

KIC 010215869

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})
010215869-01	OBS	3548.01	5.017238	134.490495	144524.0	4.370	5171.7	3492.3	1.08	6519	41.77	539.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010215869-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_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.

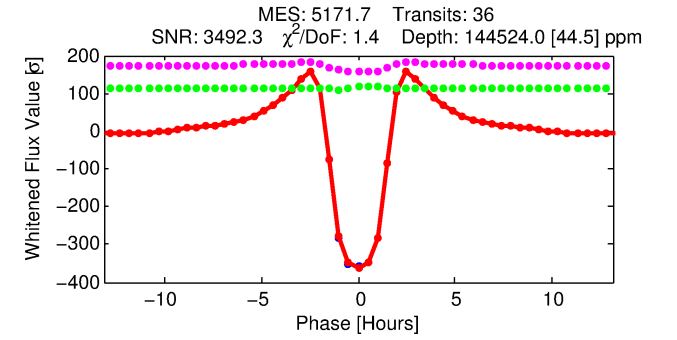
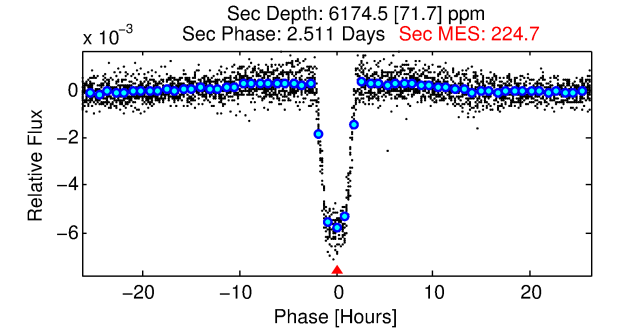
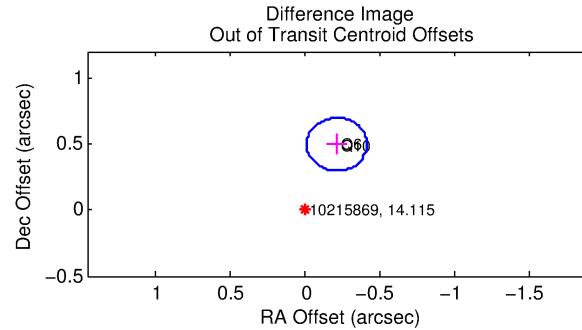
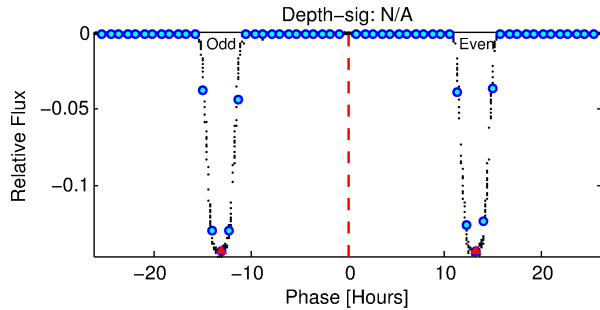
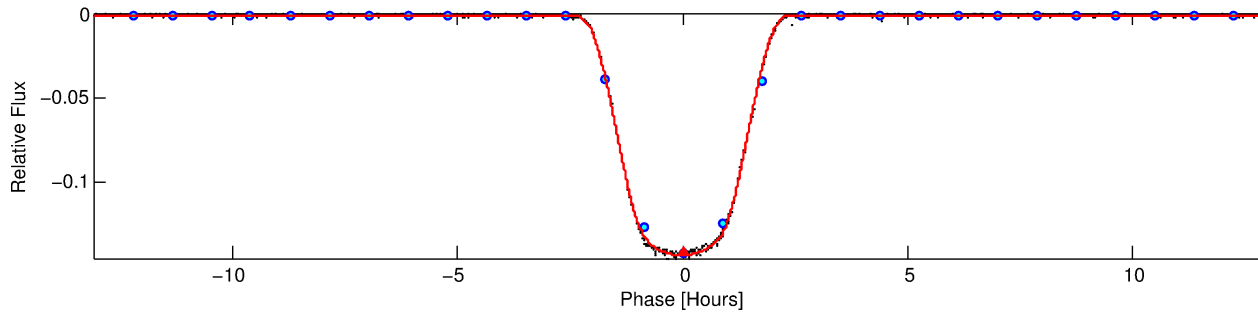
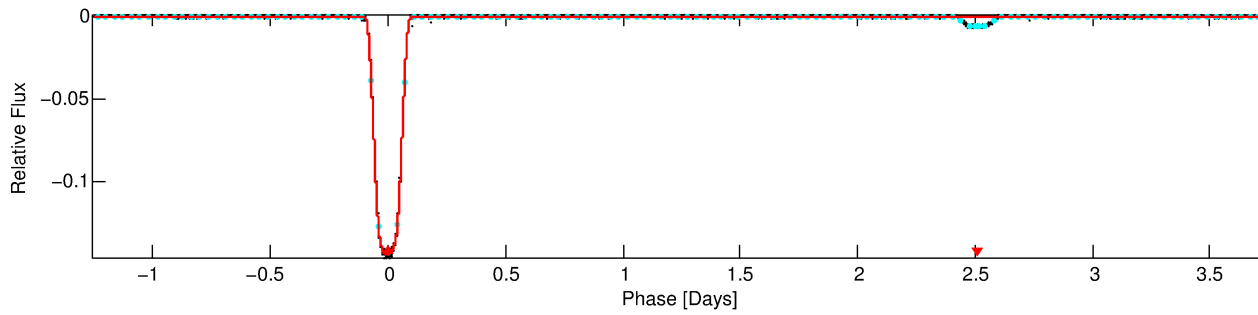
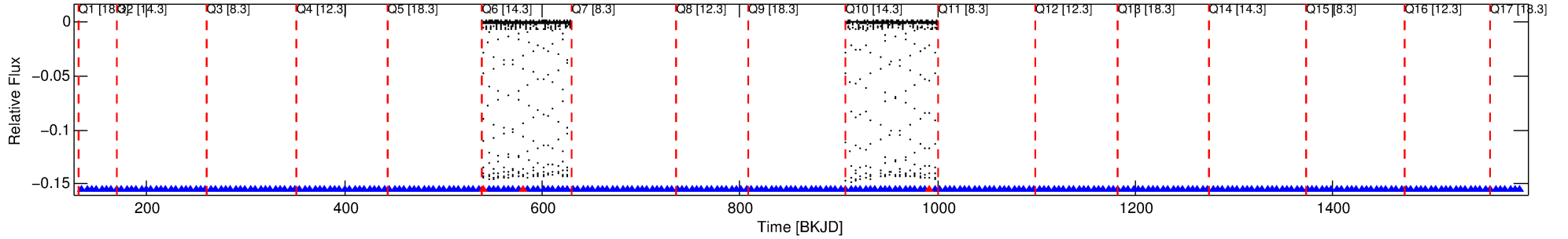
Ephemeris Match Information For 010215869-01

