostDiagnostic-chr: 1.022
Centroid-sig: 10.2%
Centroid-so: 3.573 arcsec [1.21σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

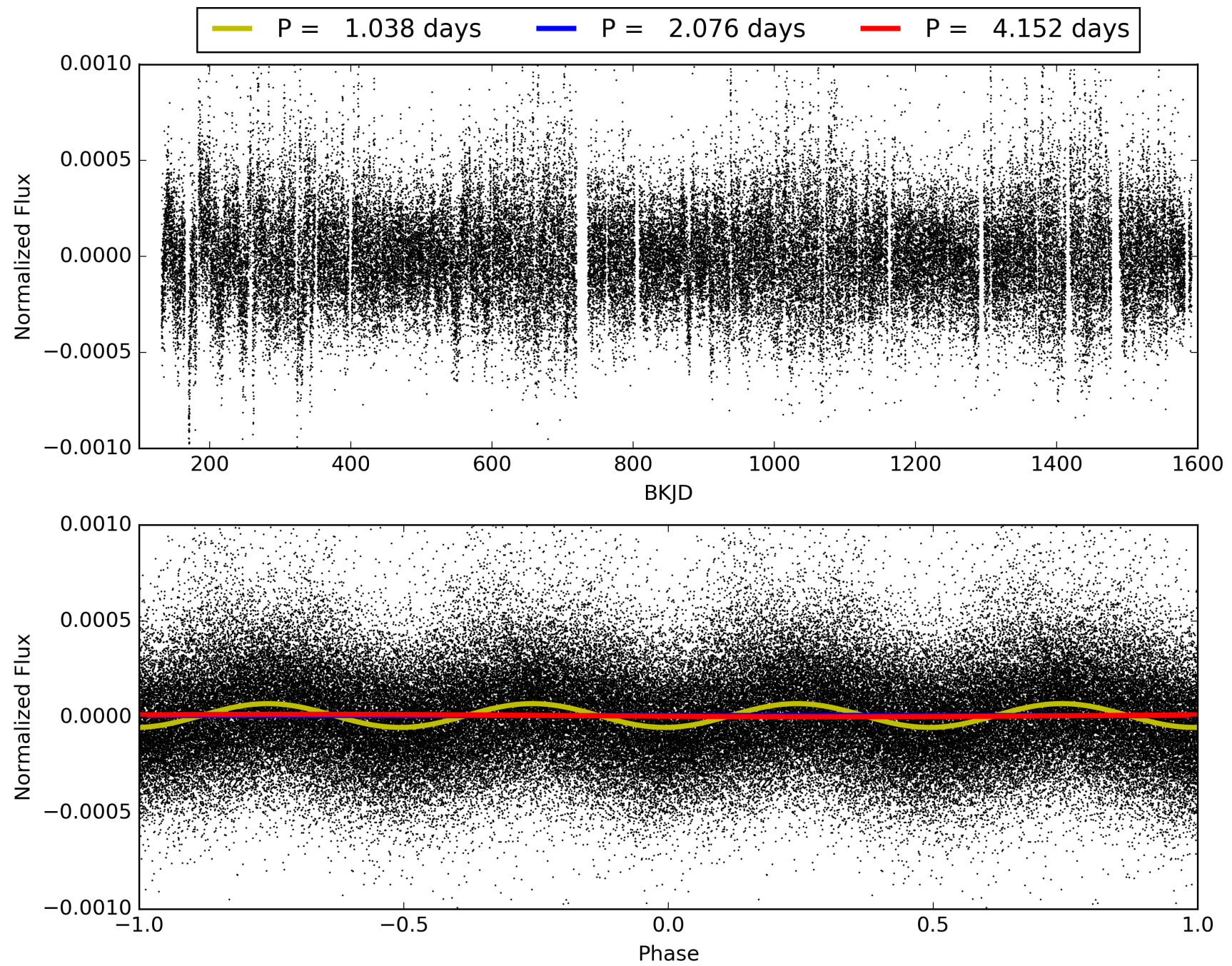
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:52:52 Z

