

KIC 007351428

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})
007351428-01	OBS	No	495.656878	250.189553	329.3	16.321	9.2	8.6	1.07	6335	2.33	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007351428-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

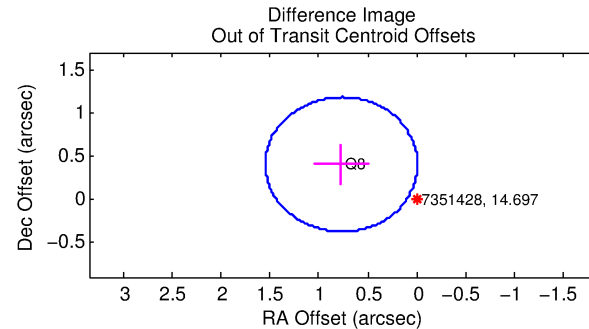
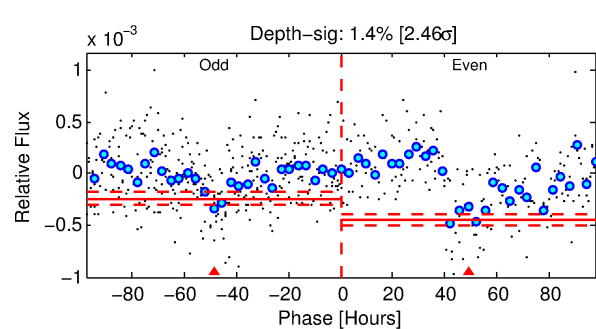
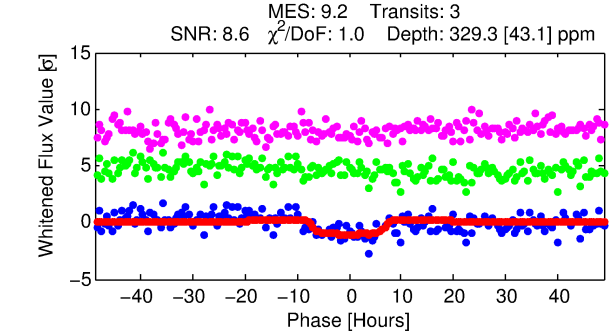
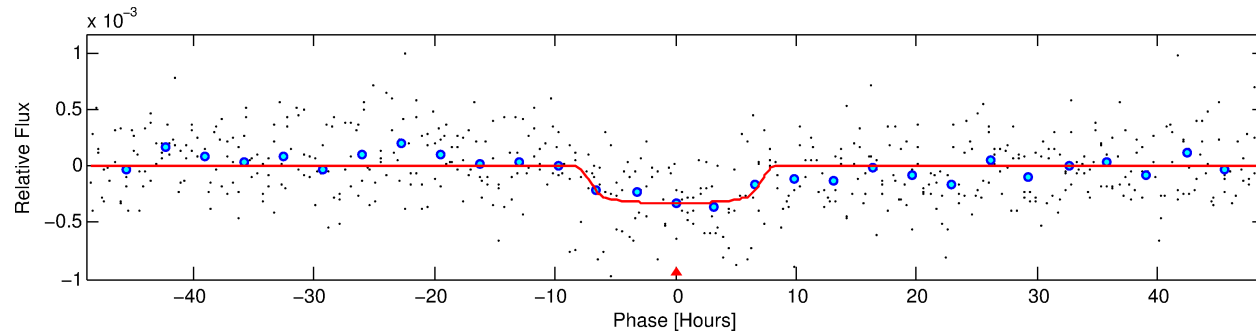
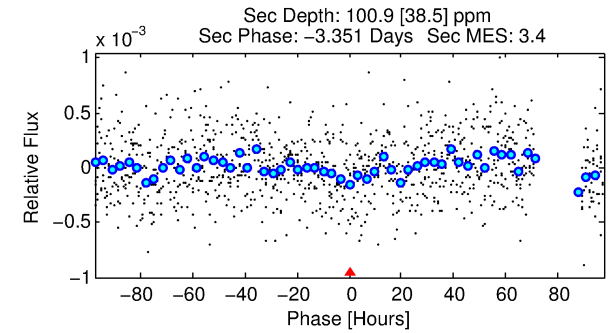
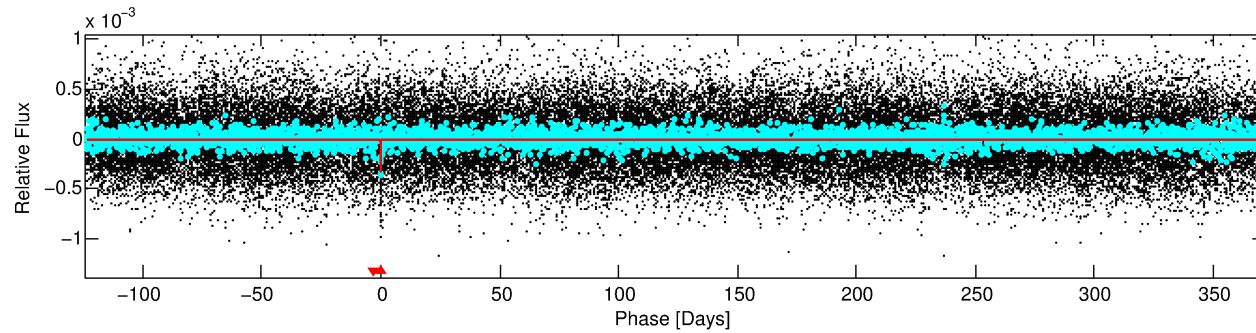
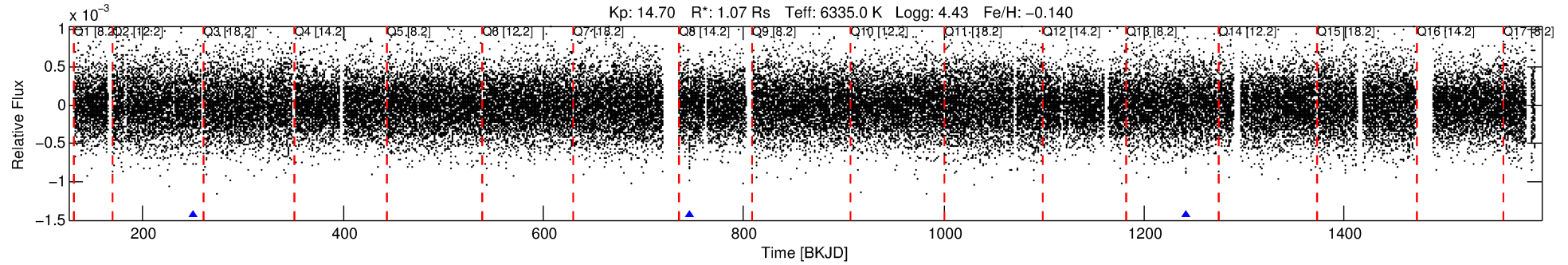
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007351428-01