No Significant Match Found

DV One-Page Summary

KIC: 10215869 Candidate: 1 of 1 Period: 5.017 d
KOI: K03548.01 Corr: 0.999

Kp: 14.11 R*: 1.08 Rs Teff: 6519.0 K Logg: 4.41 Fe/H: -0.360



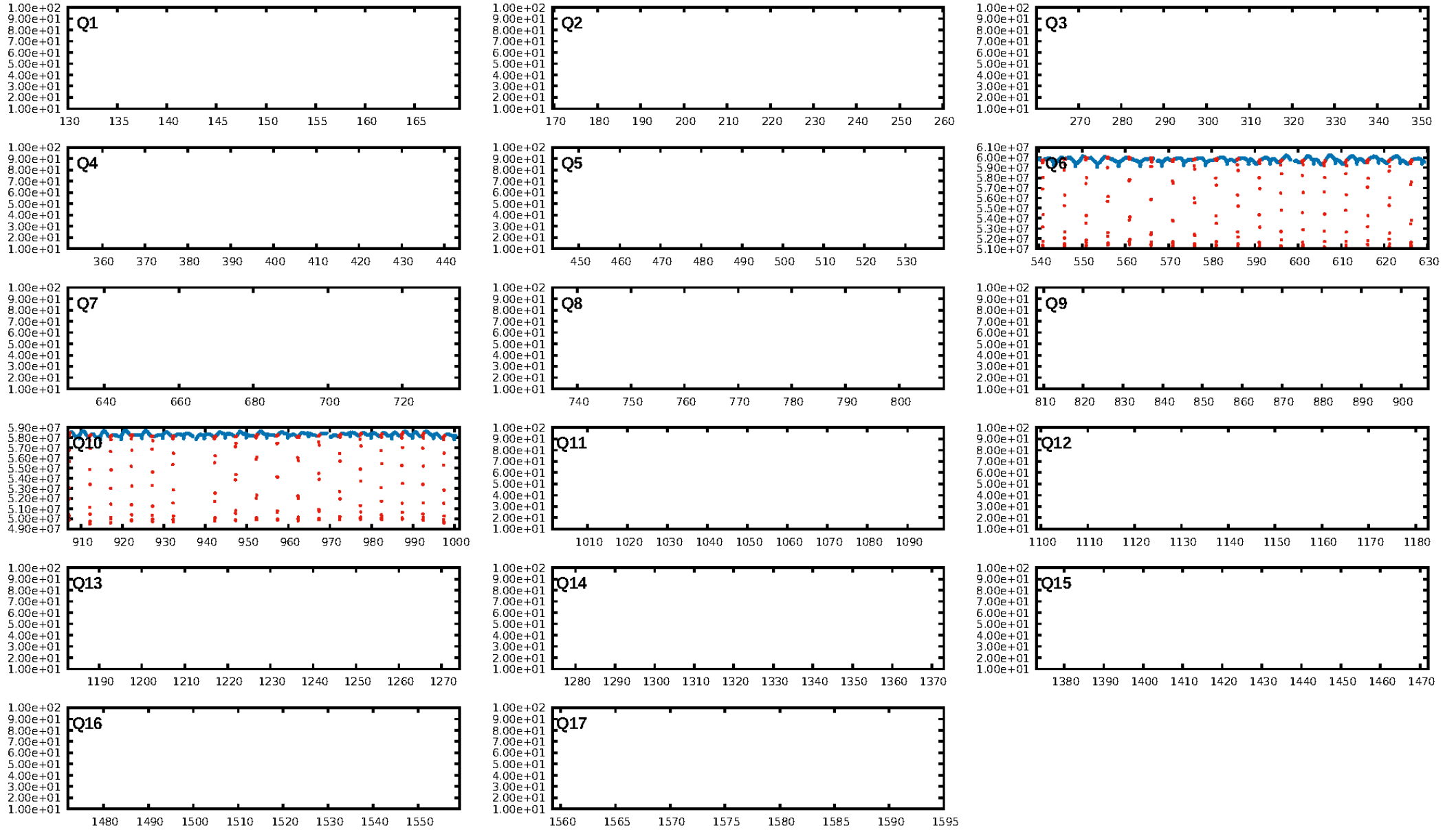
DV Fit Results:

Period = 5.01724 [0.00000] d
Epoch = 134.4905 [0.0000] BKJD
Rp/R* = 0.3547 [0.0001]
a/R* = 11.75 [0.01]
b = 0.22 [0.00]
Seff = 539.94 [223.49]
Teq = 1229 [127] K
Rp = 41.77 [13.12] Re
a = 0.0591 [0.0156] AU
Ag = 6.79 [2.61] [2.22σ]
Teffp = 3068 [118] K [10.60σ]

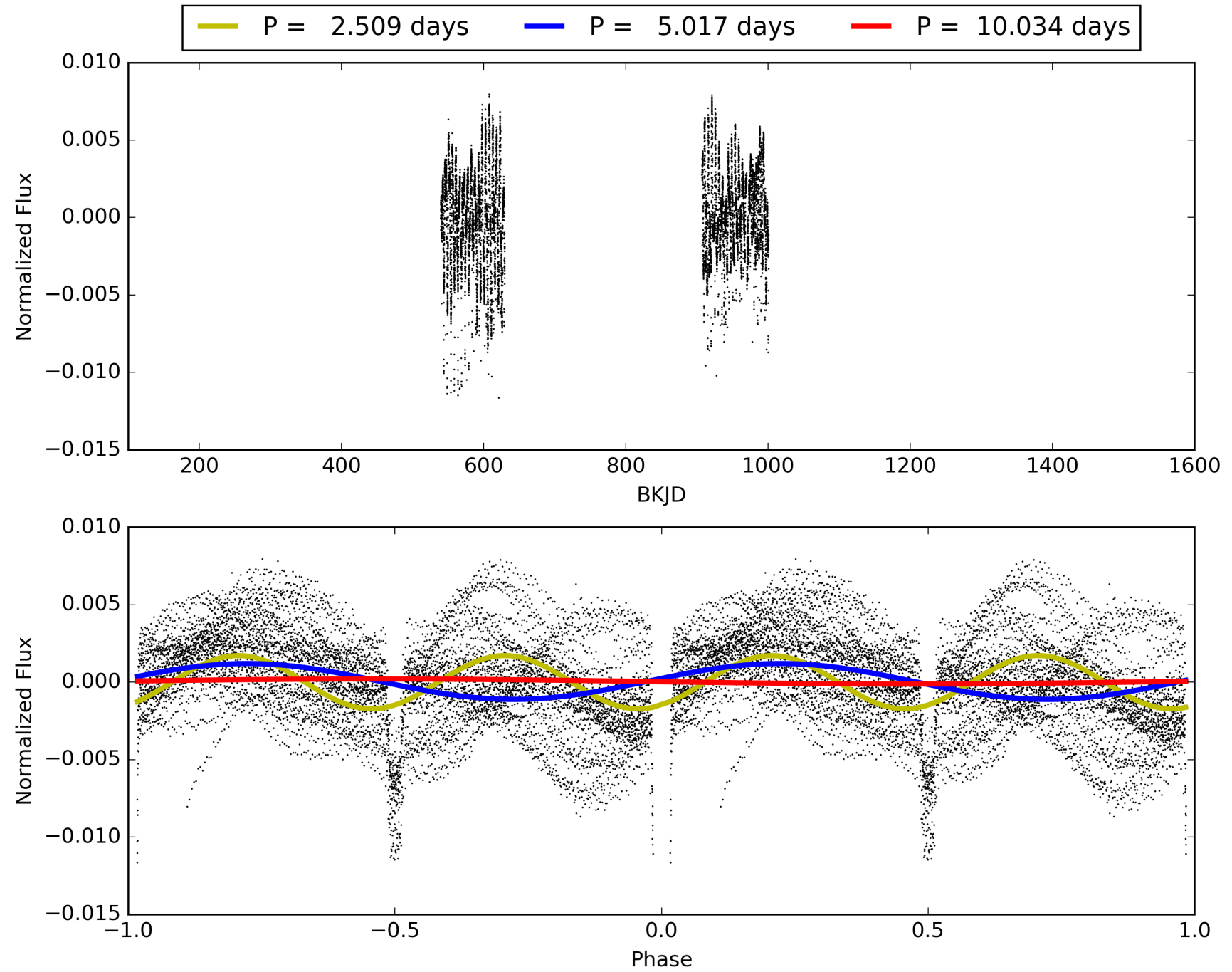
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 57.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [33/36]
GhostDiagnostic-chr: 2.487
Centroid-sig: 0.0%
Centroid-so: 0.104 arcsec [63.72σ]
OotOffset-rm: 0.541 arcsec [8.07σ]
KicOffset-rm: 0.245 arcsec [3.61σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 010215869-01, PDC Light Curves