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

TCE 003847839-02, PDC Light Curves

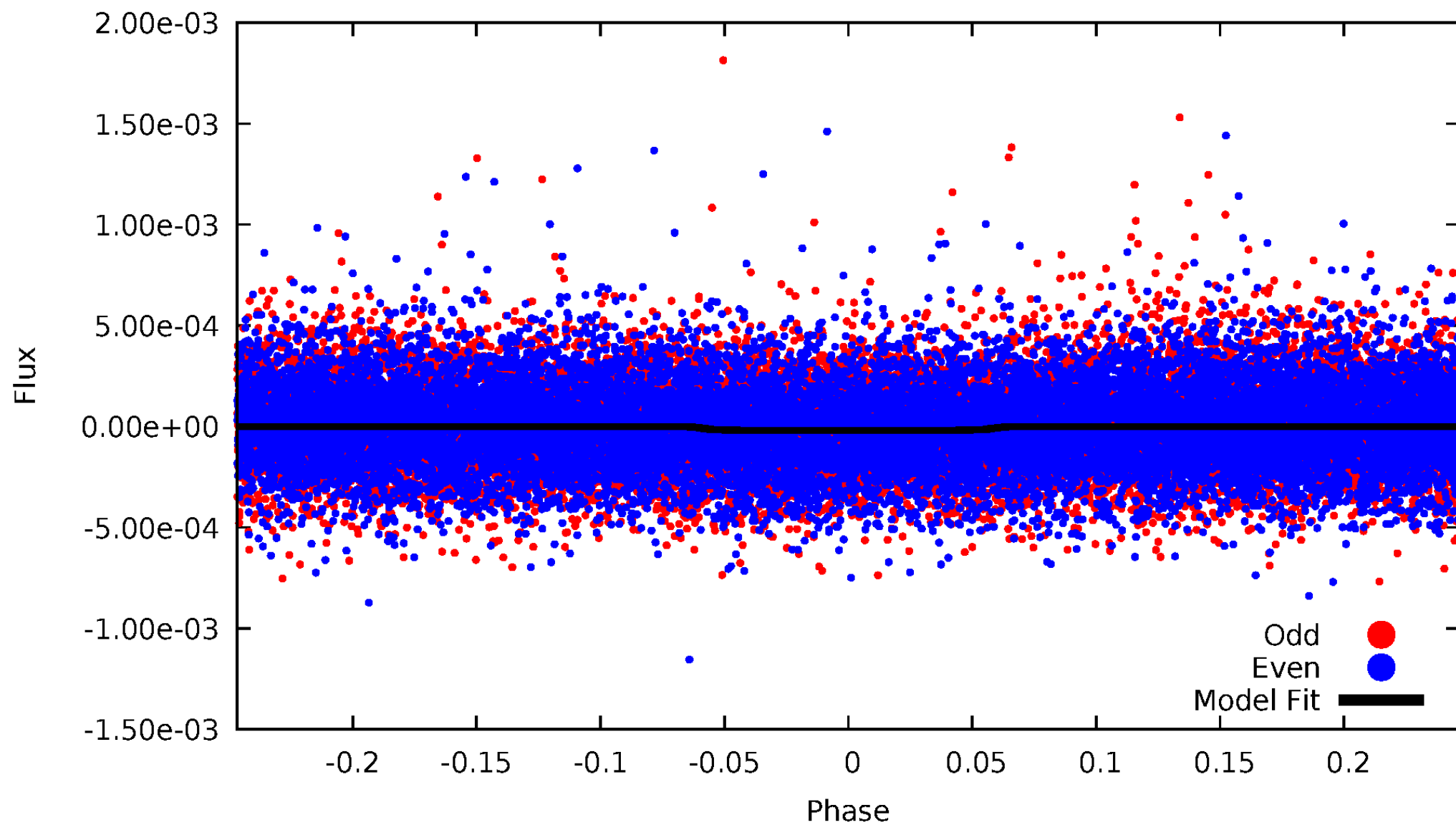


TCE 003847839-02



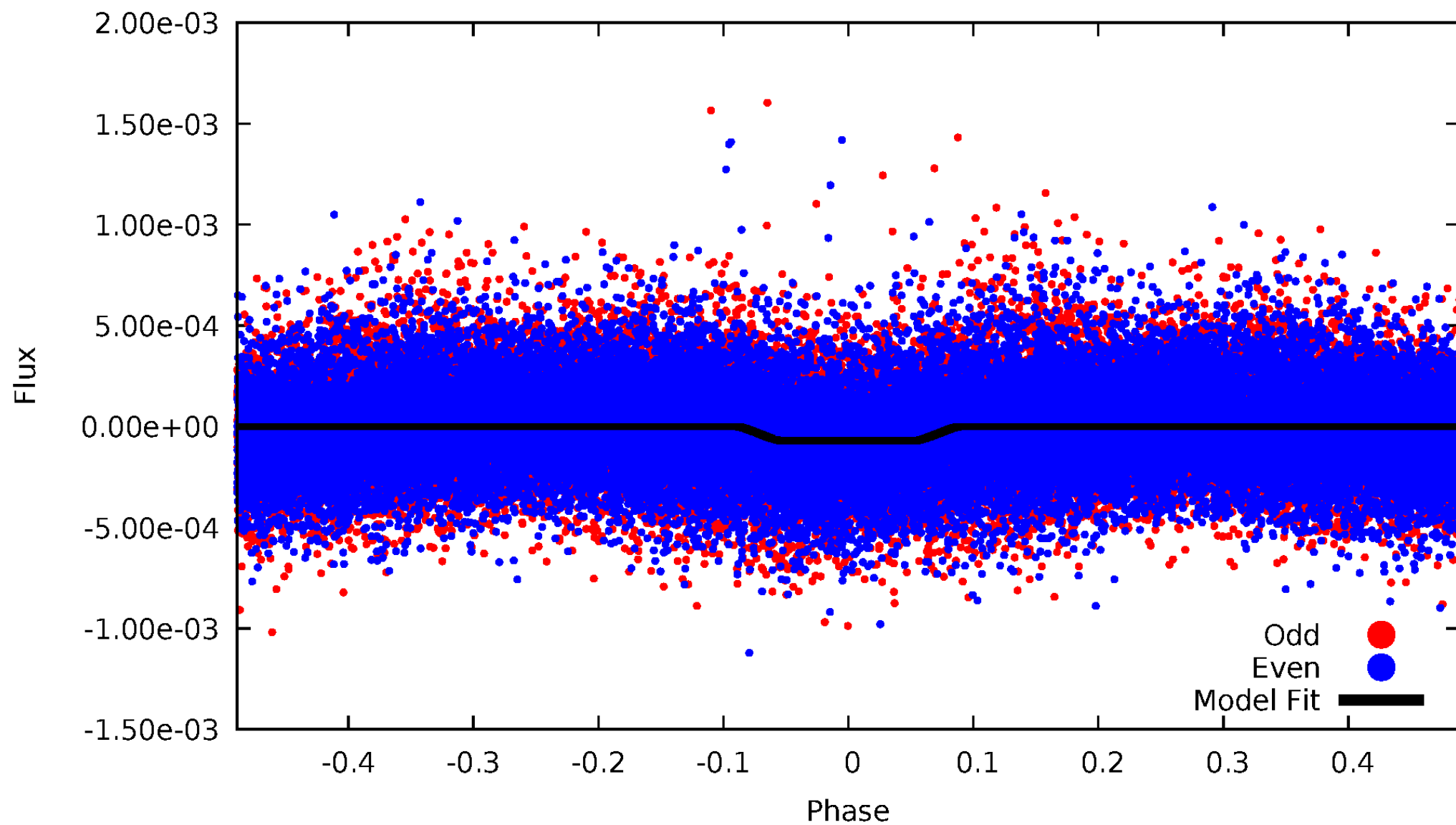
DV Odd/Even

TCE 003847839-02



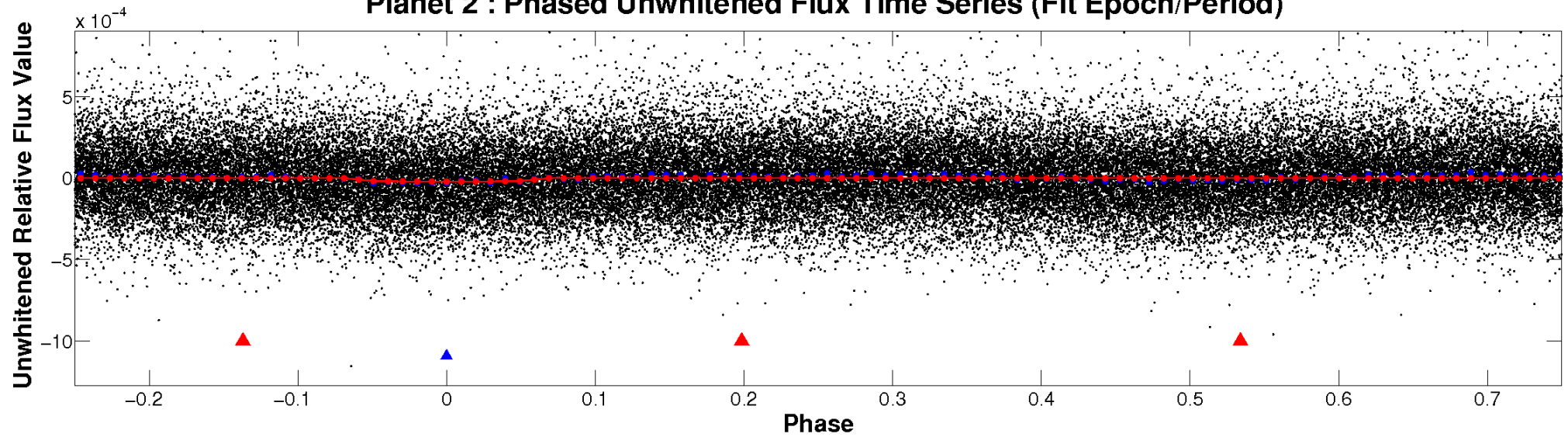
ALT Odd/Even

TCE 003847839-02

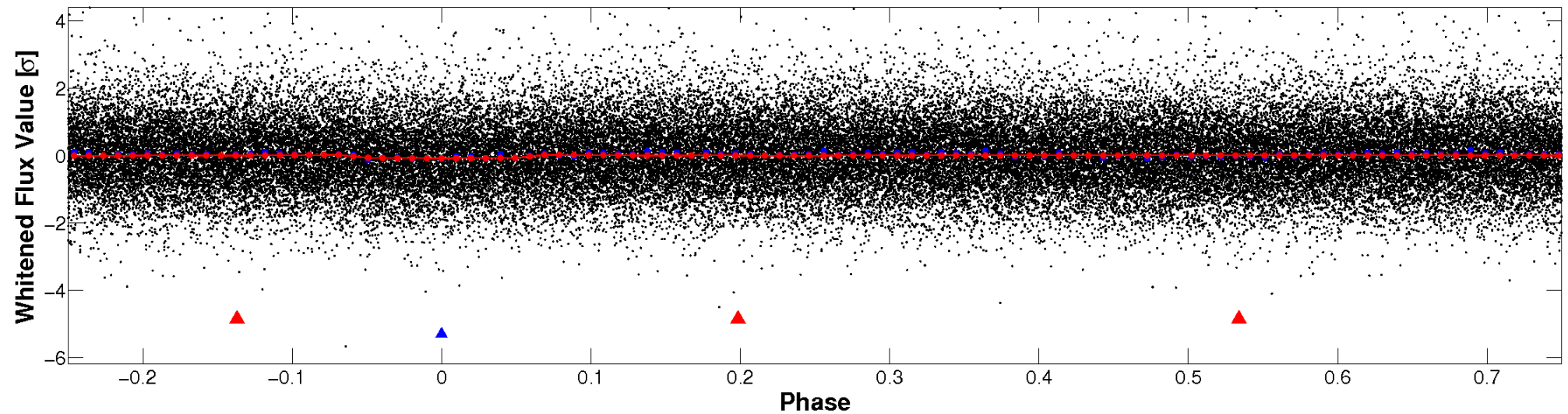


Non-Whitened Vs. Whitened Light Curve

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

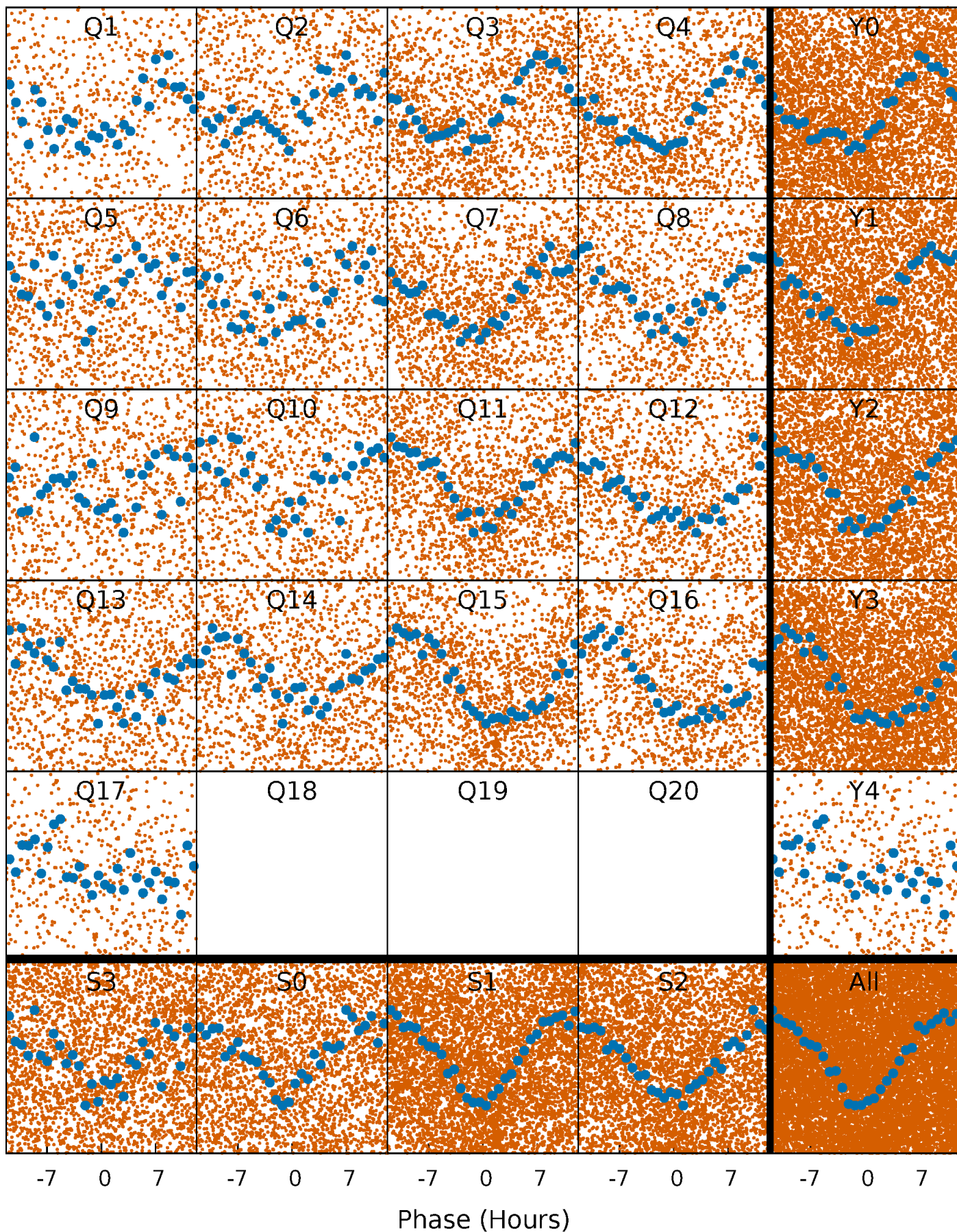


