

KIC 002436954

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})
002436954-01	OBS	No	427.692171	329.865612	2856.3	14.099	8.0	7.7	2.21	4993	22.54	2.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002436954-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—MOD_TER_DV—INCONSISTENT_TRANS—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.

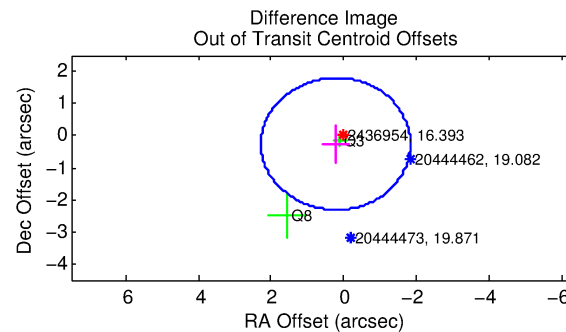
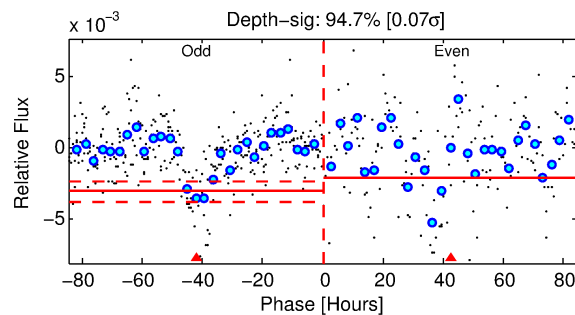
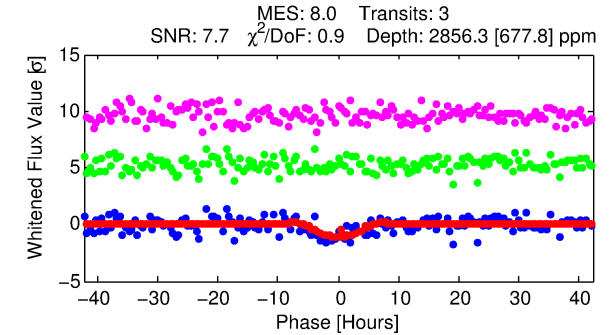
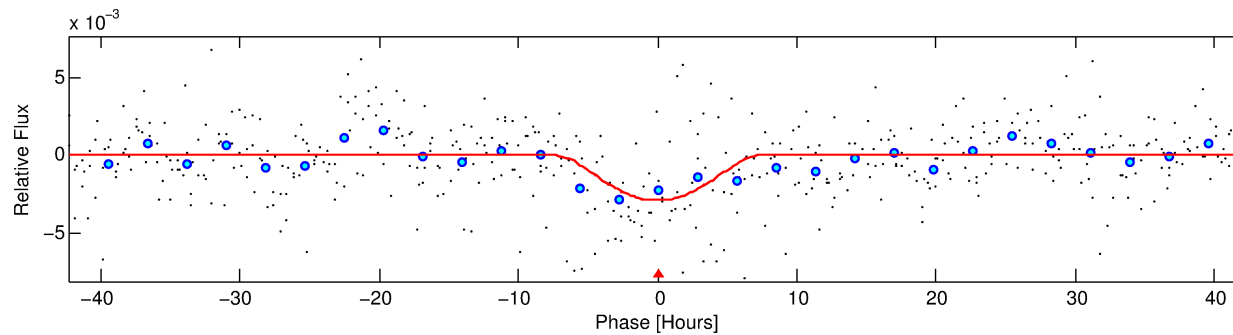
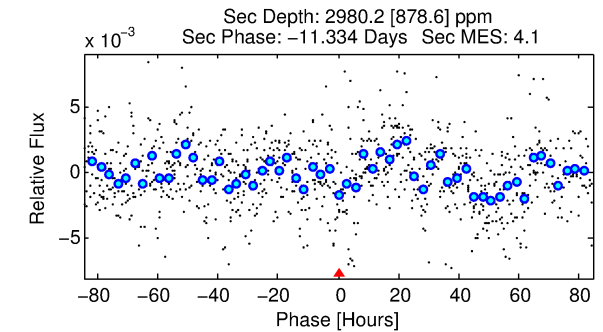
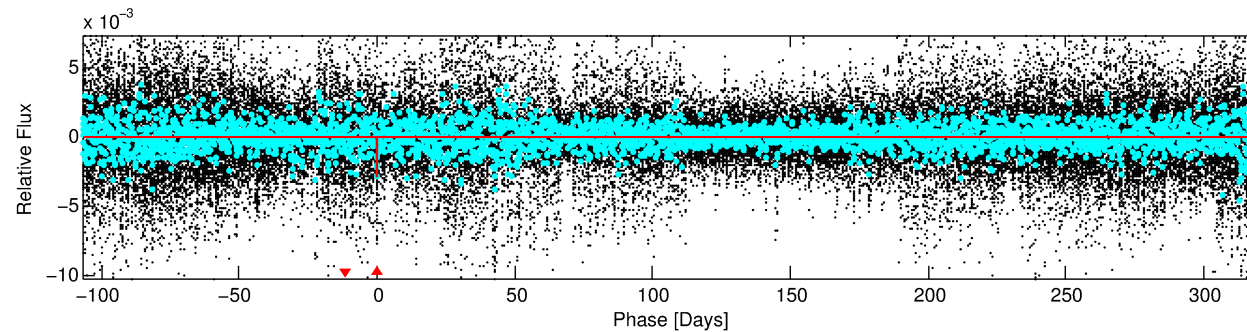
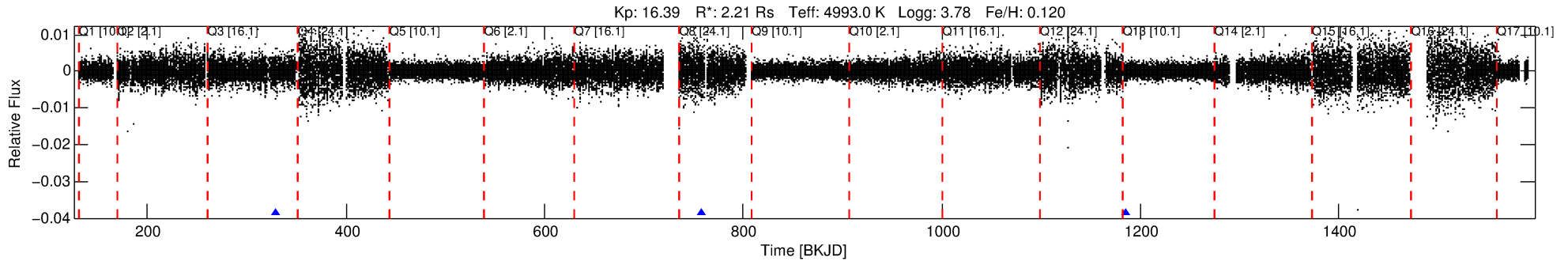
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002436954-01