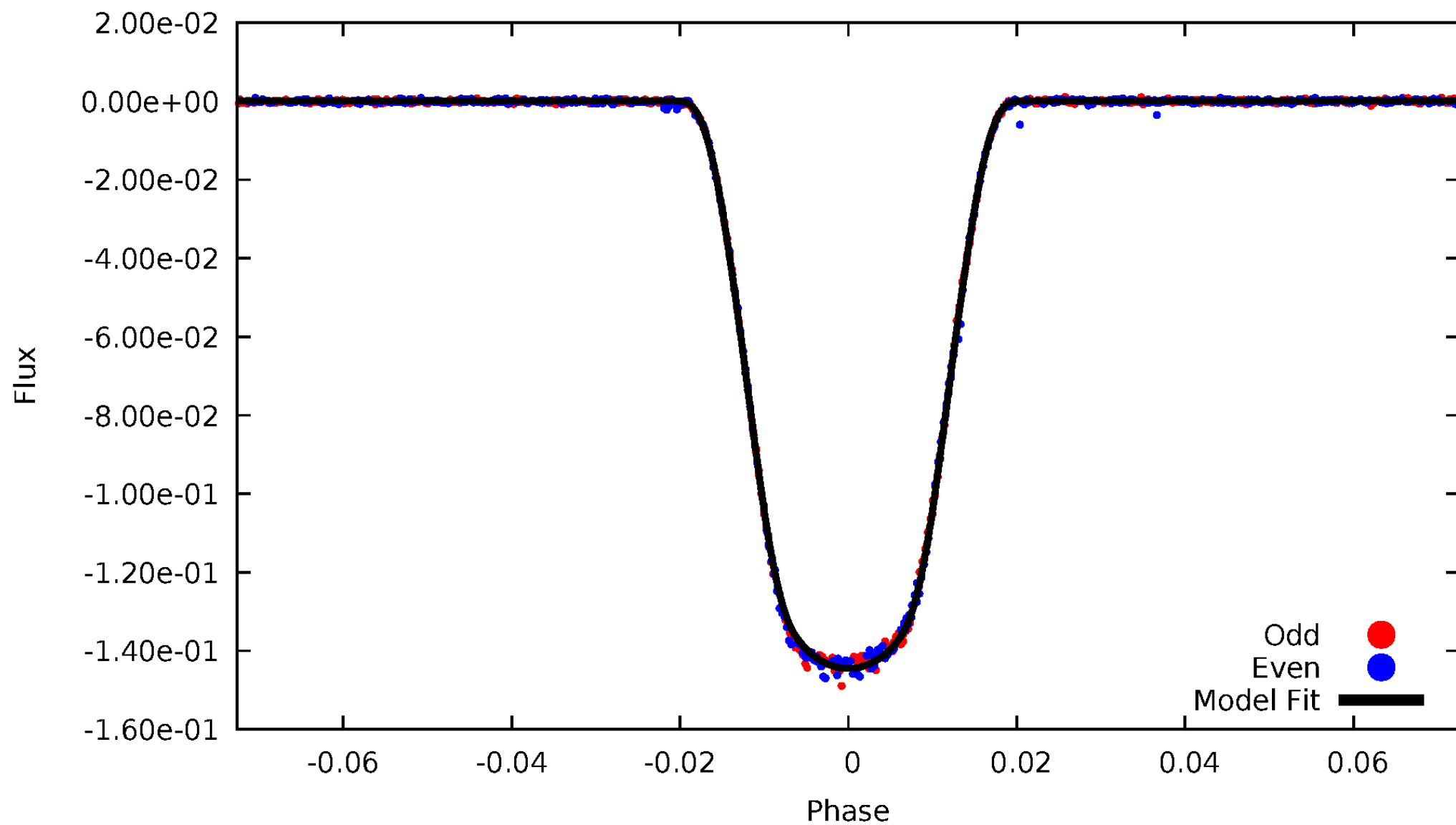


TCE 010215869-01



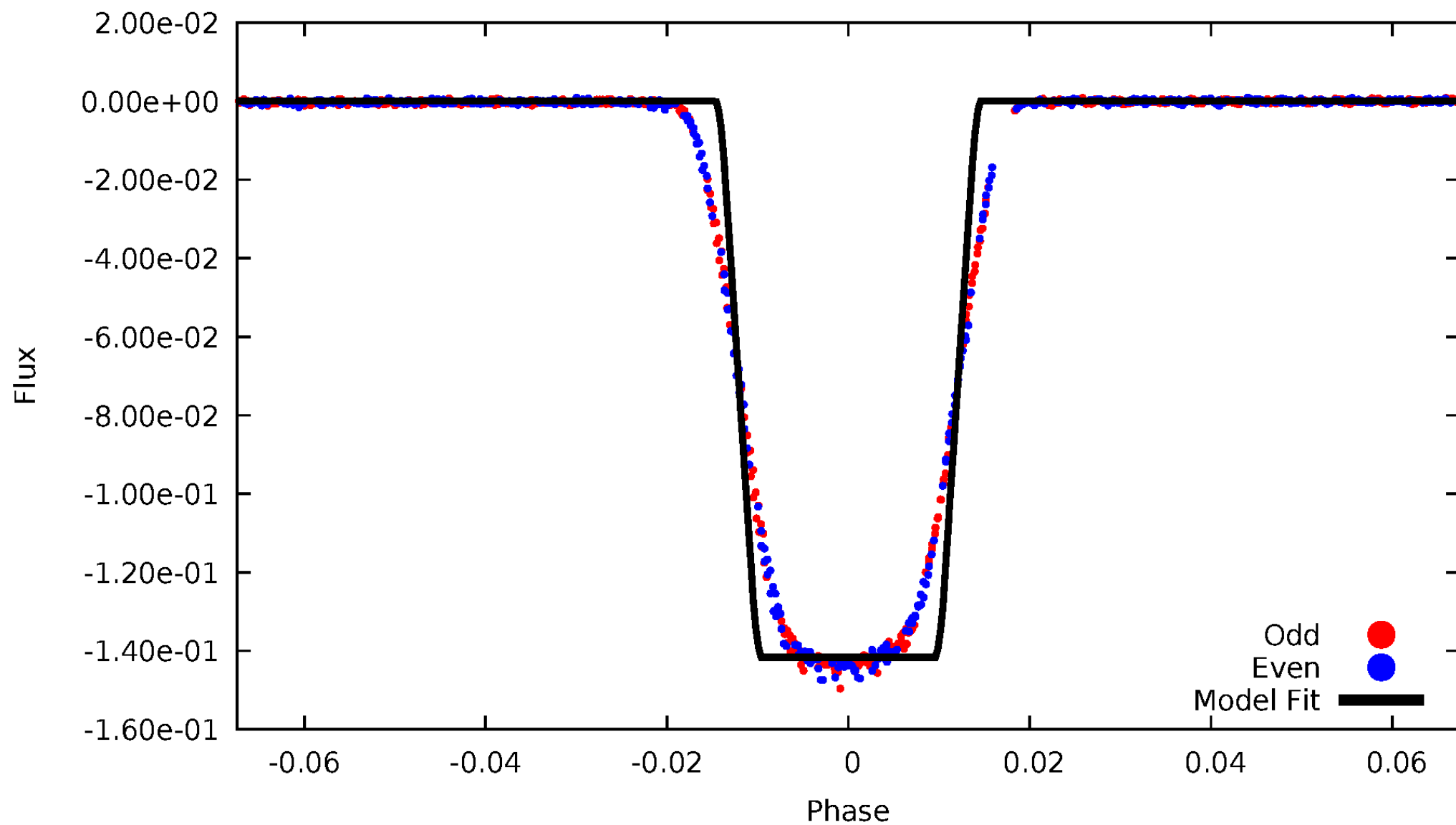
DV Odd/Even

TCE 010215869-01



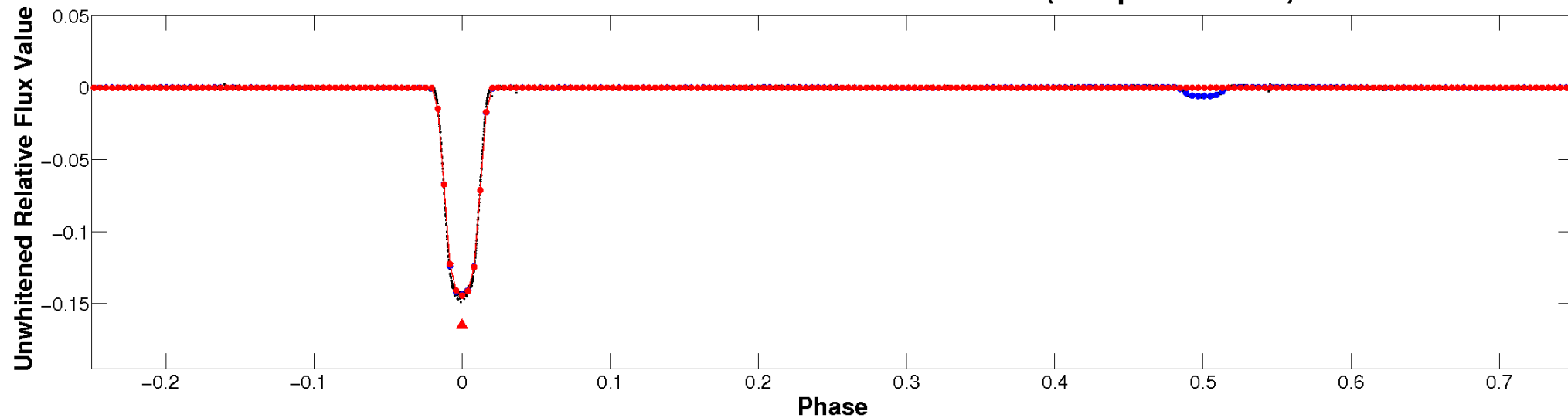
ALT Odd/Even

TCE 010215869-01

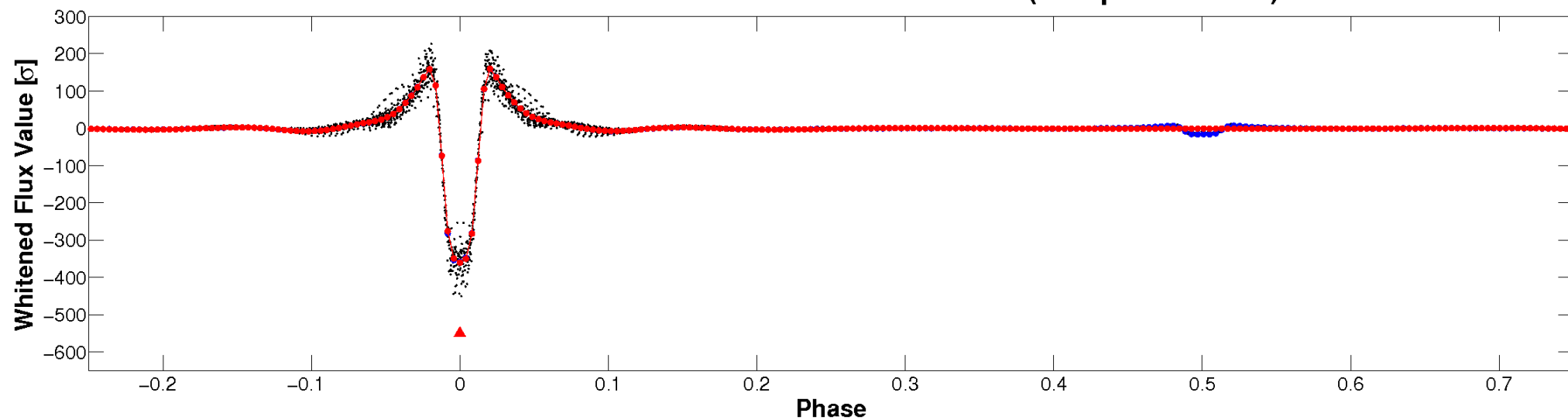