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



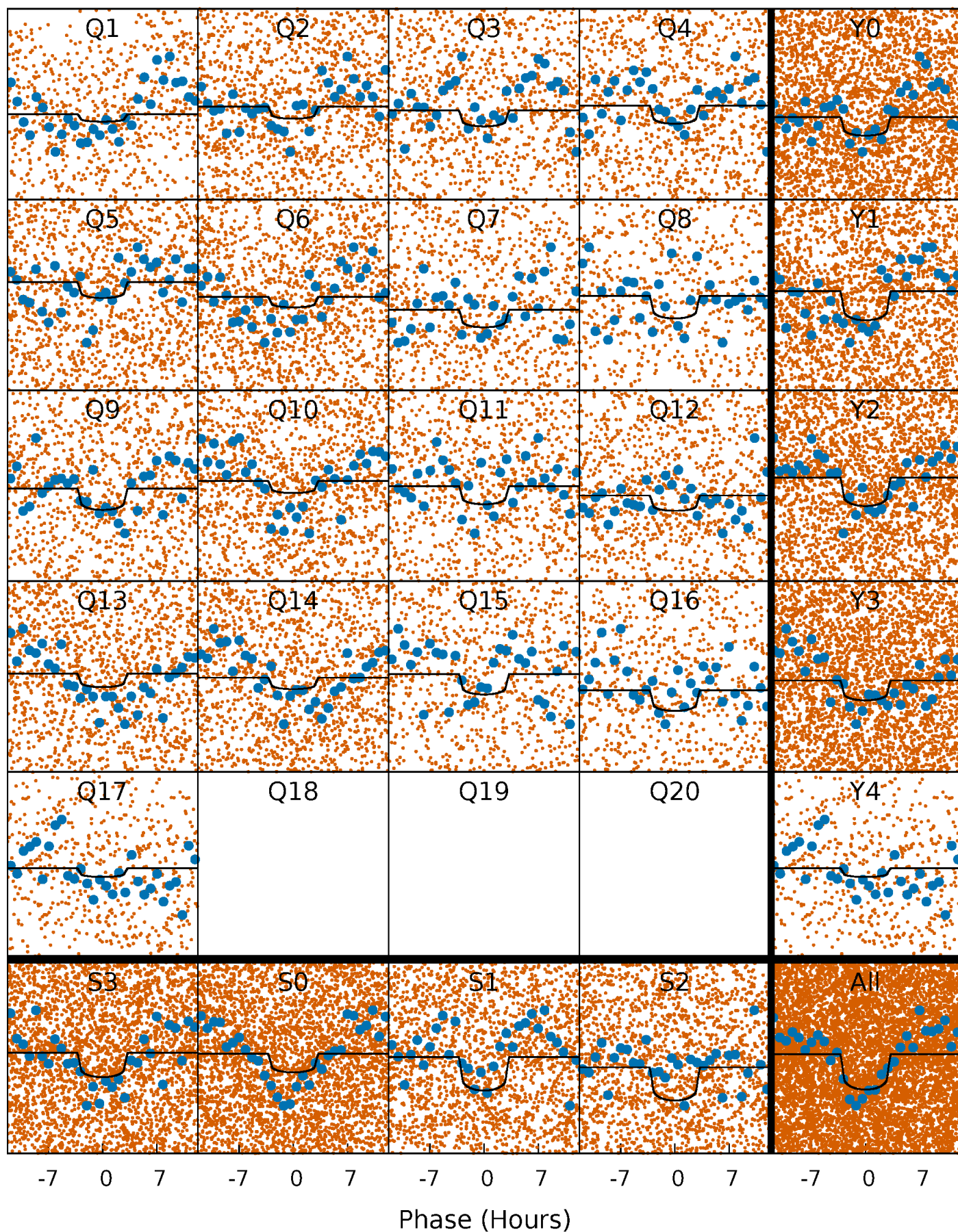
PDC Quarter-Phased Transit Curves

TCE 003847839-02 P= 2.075996 Days $T_0=131.634289$ (BKJD)



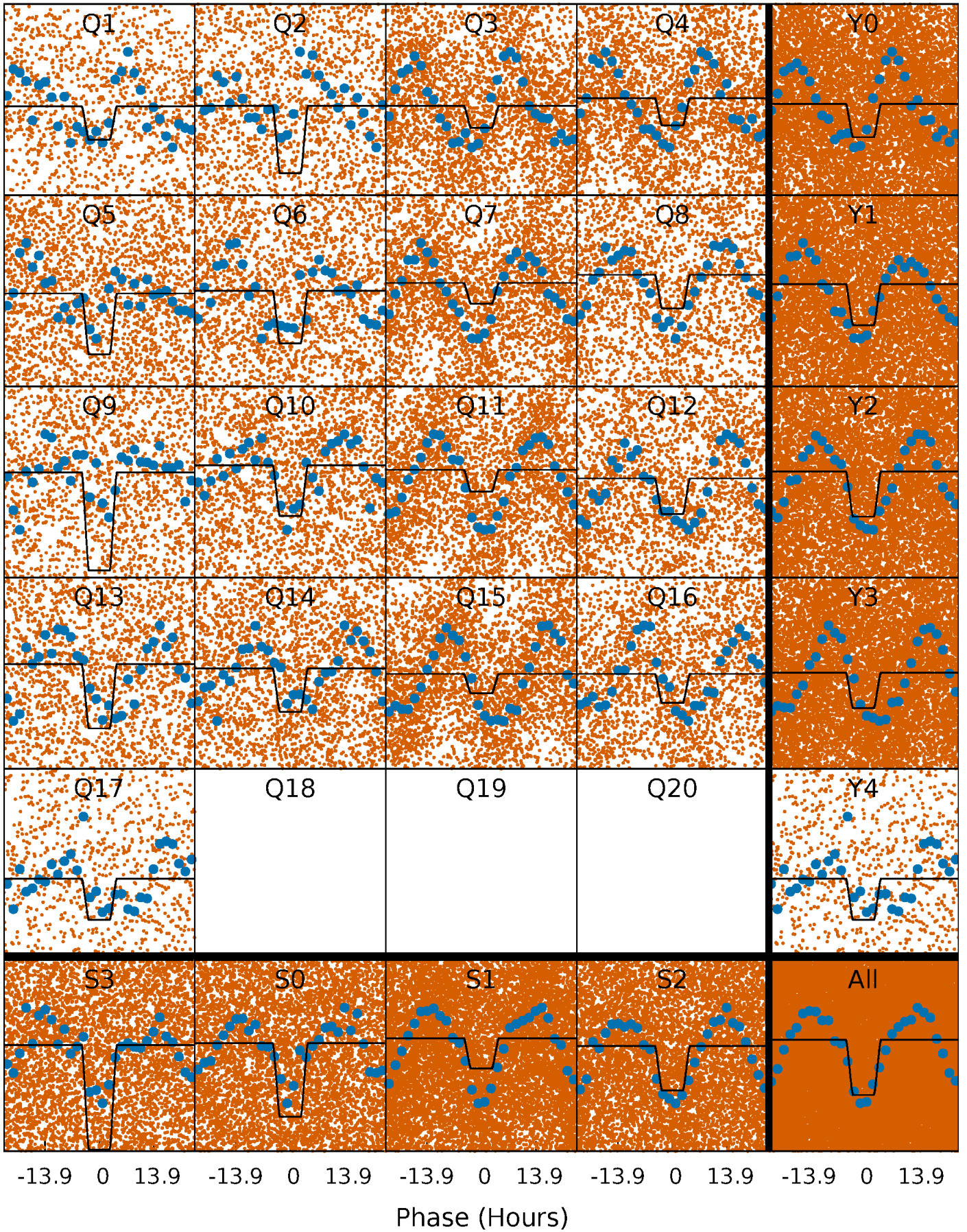
DV Quarter-Phased Transit Curves

TCE 003847839-02 P= 2.075996 Days $T_0=131.634289$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

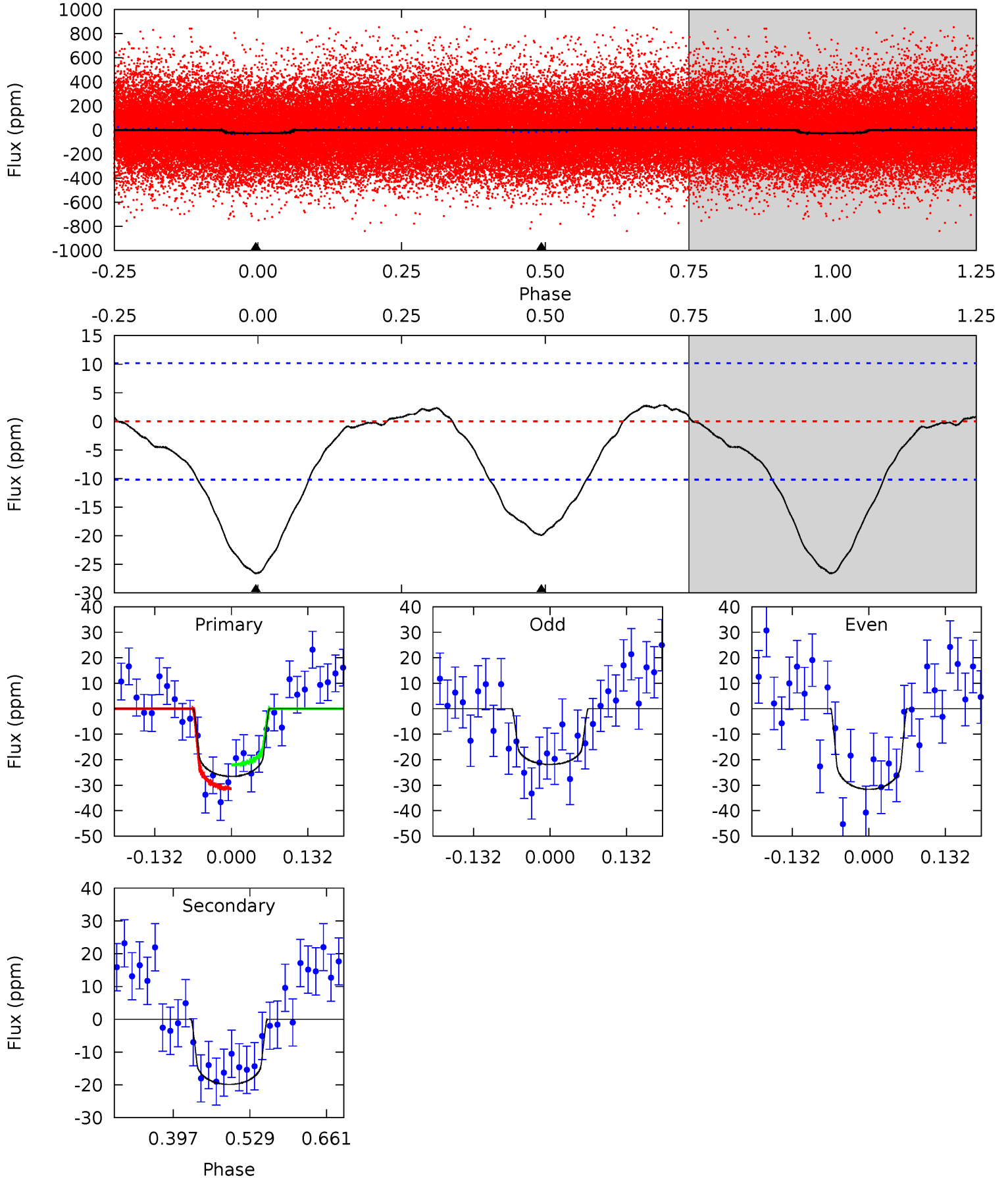
TCE 003847839-02 P= 2.075842 Days $T_0=131.674450$ (BKJD)