No Significant Match Found

DV One-Page Summary

KIC: 2436954 Candidate: 1 of 1 Period: 427.692 d



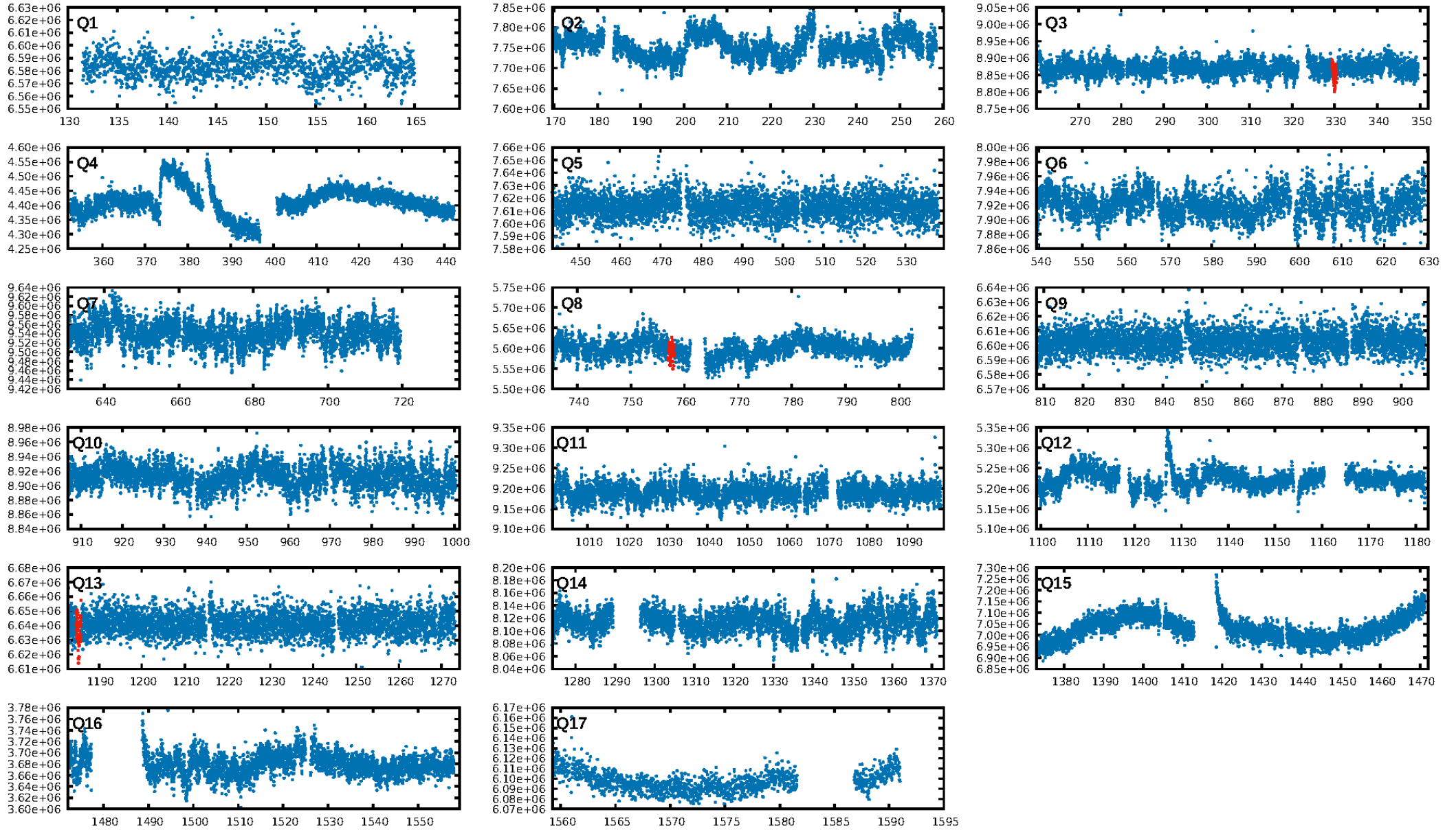
DV Fit Results:

Period = 427.69217 [0.03150] d
Epoch = 329.8656 [0.0581] BKJD
Rp/R* = 0.0936 [0.4185]
a/R* = 104.24 [92.01]
b = 1.00 [0.61]
Seff = 2.09 [2.80]
Teq = 307 [103] K
Rp = 22.54 [101.94] Re
a = 1.1385 [0.8780] AU
Ag = 4183.71 [37856.63] [0.11σ]
Teffp = 3814 [8534] K [0.41σ]

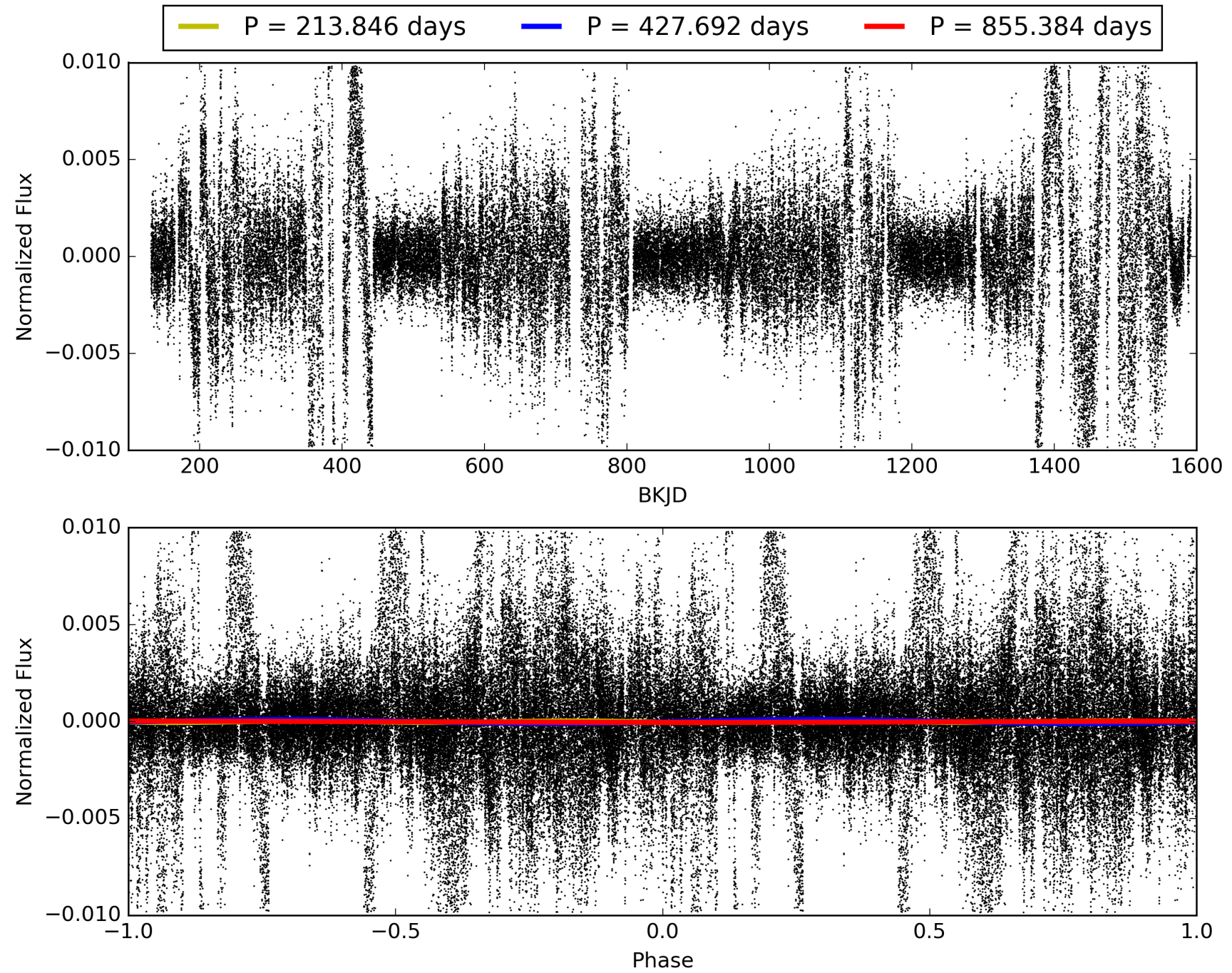
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 20.8%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 8.03e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.074
Centroid-sig: 39.8%
Centroid-so: 2.155 arcsec [11.87σ]
OotOffset-rm: 0.343 arcsec [0.50σ]
KicOffset-rm: 3.720 arcsec [3.19σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 002436954-01, PDC Light Curves