Non-Whitened Vs. Whitened Light Curve

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

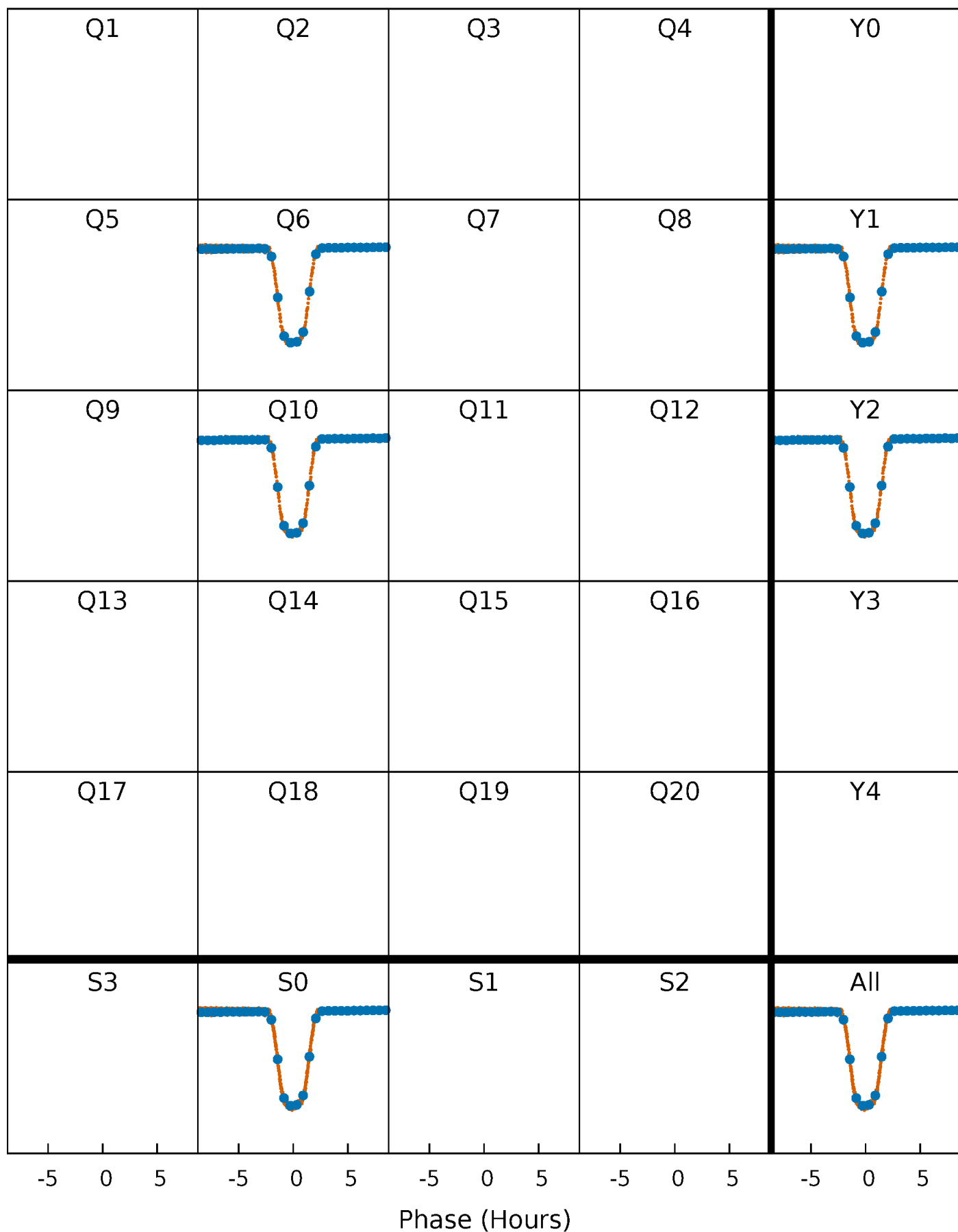


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



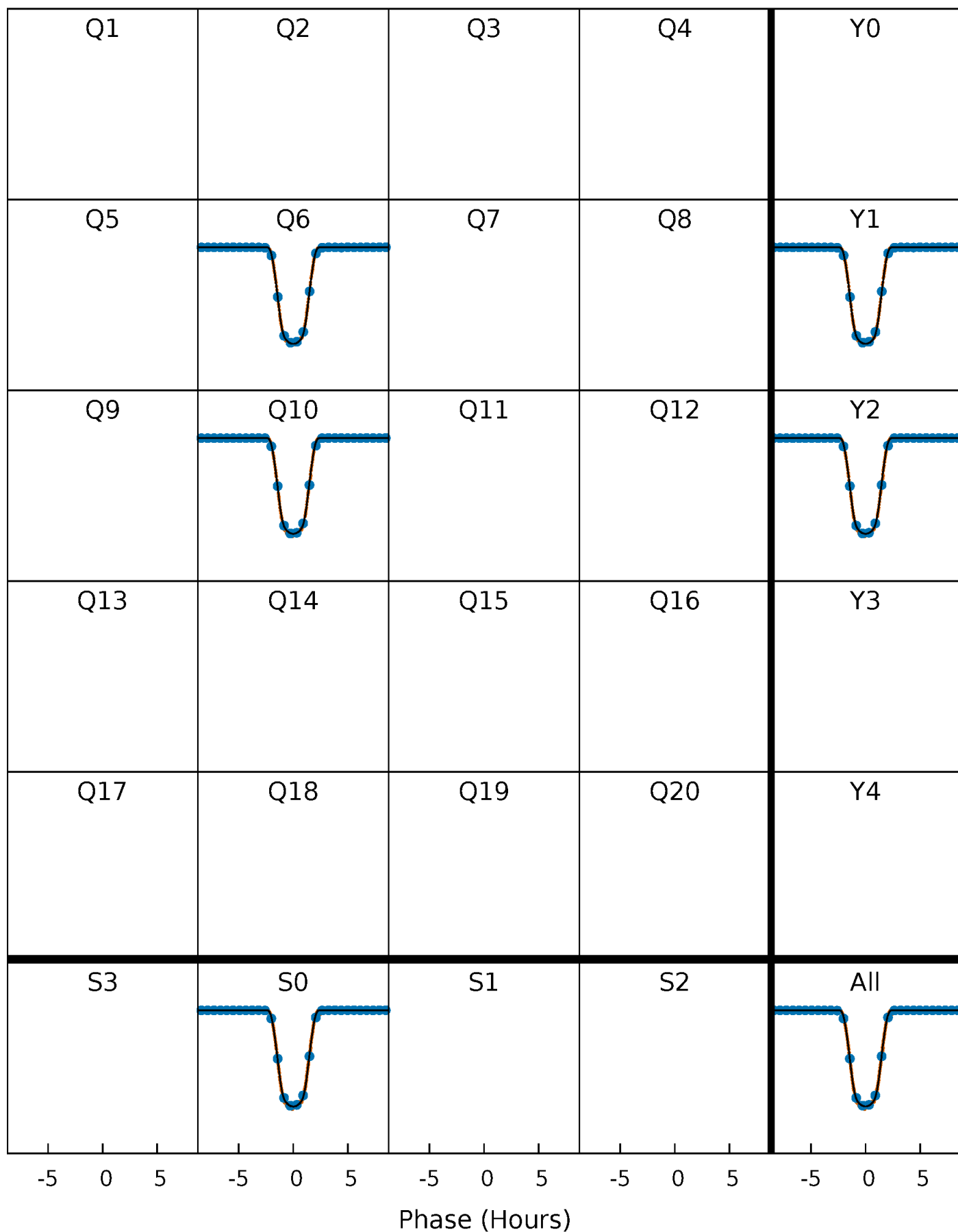
PDC Quarter-Phased Transit Curves