DV Model-Shift Uniqueness Test

003847839-02, P = 2.075996 Days, E = 129.558293 Days

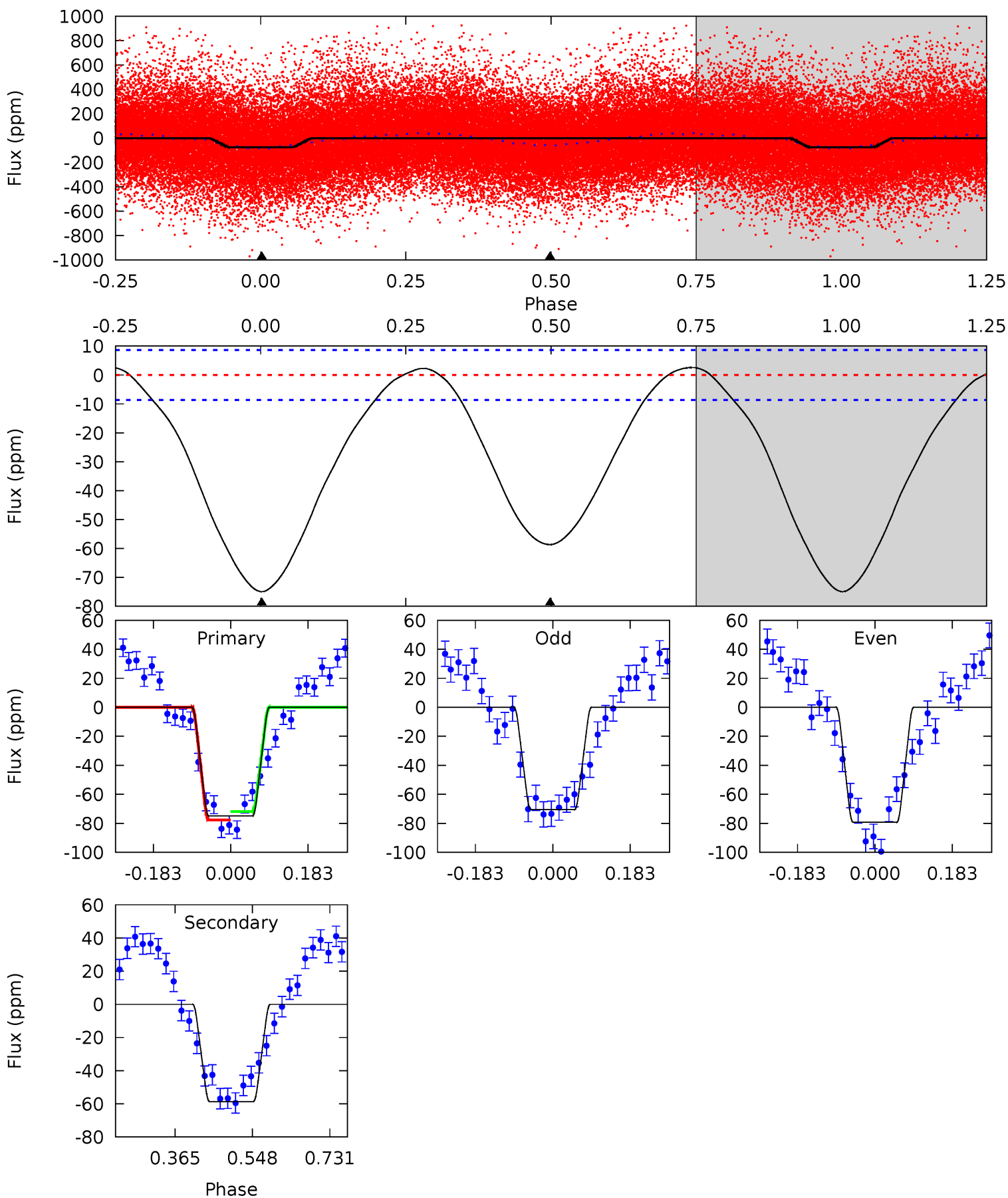
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	8.80	0	0	4.51	1.51	1.01	11.8	11.8	8.80	8.80	2.17	1.06	0.10	2.08



Alt Model-Shift Uniqueness Test

003847839-02, P = 2.075842 Days, E = 129.598608 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.5	30.1	0	0	4.44	1.33	1.92	38.5	38.5	30.1	30.1	2.26	1.23	0.03	1.49



Stellar Parameters For KIC 003847839

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6418^{+179}_{-246}	$4.394^{+0.072}_{-0.217}$	$-0.080^{+0.250}_{-0.300}$	$1.139^{+0.381}_{-0.136}$	$1.172^{+0.169}_{-0.169}$	$1.117^{+0.356}_{-0.637}$
	+3%/-4%	+2%/-5%	+312%/-375%	+33%/-12%	+14%/-14%	+32%/-57%
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 003847839-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-20 ± 2	$0.63^{+0.31}_{-0.27}$	2335^{+186}_{-130}	6031^{+2338}_{-952}	31^{+63}_{-18}
Alt.	-59 ± 2	$1.09^{+0.33}_{-0.30}$	2336^{+176}_{-115}	6103^{+1066}_{-732}	30^{+27}_{-13}

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 $A_{obs} \gg 1.0$

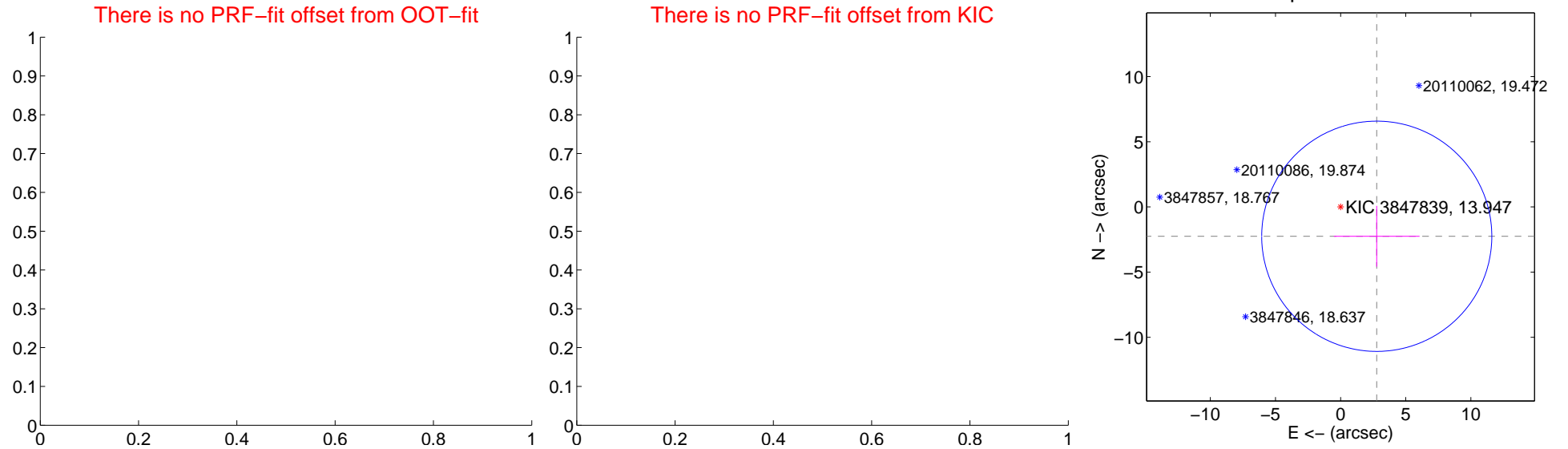
DV Centroid Data

Supplemental centroid analysis for 003847839-02. Kepler magnitude: 13.95. Transit SNR 6.52