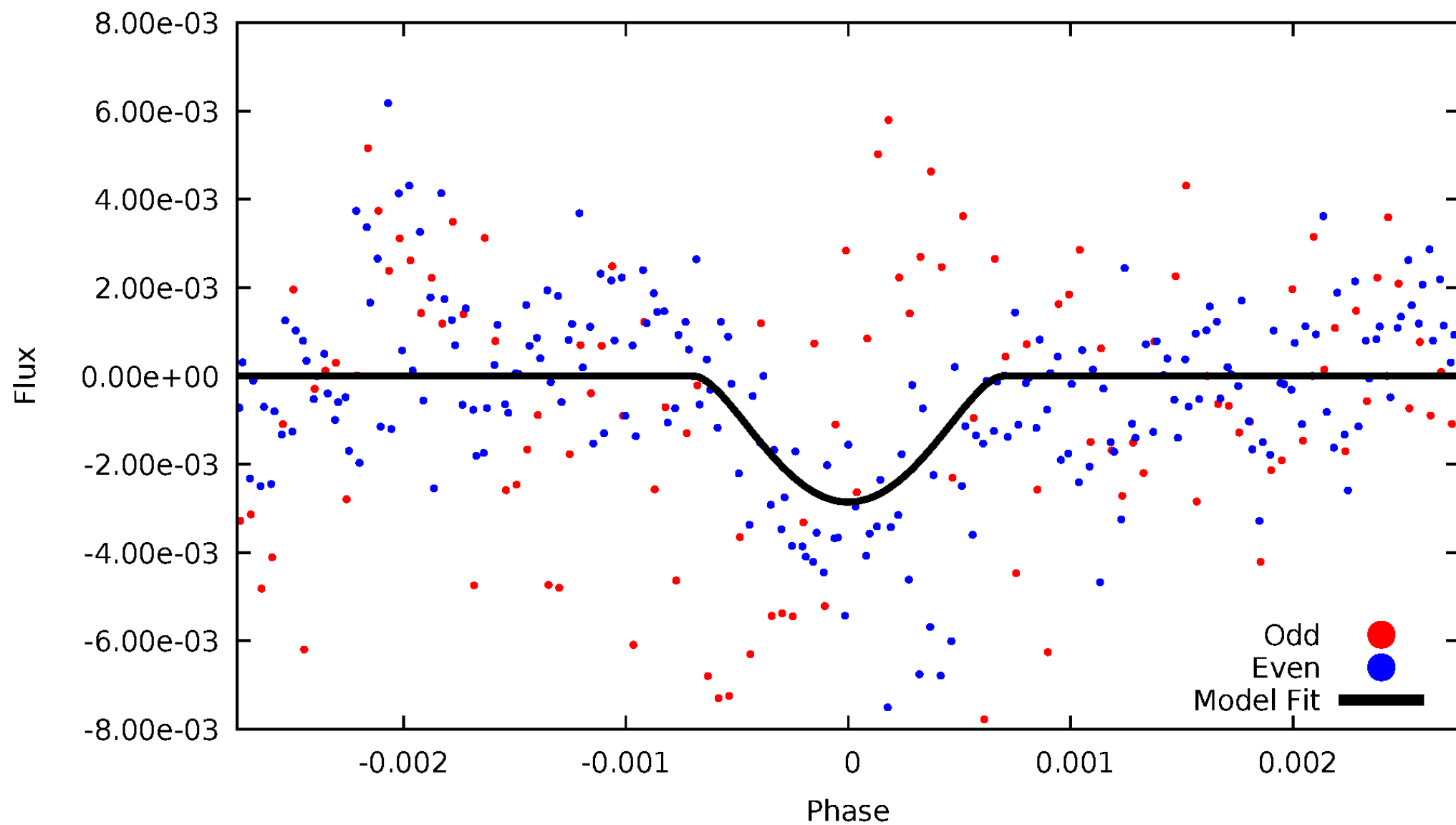


TCE 002436954-01



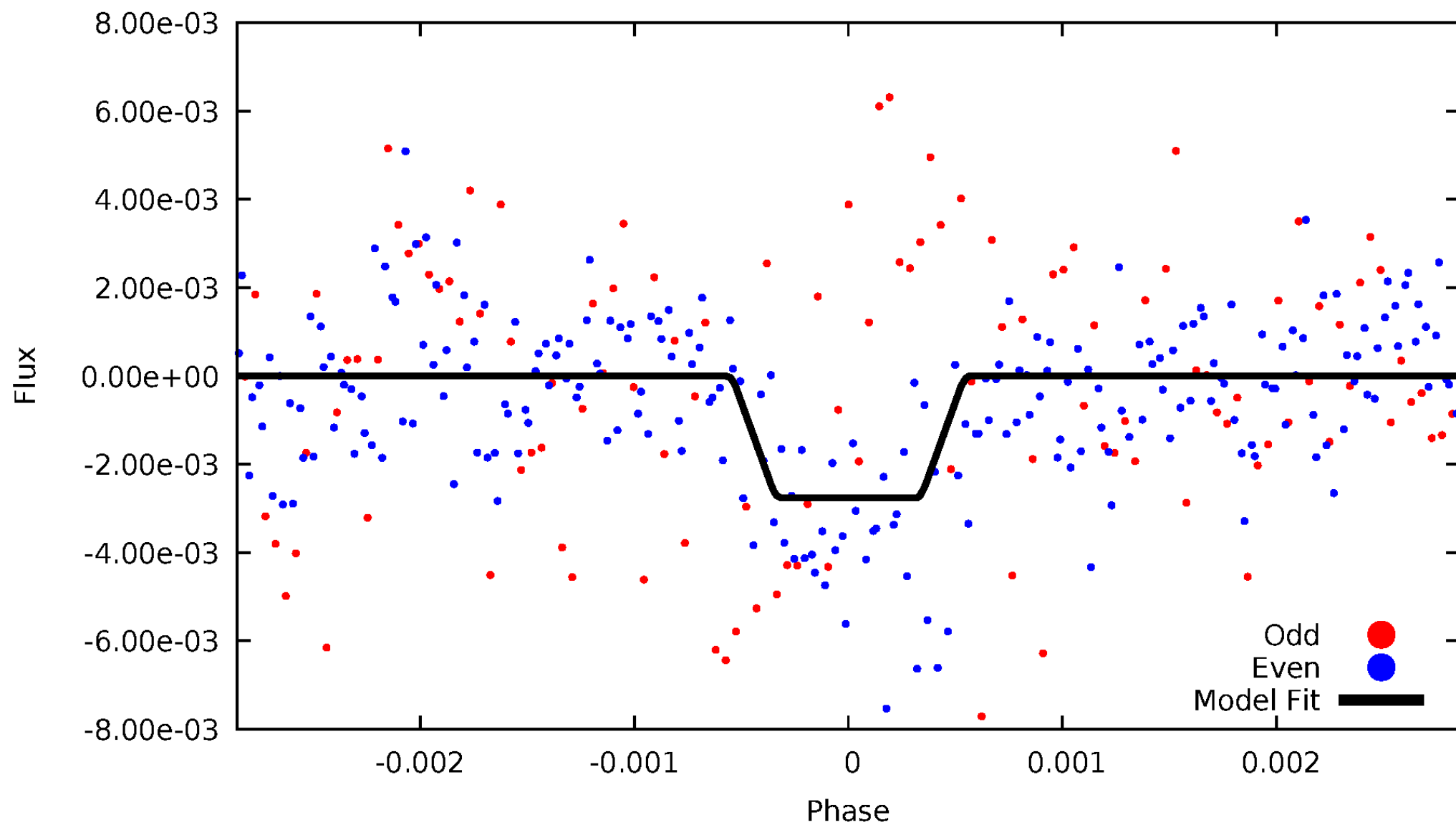
DV Odd/Even

TCE 002436954-01



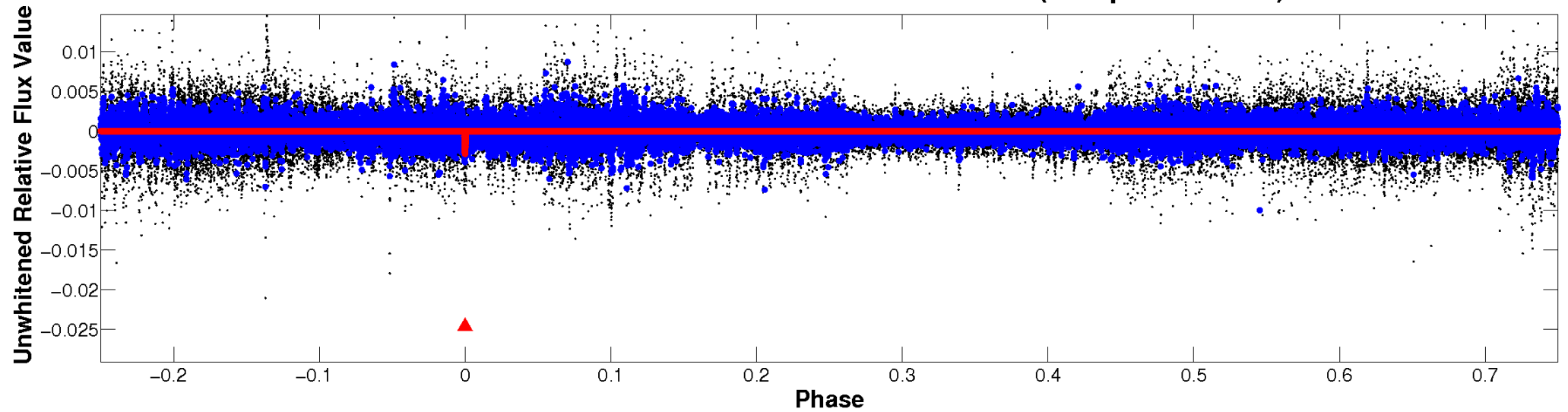
ALT Odd/Even

TCE 002436954-01

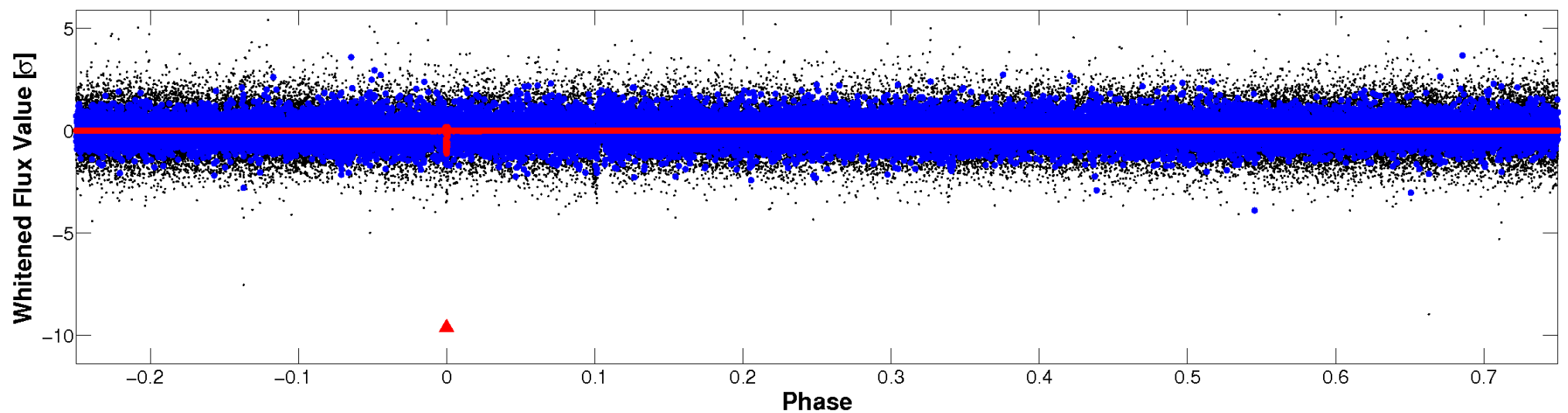