TCE 010215869-01 P= 5.017238 Days $T_0=134.490495$ (BKJD)



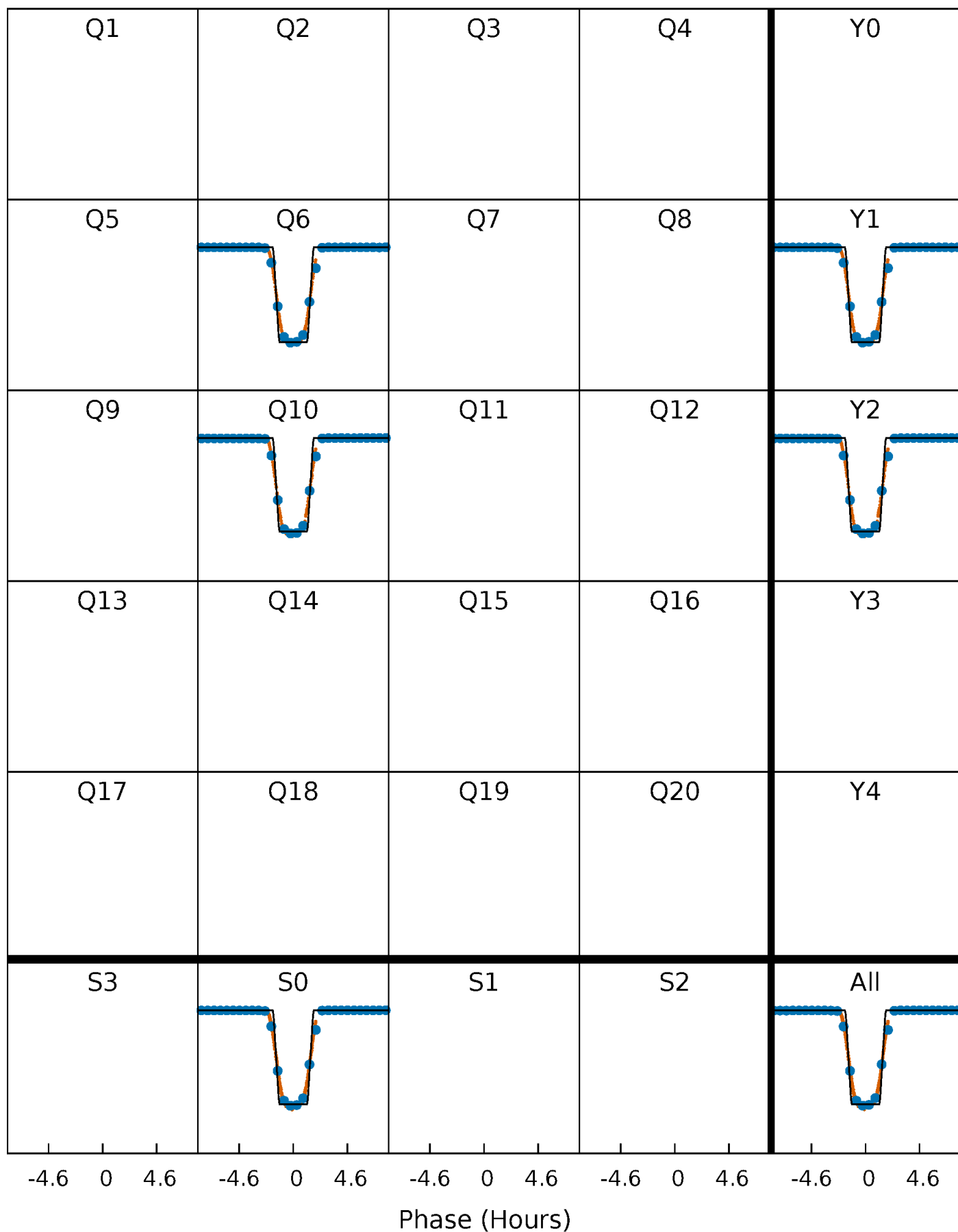
DV Quarter-Phased Transit Curves

TCE 010215869-01 P= 5.017238 Days $T_0=134.490495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