There are 0 quarters with good PRF difference image offsets

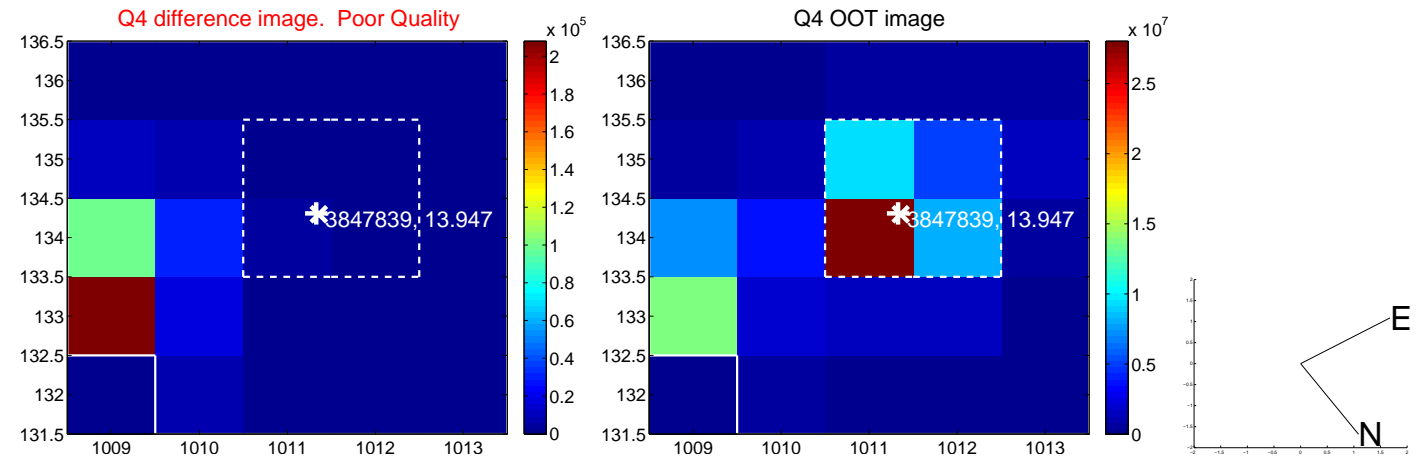
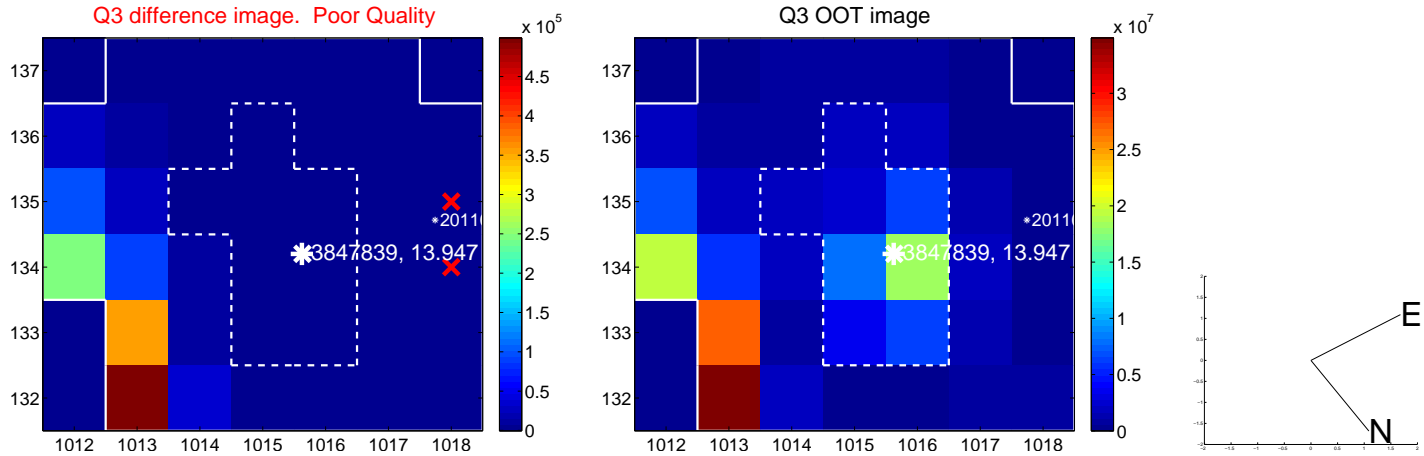
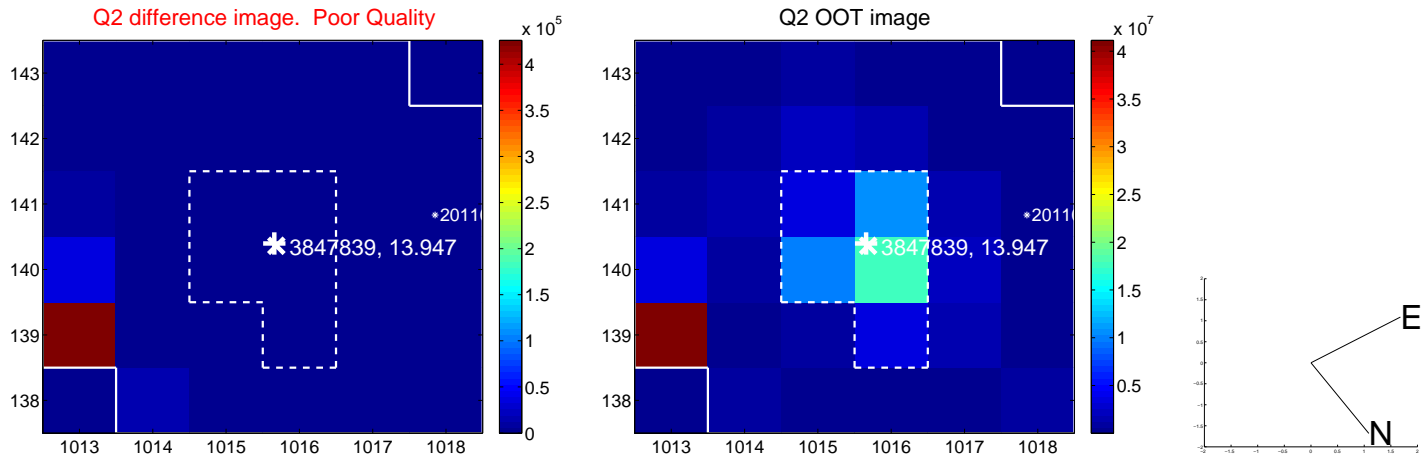
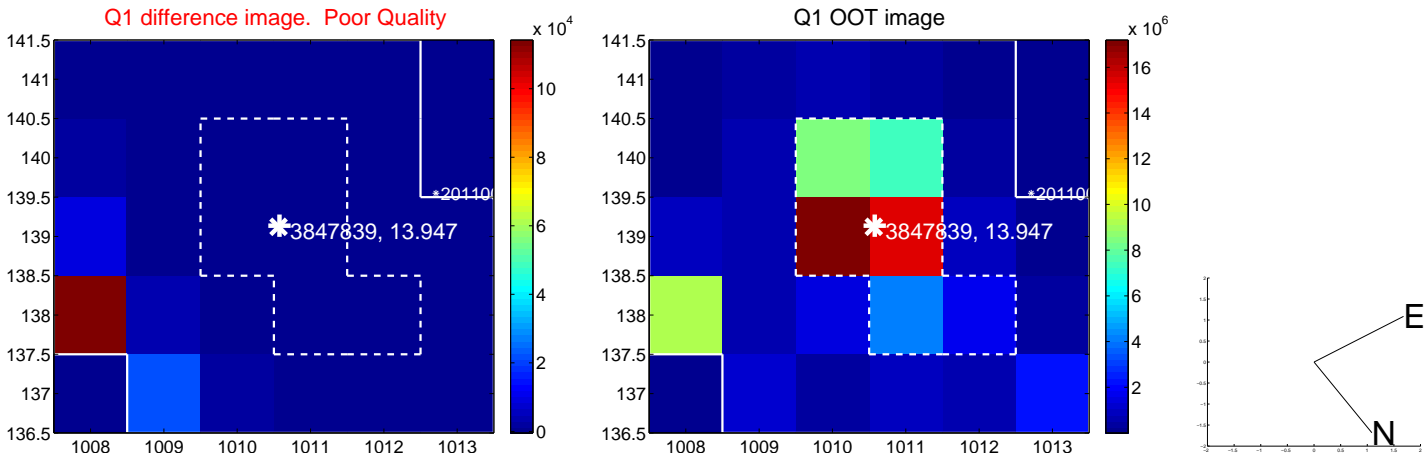
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	3.57 ± 2.94	1.21	-2.78 ± 3.29	-2.25 ± 2.33