Non-Whitened Vs. Whitened Light Curve

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

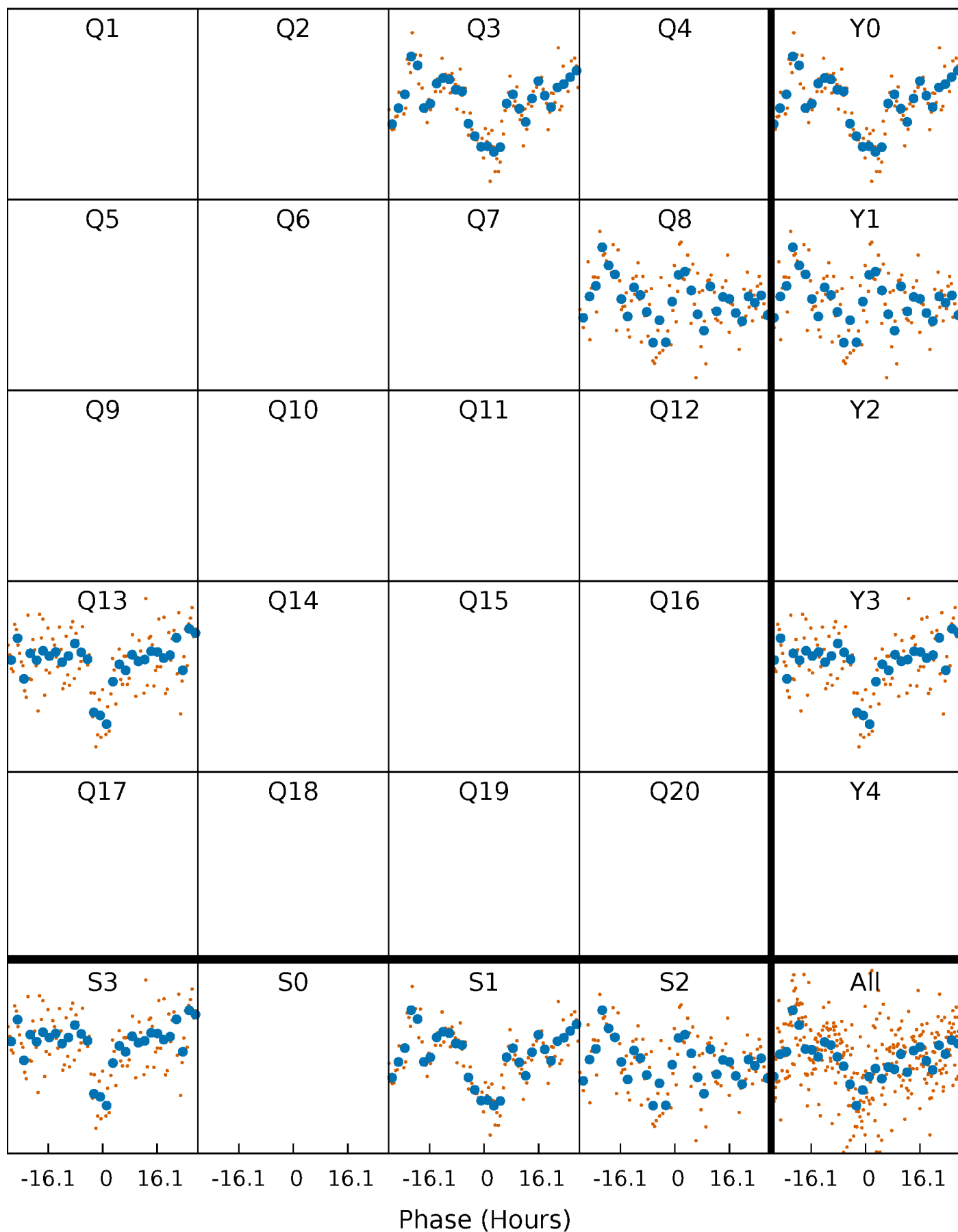


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



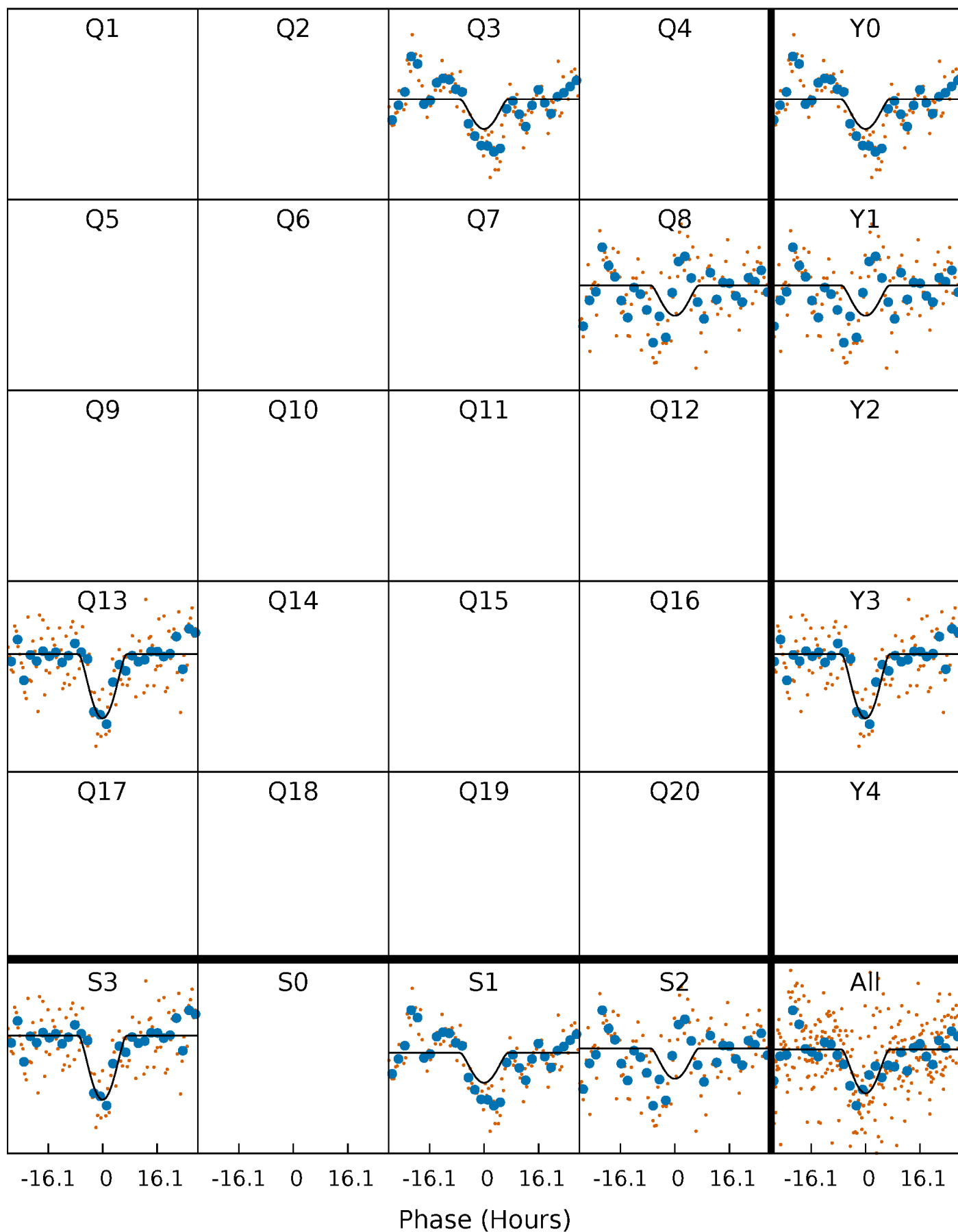
PDC Quarter-Phased Transit Curves

TCE 002436954-01 P=427.692171 Days $T_0=329.865612$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002436954-01 P=427.692171 Days $T_0=329.865612$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