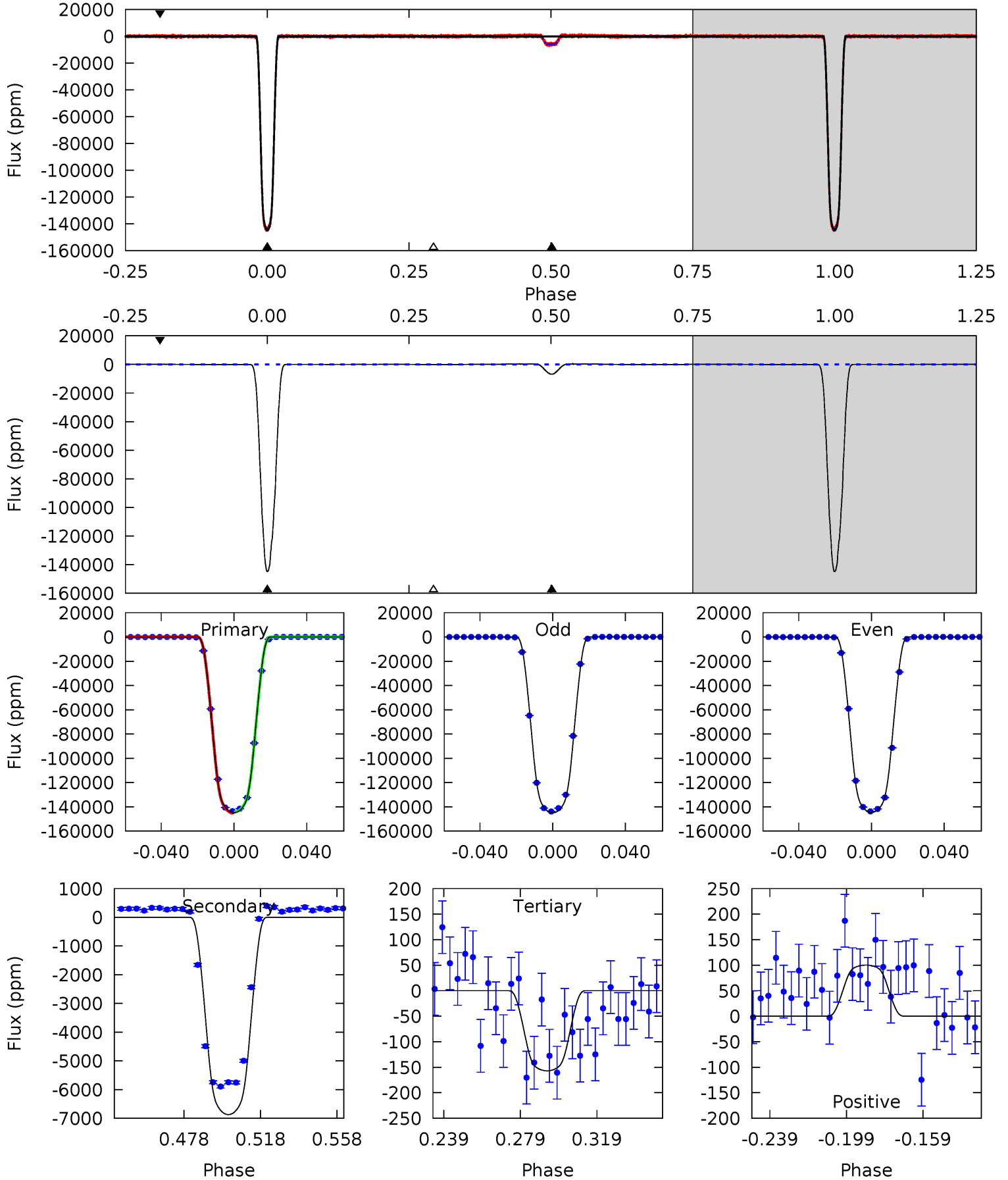
TCE 010215869-01 P= 5.017253 Days $T_0=134.488665$ (BKJD)



DV Model-Shift Uniqueness Test

010215869-01, P = 5.017238 Days, E = 134.490495 Days

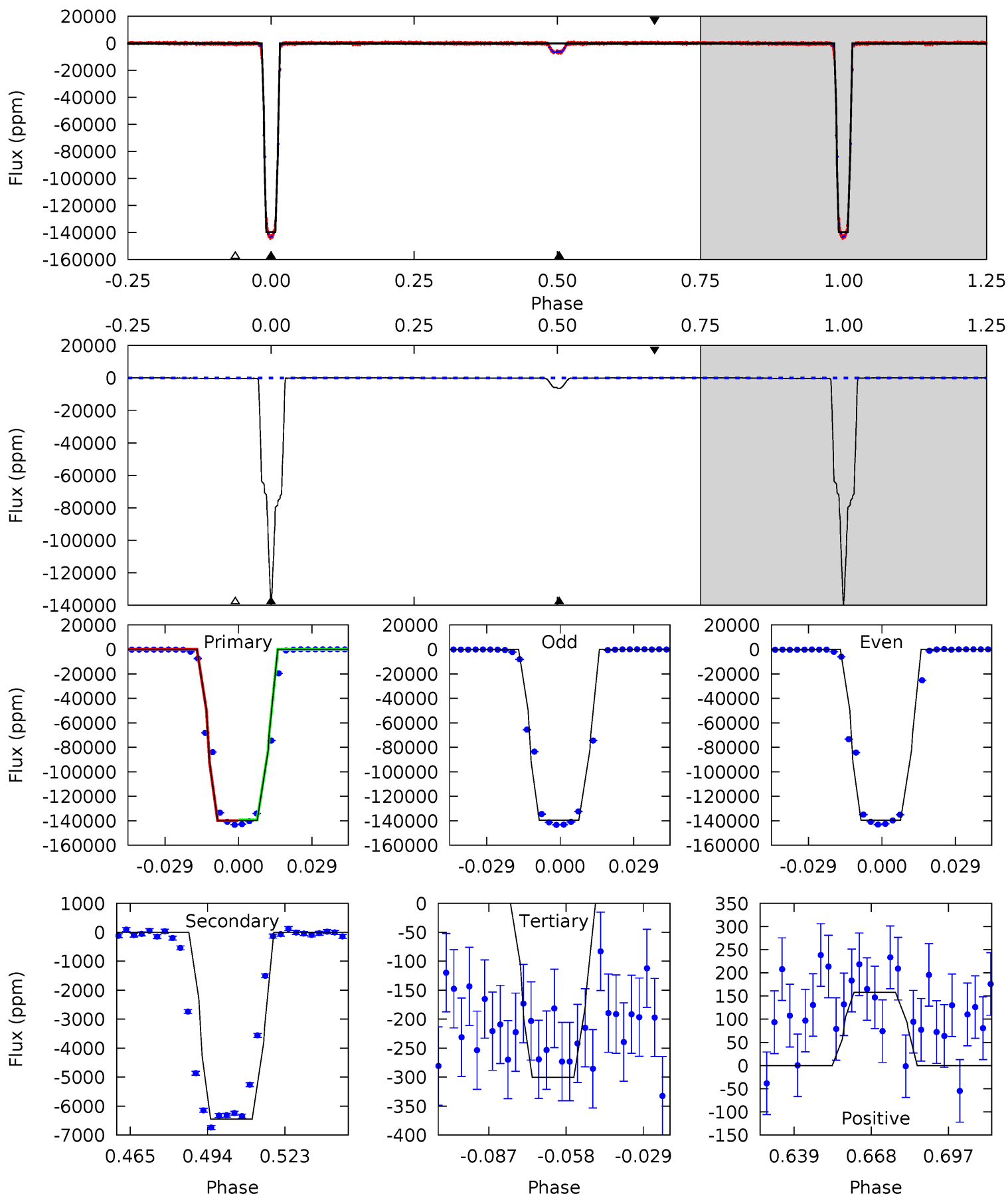
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6691	317.4	7.25	4.63	4.75	2.06	5.50	6683	6686	310.2	312.8	5.32	1.00	0.00	0