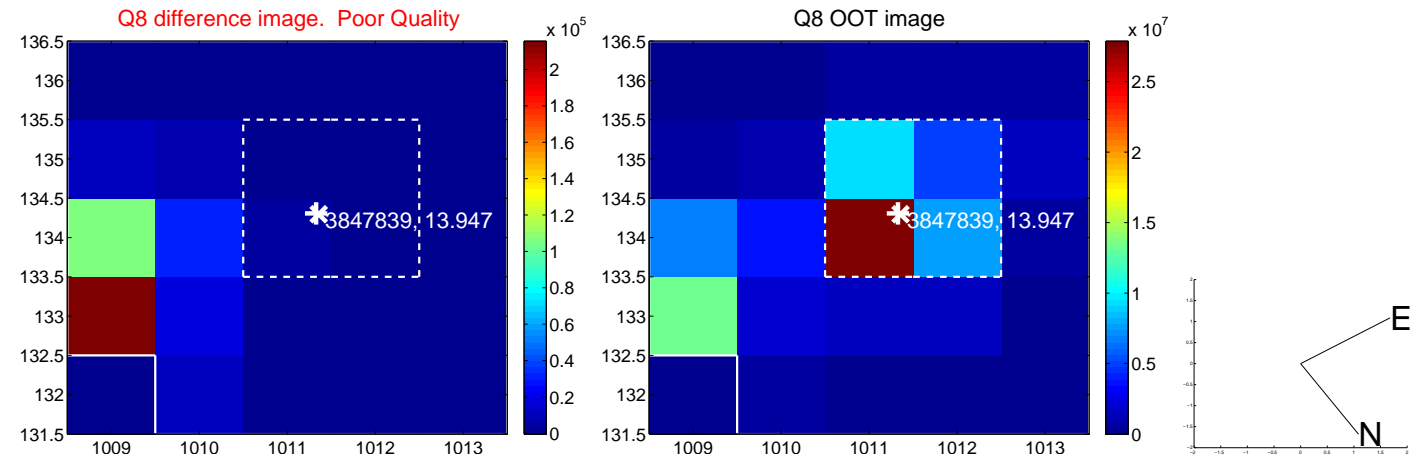
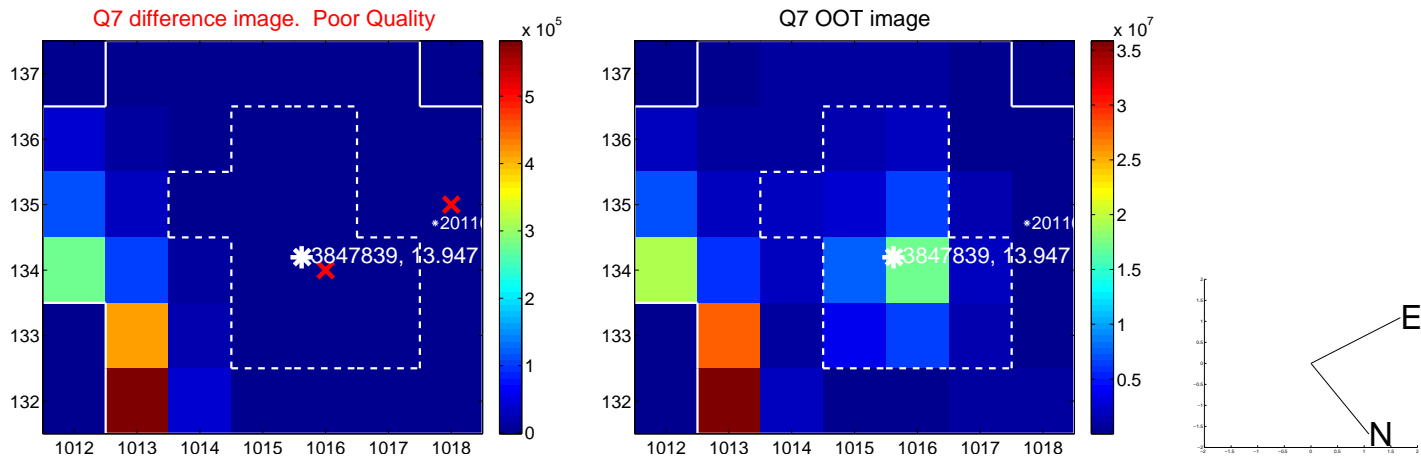
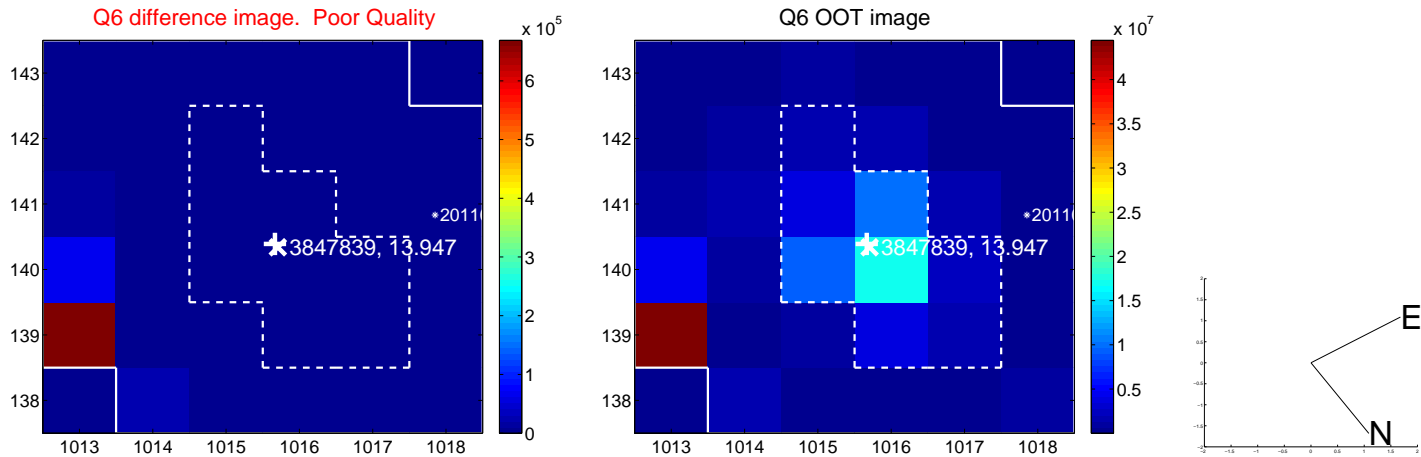
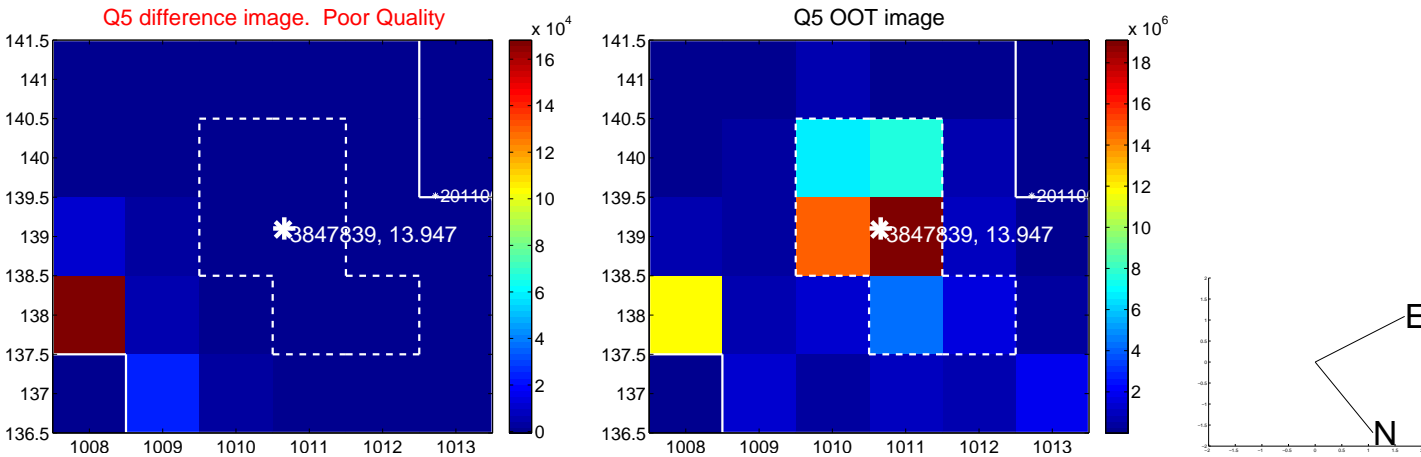