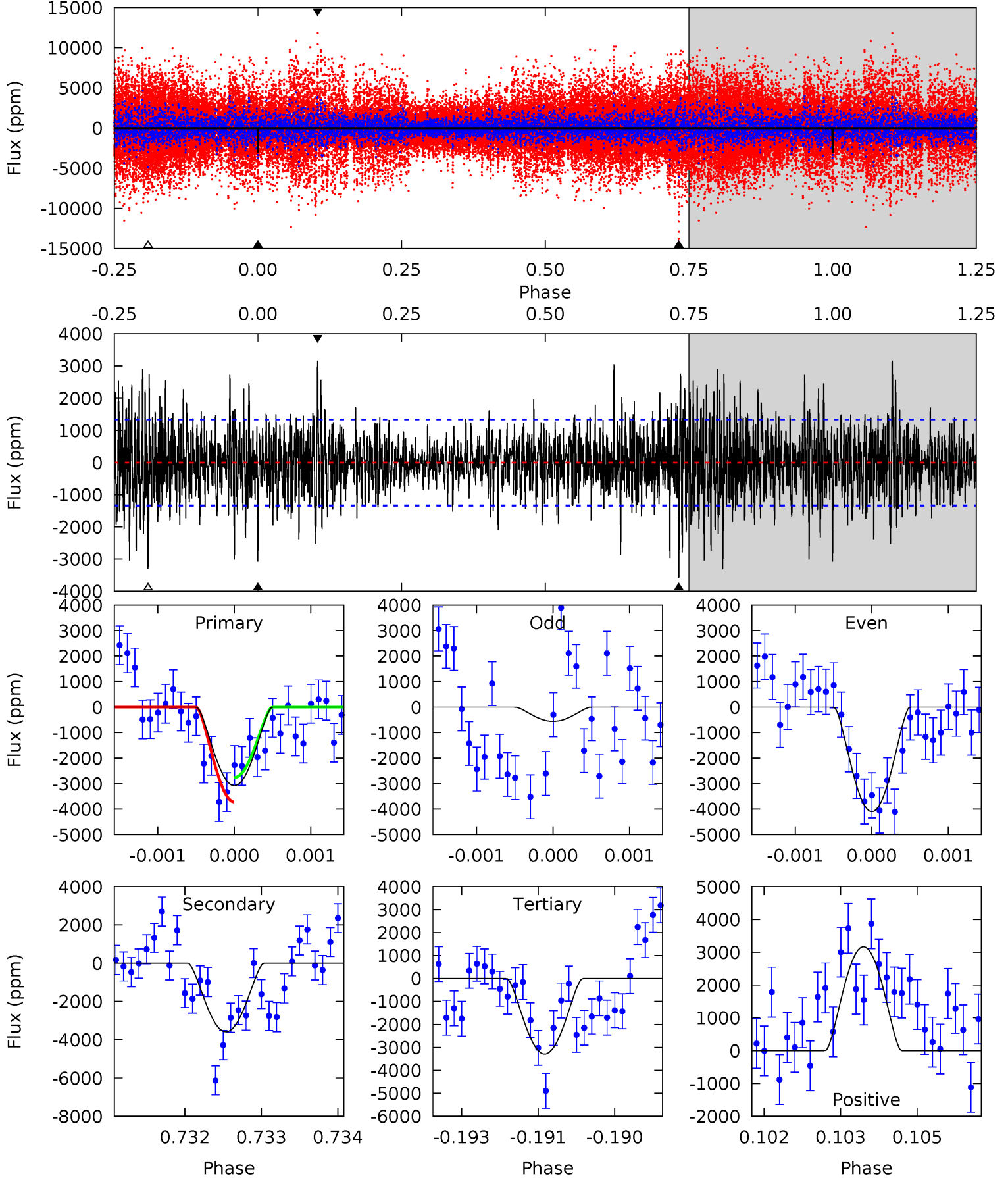
TCE 002436954-01 P=427.688033 Days $T_0=329.864901$ (BKJD)



DV Model-Shift Uniqueness Test

002436954-01, P = 427.692171 Days, E = 329.865612 Days

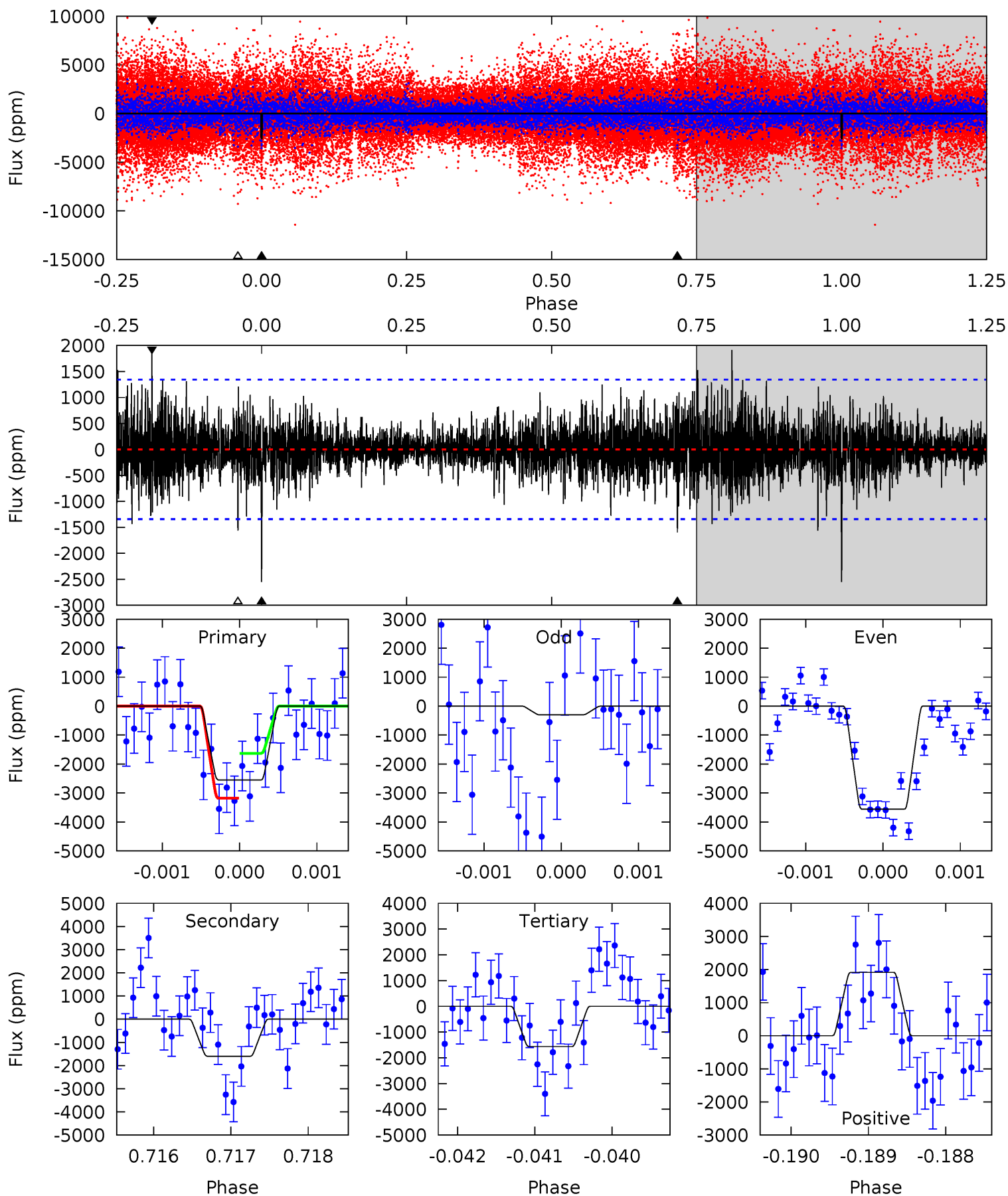
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	14.4	13.3	12.8	5.39	3.20	3.18	-0.85	-0.35	1.18	1.68	6.51	1.06	0.47	1.95