Alt Model-Shift Uniqueness Test

010215869-01, P = 5.017253 Days, E = 134.488665 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3851	177.7	8.28	4.35	4.82	2.18	3.08	3843	3847	169.5	173.4	0.72	1.00	0.00	11.6



Stellar Parameters For KIC 010215869

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6519^{+181}_{-250}	$4.410^{+0.070}_{-0.210}$	$-0.360^{+0.250}_{-0.300}$	$1.079^{+0.339}_{-0.121}$	$1.091^{+0.157}_{-0.141}$	$1.224^{+0.448}_{-0.634}$
	+3%/-4%	+2%/-5%	+69%/-83%	+31%/-11%	+14%/-13%	+37%/-52%
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 010215869-01 / KOI 3548.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6871 ± 22	$43.16^{+7.30}_{-3.67}$	1756^{+132}_{-90}	3582^{+60}_{-90}	$7.139^{+1.068}_{-1.835}$
Alt.	-6450 ± 36	$45.20^{+8.00}_{-3.87}$	1748^{+130}_{-94}	3470^{+58}_{-73}	$5.964^{+1.059}_{-1.508}$

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

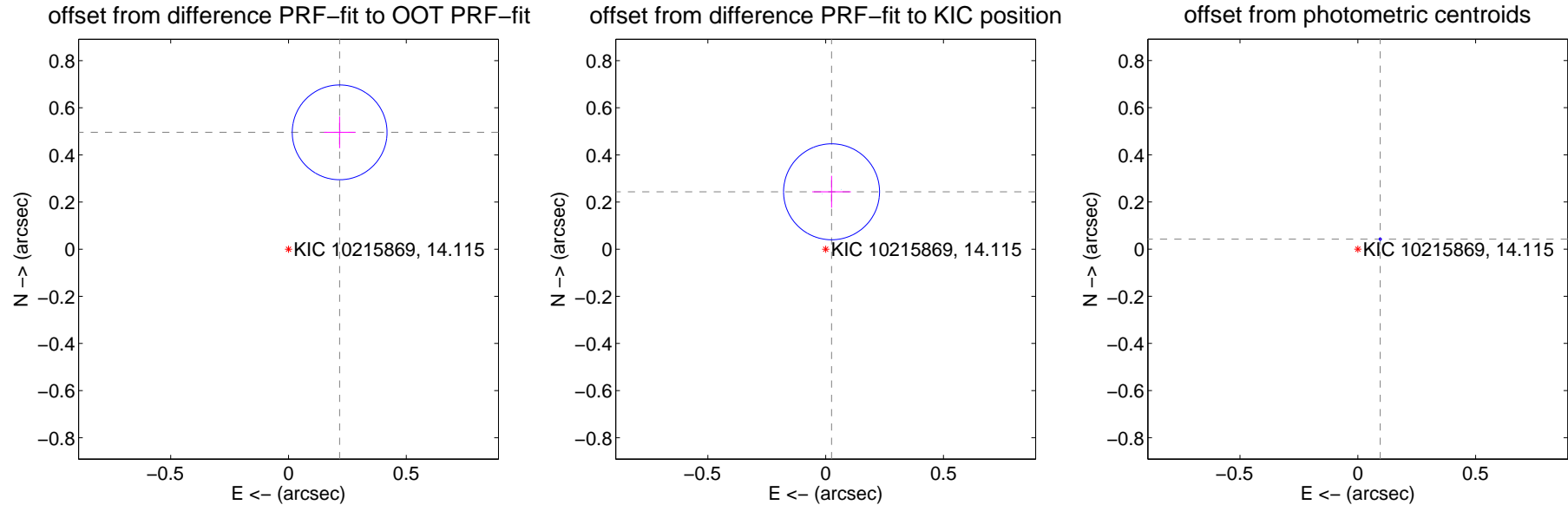
DV Centroid Data

Supplemental centroid analysis for 010215869-01. Kepler magnitude: 14.12. Transit SNR 3492.32

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.541 ± 0.067	8.07	-0.217 ± 0.067	0.496 ± 0.067
PRF-fit source offset from KIC position	0.245 ± 0.068	3.61	-0.025 ± 0.082	0.244 ± 0.068
photometric centroid source offset	0.10 ± 0.00	63.72	-0.10 ± 0.00	0.04 ± 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.



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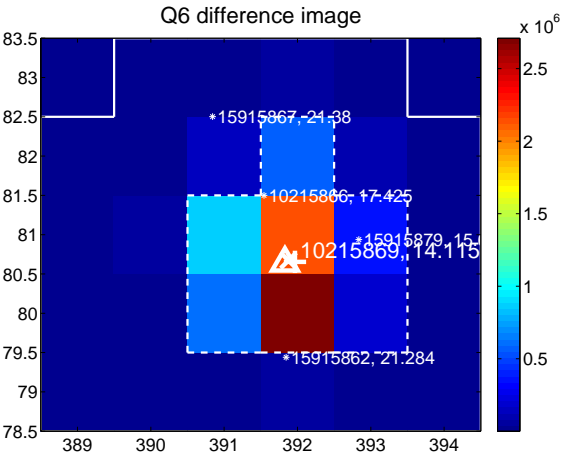
Q5 no difference image