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

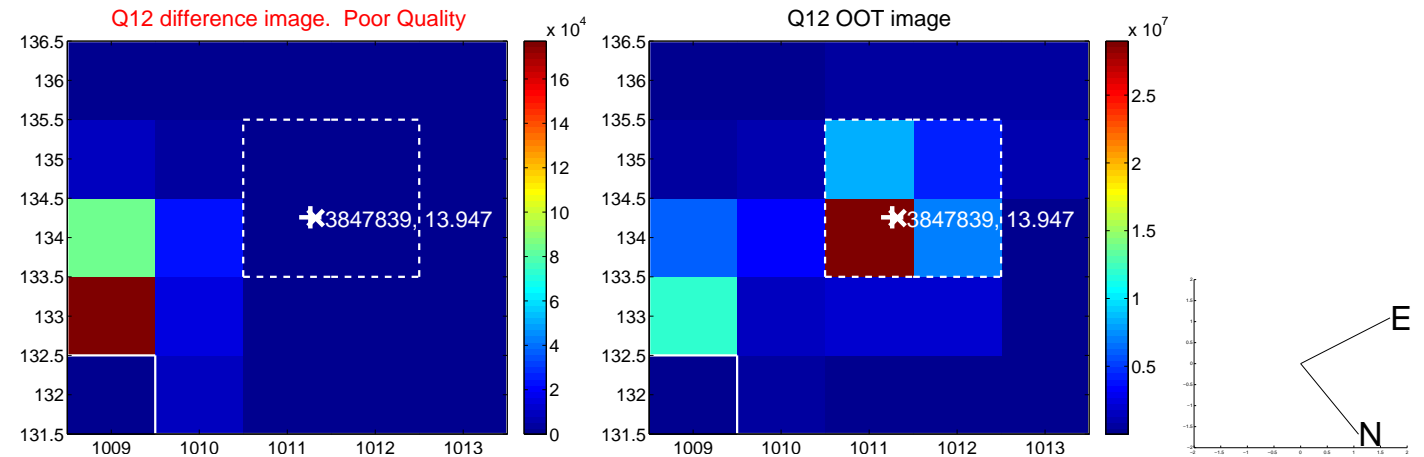
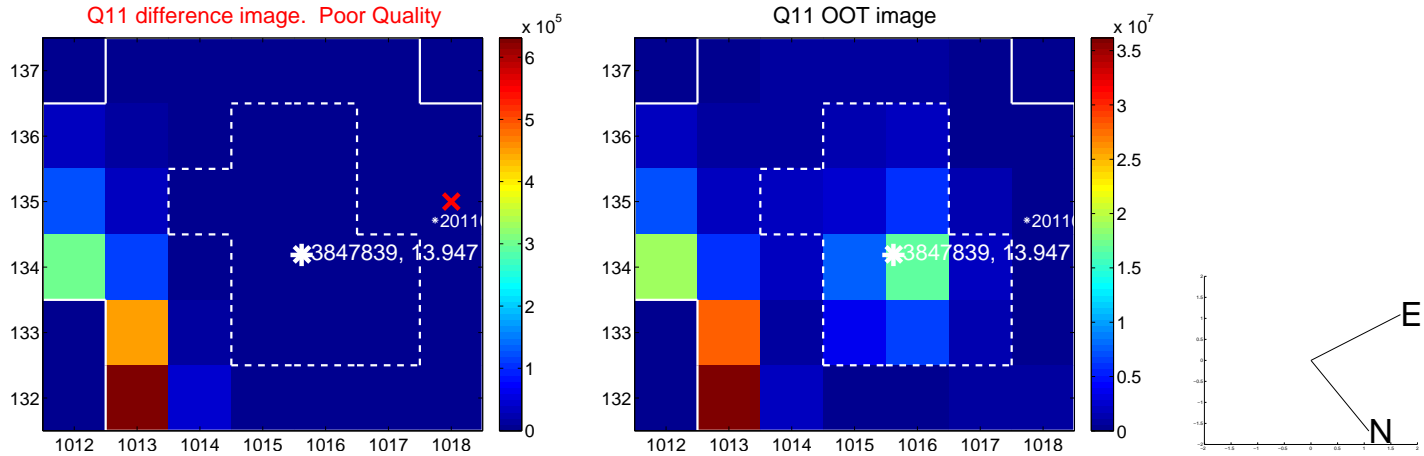
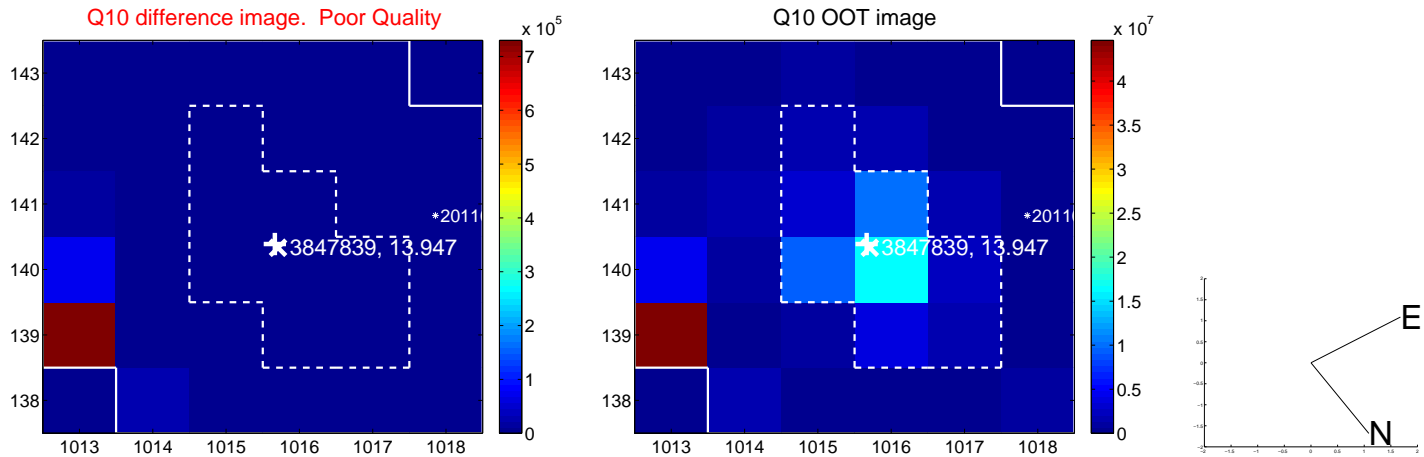
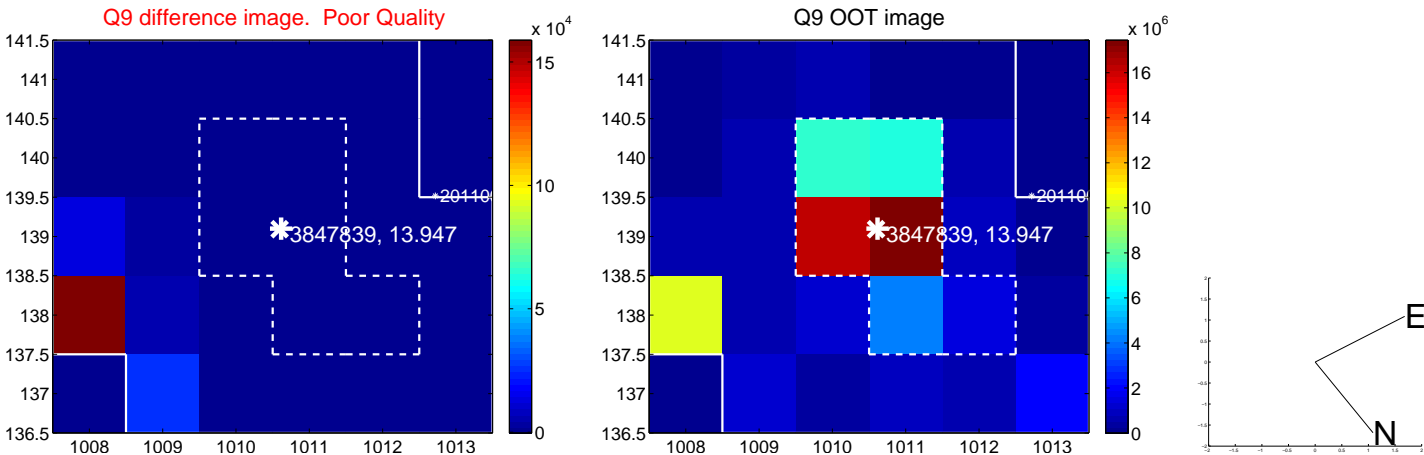
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



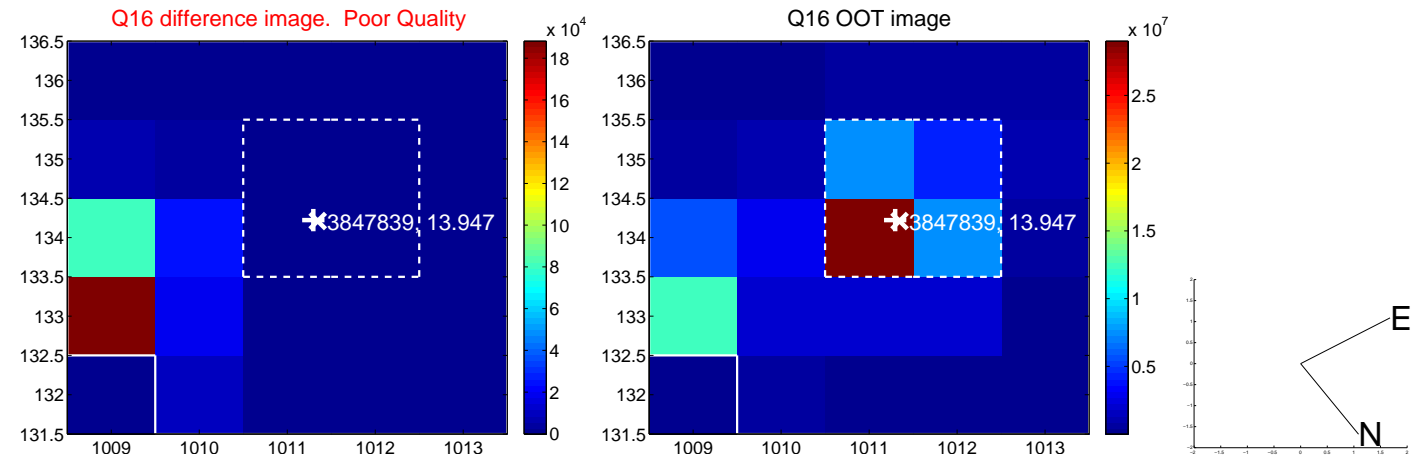
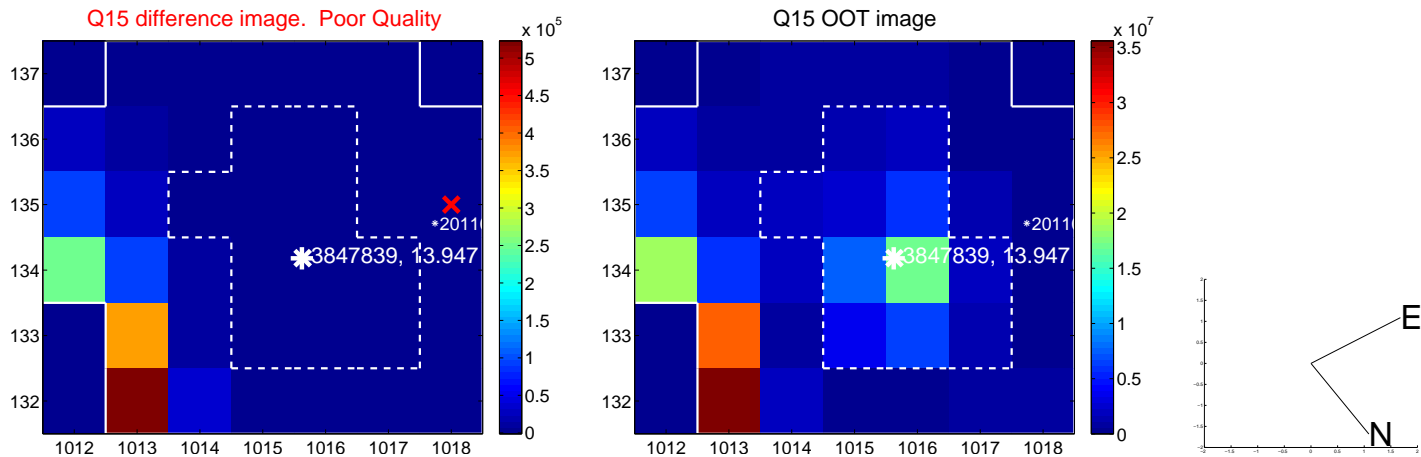
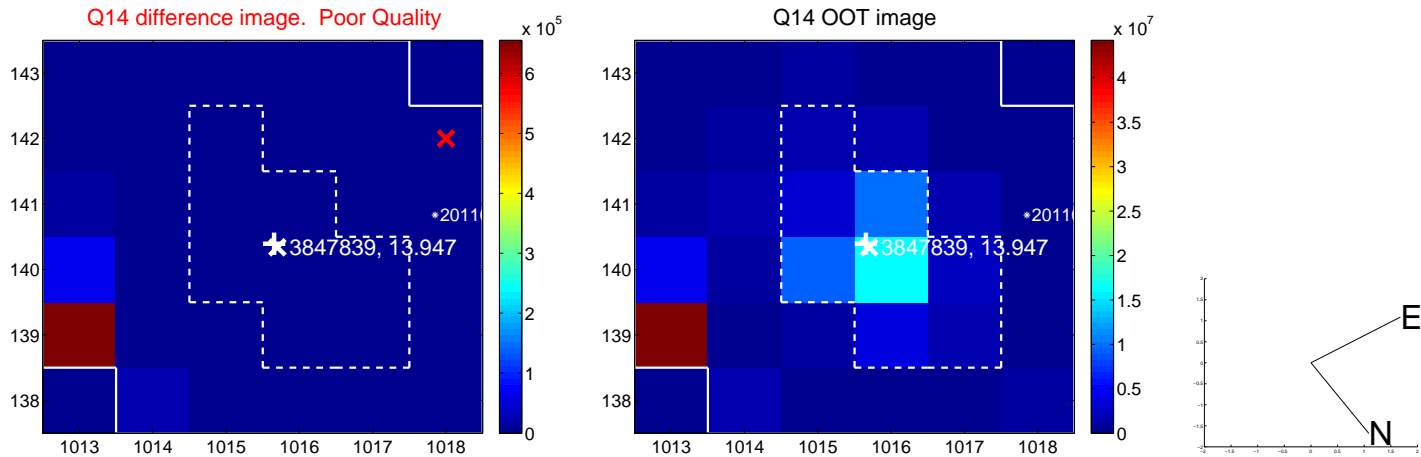
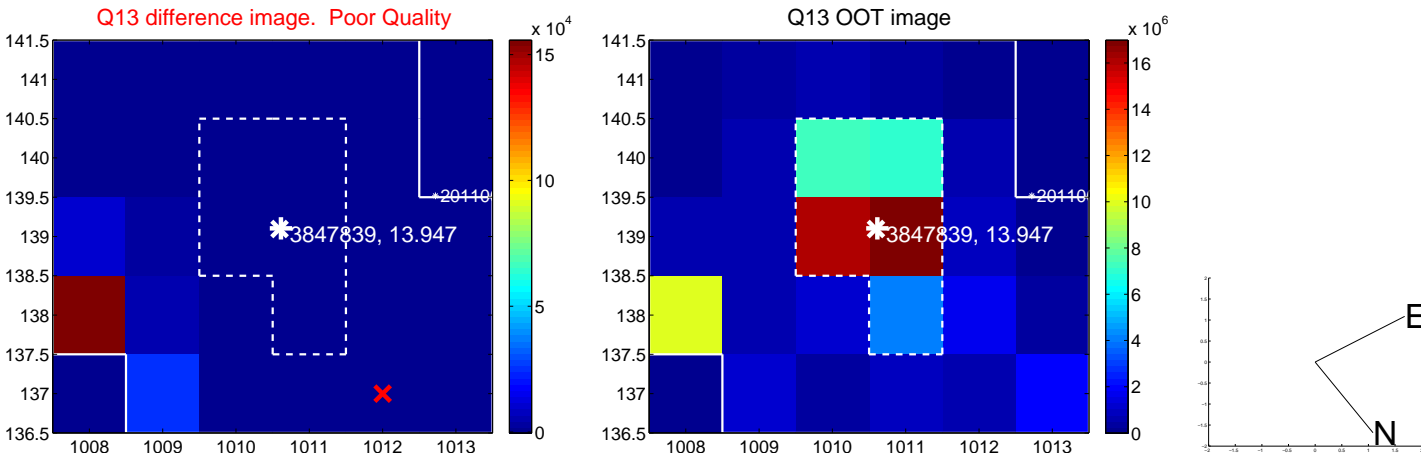
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