Alt Model-Shift Uniqueness Test

002436954-01, P = 427.688033 Days, E = 329.864901 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	6.47	6.32	7.75	5.43	3.26	1.48	4.00	2.57	0.14	-1.28	6.03	1.00	0.43	3.15



Stellar Parameters For KIC 002436954

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4993^{+173}_{-156}	$3.782^{+0.817}_{-0.327}$	$0.120^{+0.250}_{-0.250}$	$2.207^{+1.115}_{-1.486}$	$1.074^{+0.205}_{-0.250}$	$0.141^{+2.123}_{-0.098}$
	+3%/-3%	+22%/-9%	+208%/-208%	+51%/-67%	+19%/-23%	+1508%/-70%
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 002436954-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3585 ± 248	$67.82^{+96.02}_{-48.13}$	427^{+59}_{-80}	2889^{+1278}_{-511}	558^{+6175}_{-463}
Alt.	-1597 ± 247	$64.91^{+96.79}_{-46.32}$	424^{+63}_{-75}	2592^{+1085}_{-413}	259^{+3008}_{-215}

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

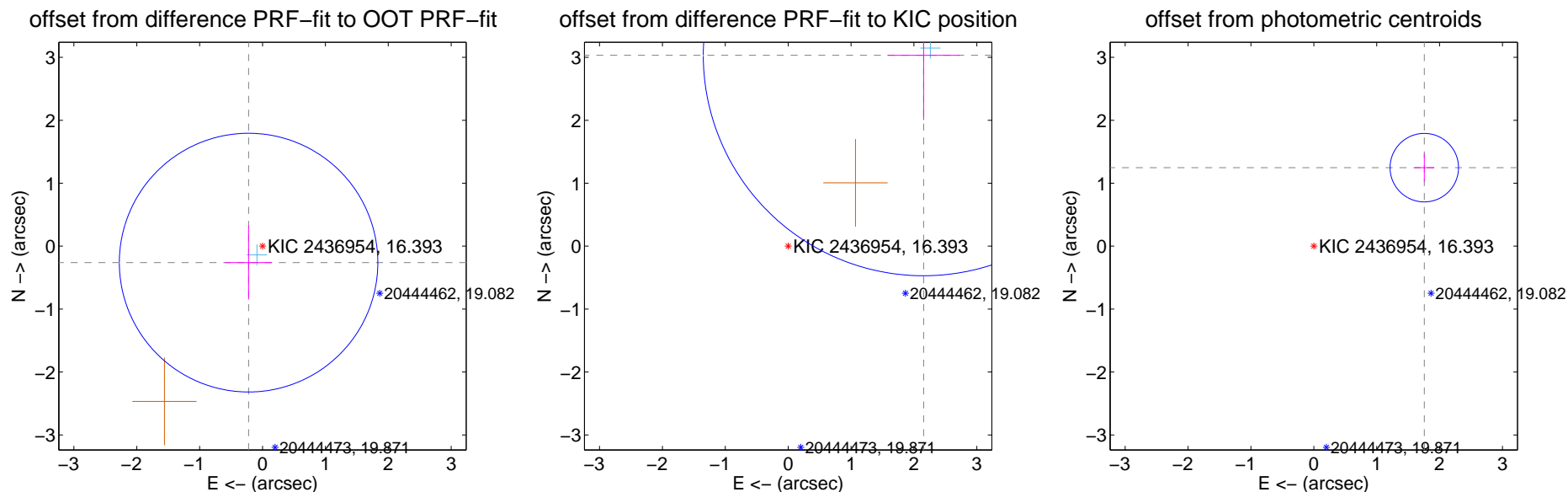
DV Centroid Data

Supplemental centroid analysis for 002436954-01. Kepler magnitude: 16.39. Transit SNR 7.66

There are 1 quarters with good PRF difference image offsets

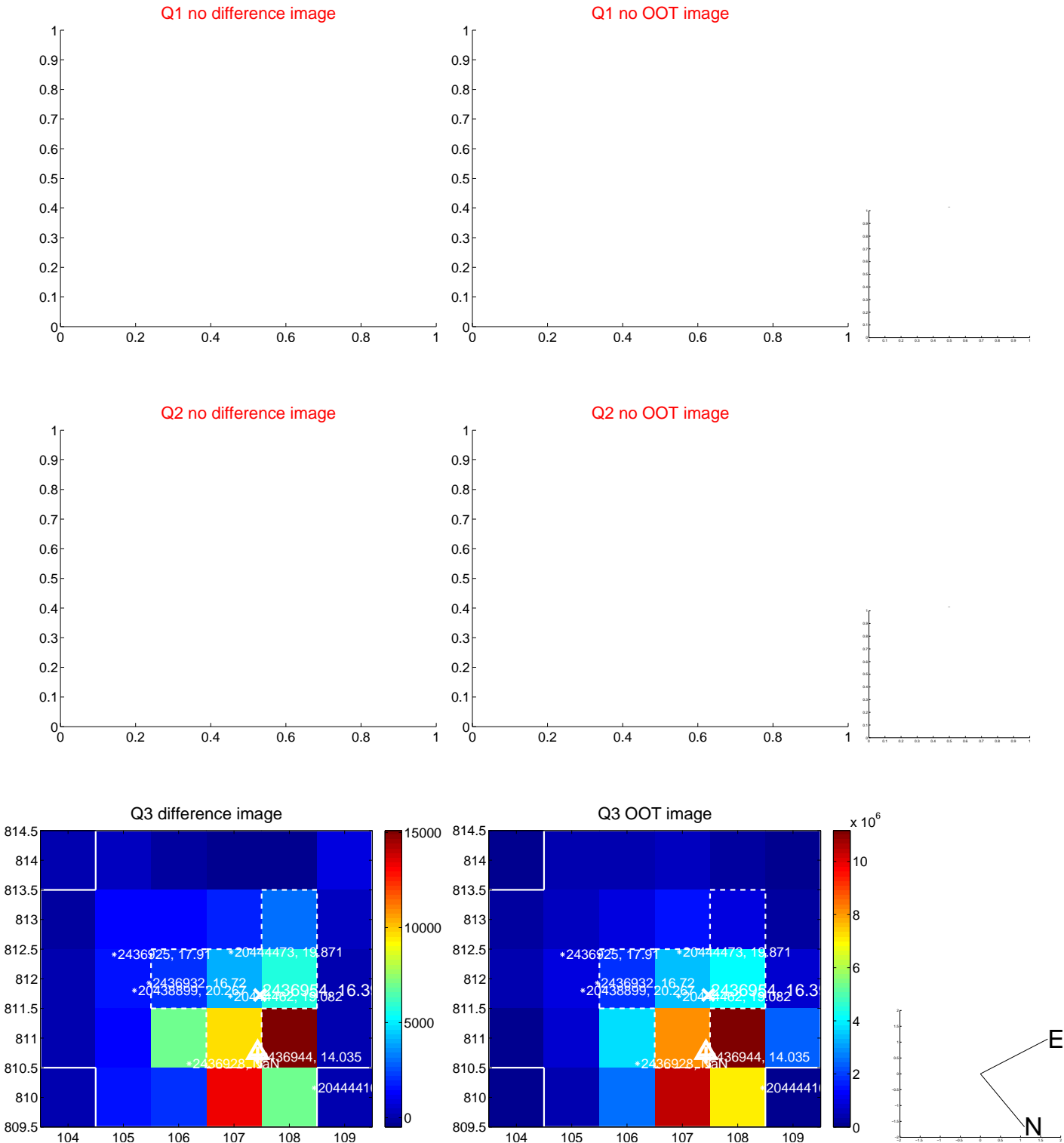
The OOT PRF centroid is offset from the target star catalog position by about 4.36 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.343 ± 0.685	0.50	0.222 ± 0.374	-0.262 ± 0.586
PRF-fit source offset from KIC position	3.720 ± 1.168	3.19	-2.154 ± 0.574	3.033 ± 1.027
photometric centroid source offset	2.15 ± 0.18	11.87	-1.76 ± 0.16	1.25 ± 0.22