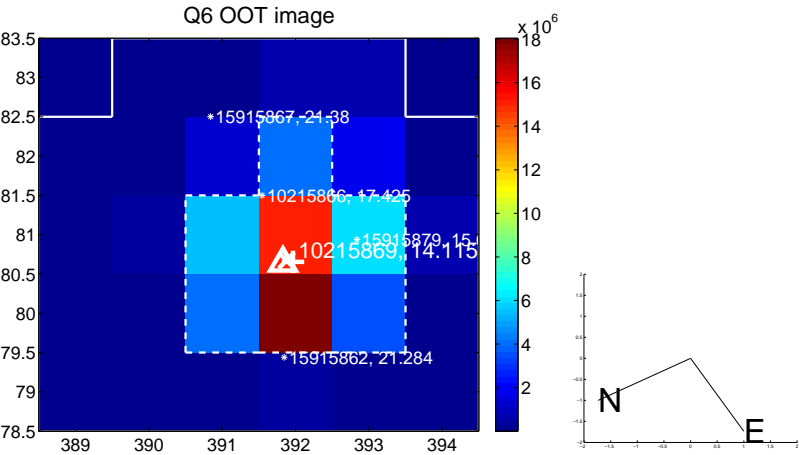
Q5 no OOT image



Q6 difference image



Q6 OOT image



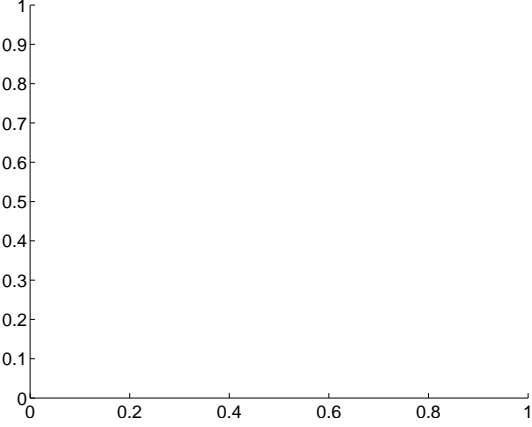
Q7 no difference image



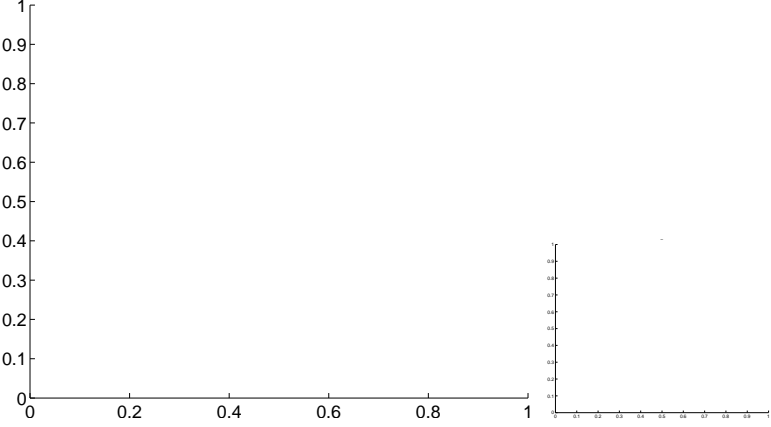
Q7 no OOT image



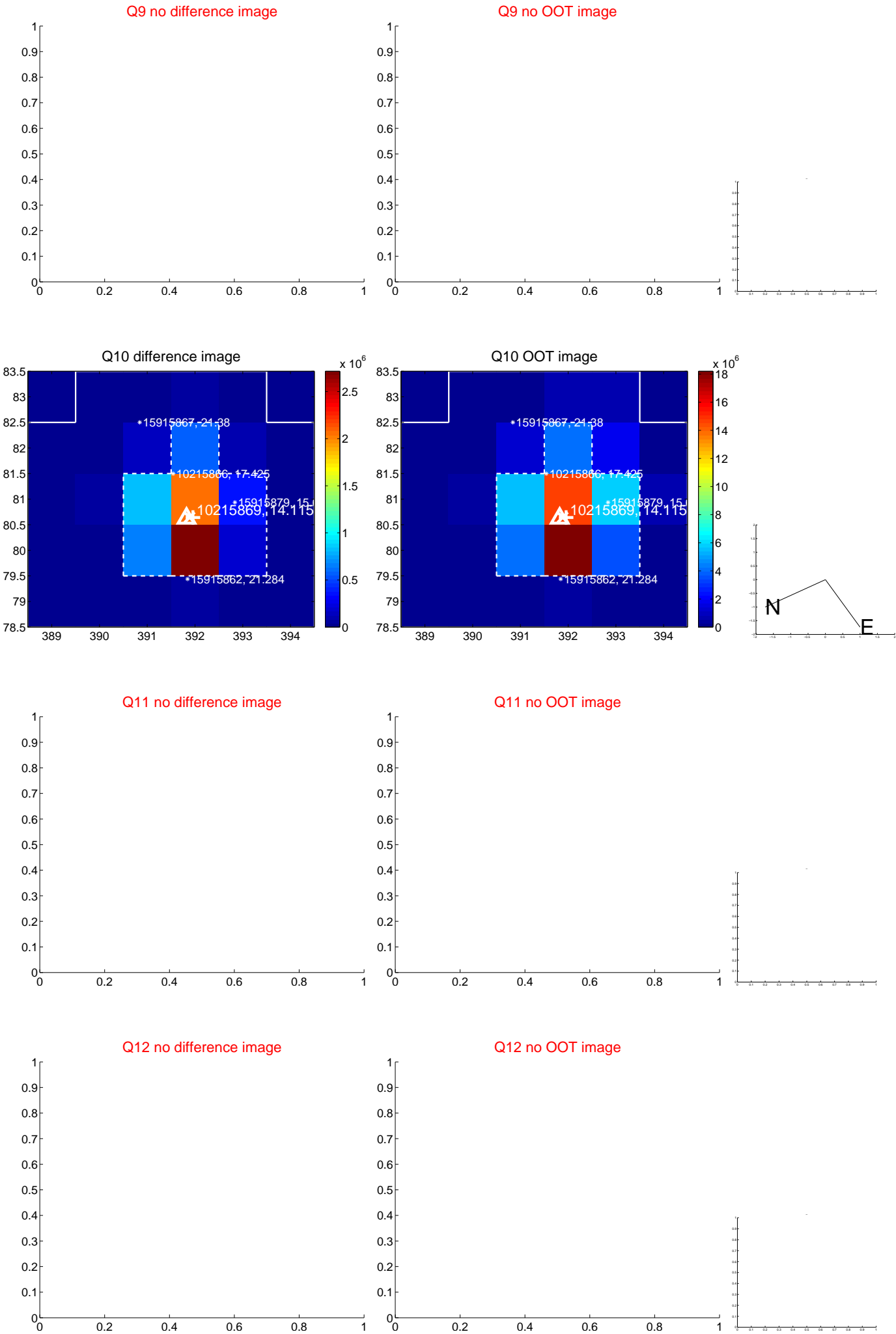
Q8 no difference image



Q8 no OOT image



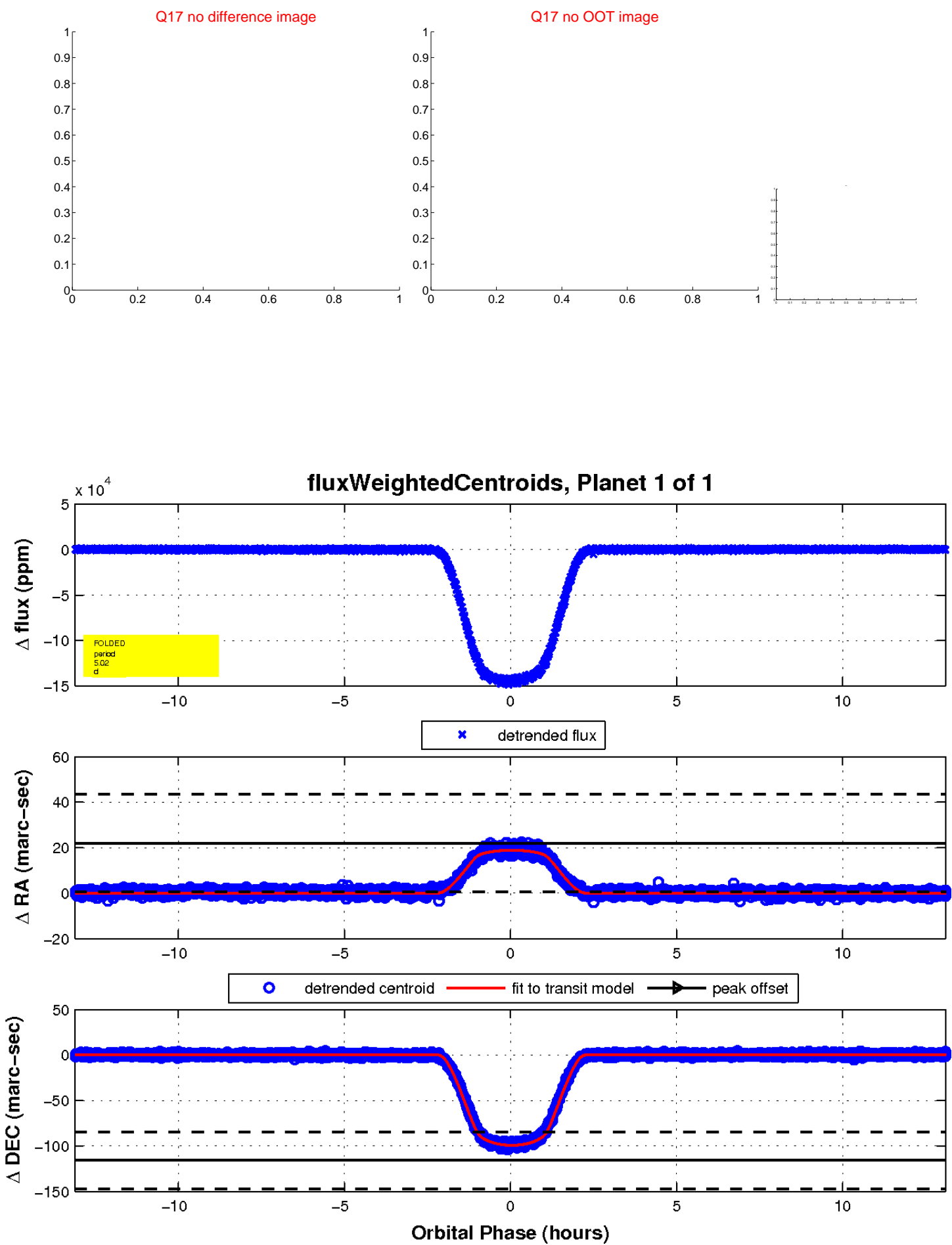
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