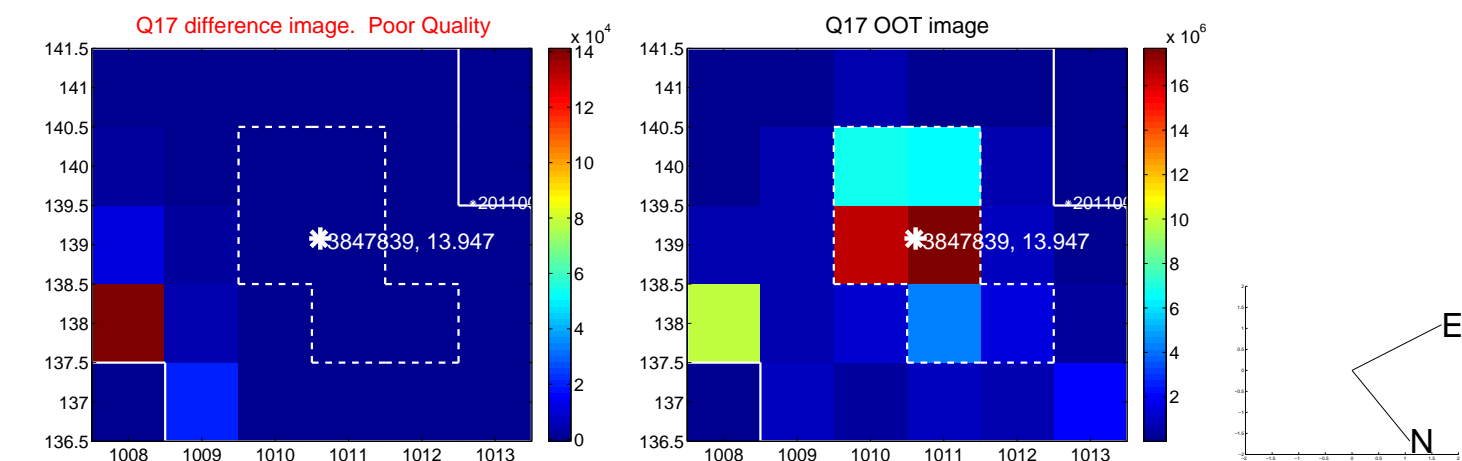
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



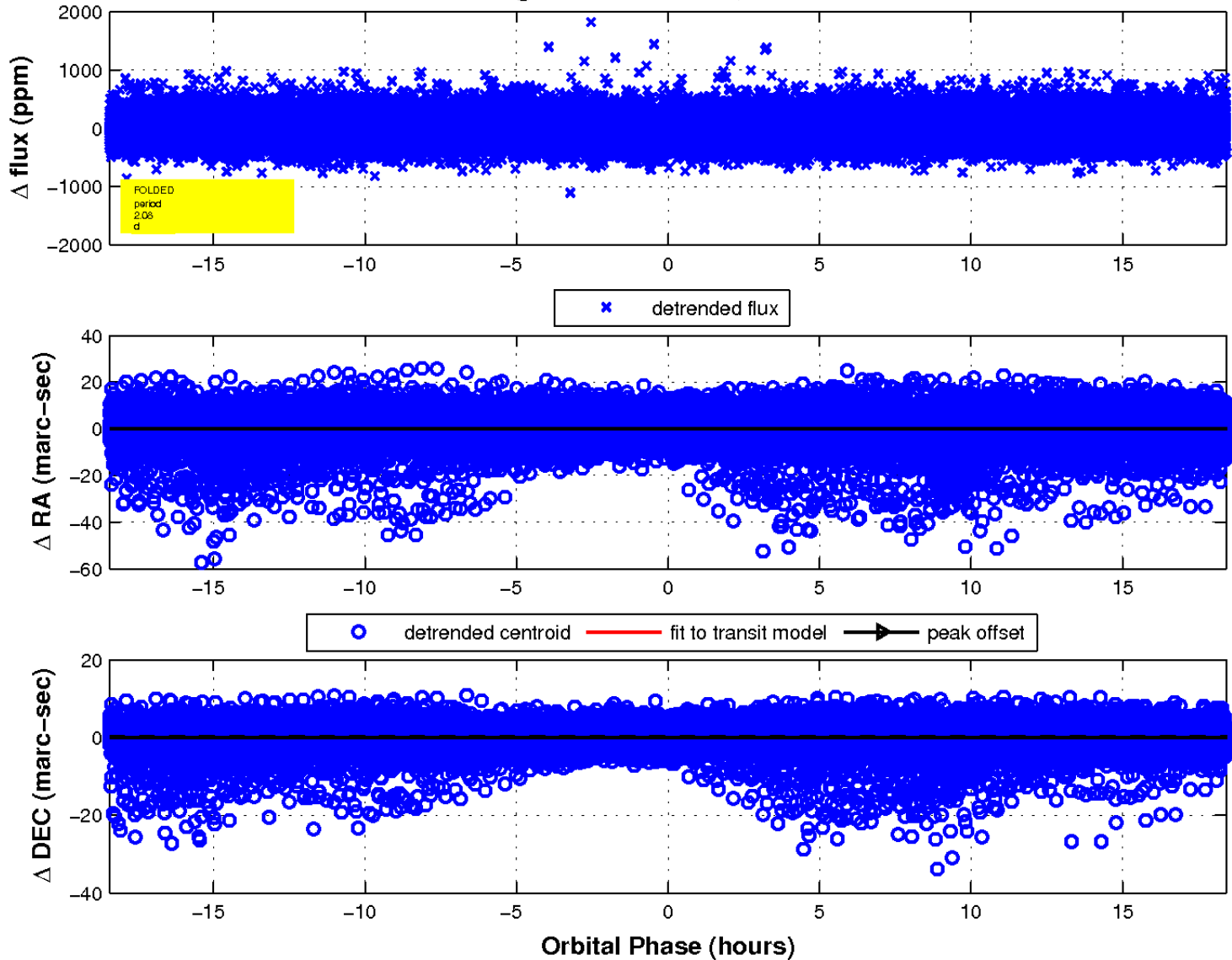
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