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.

Q5 no difference image



Q5 no OOT image



Q6 no difference image



Q6 no OOT image



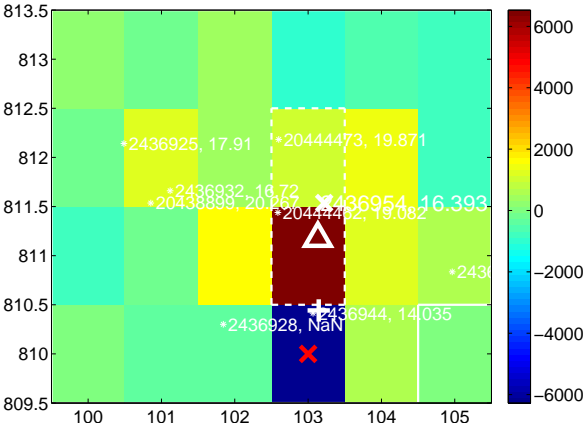
Q7 no difference image



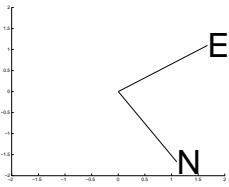
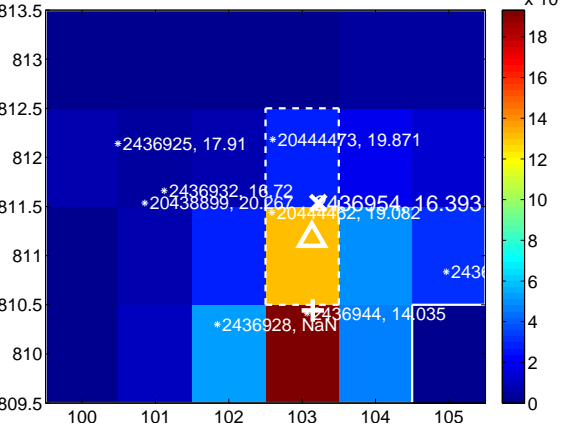
Q7 no OOT image



Q8 difference image. Poor Quality



Q8 OOT image



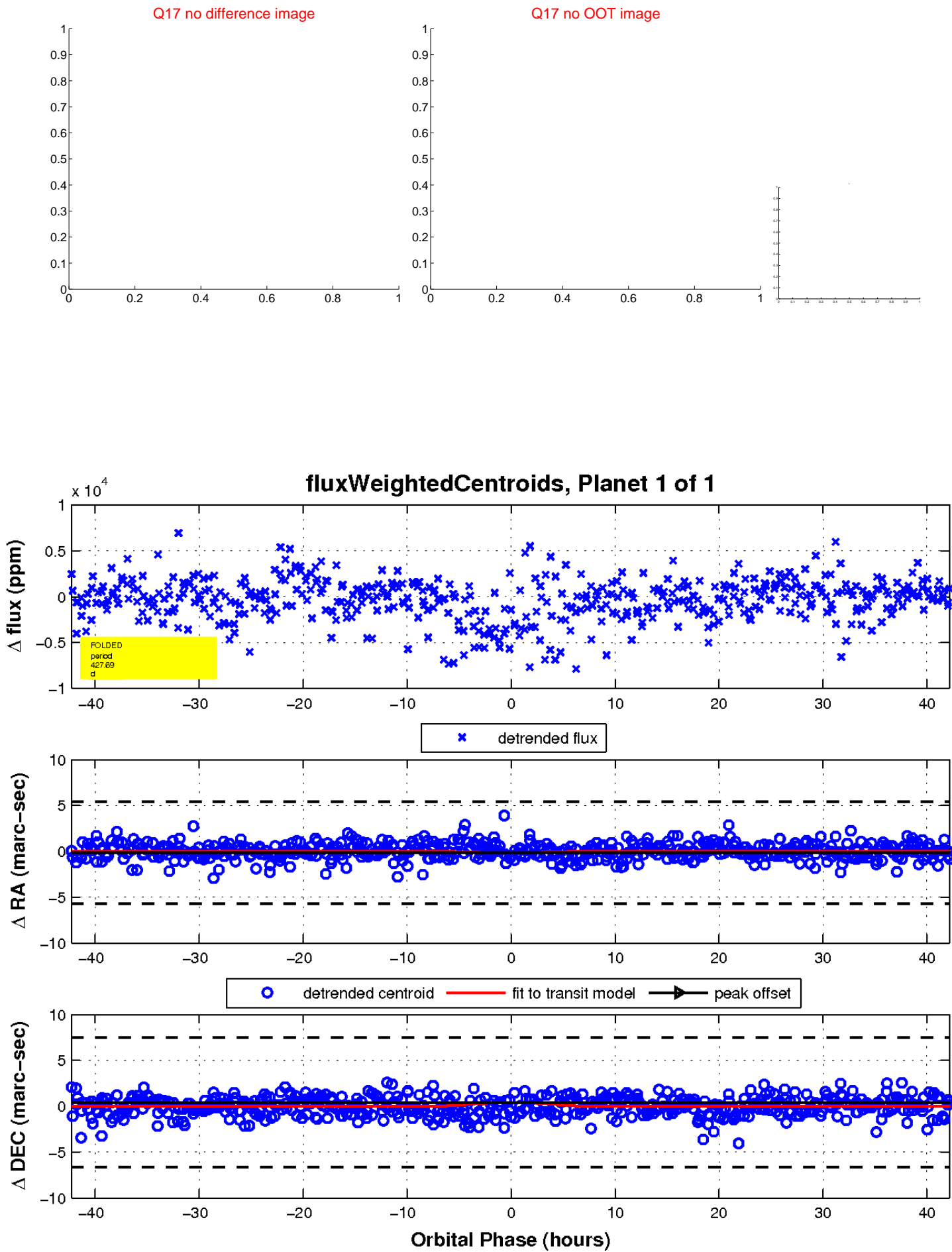
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