No Significant Match Found

DV One-Page Summary

KIC: 7351428 Candidate: 1 of 1 Period: 495.657 d



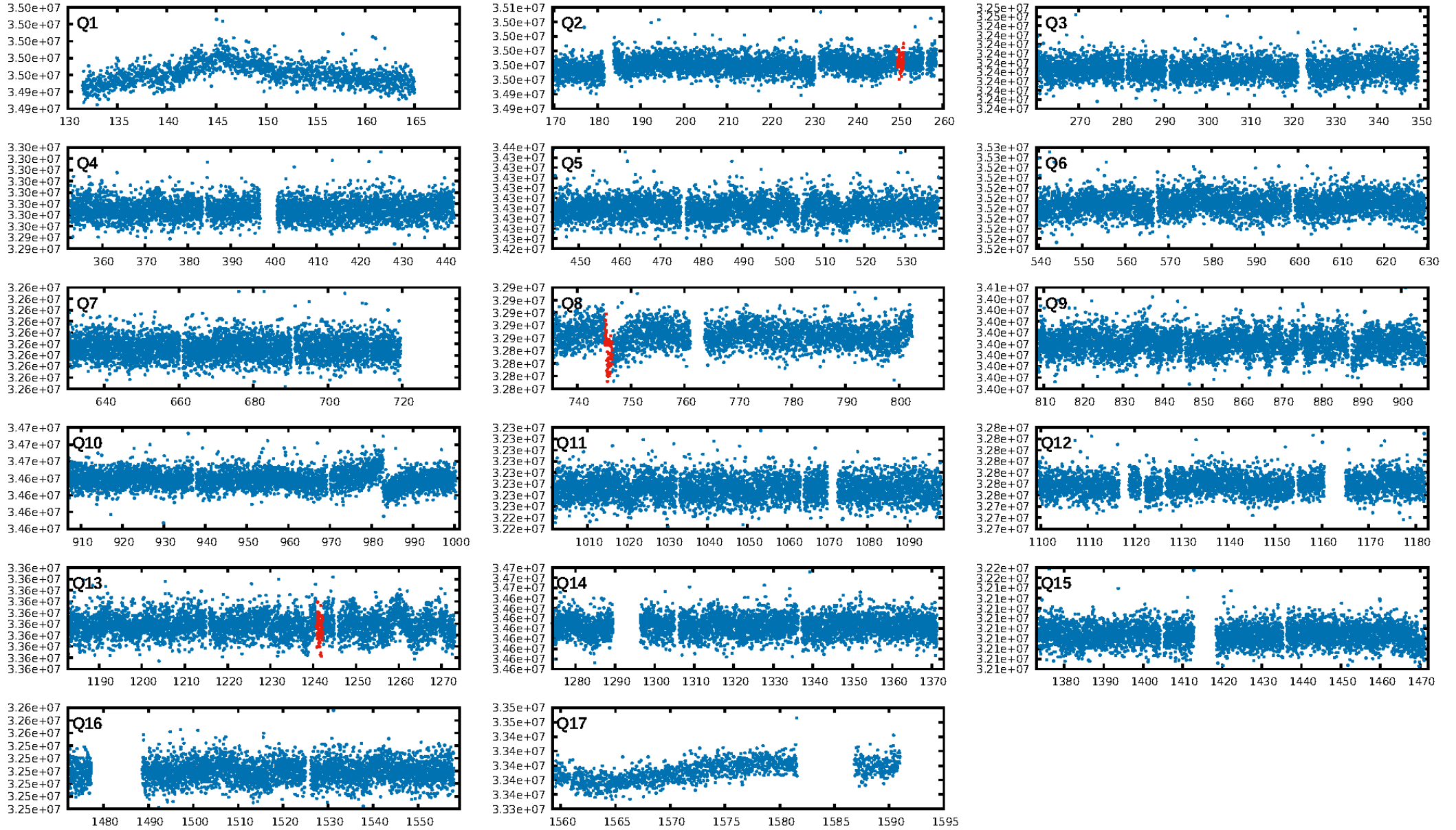
DV Fit Results:

Period = 495.65688 [0.02453] d
Epoch = 250.1896 [0.0305] BKJD
Rp/R* = 0.0200 [0.0025]
a/R* = 99.63 [54.61]
b = 0.93 [0.09]
Seff = 1.02 [0.43]
Teq = 256 [27] K
Rp = 2.34 [0.81] Re
a = 1.2733 [0.3478] AU
Ag = 16505.67 [9955.21] [1.66 σ]
Teffp = 4494 [531] K [7.97 σ]

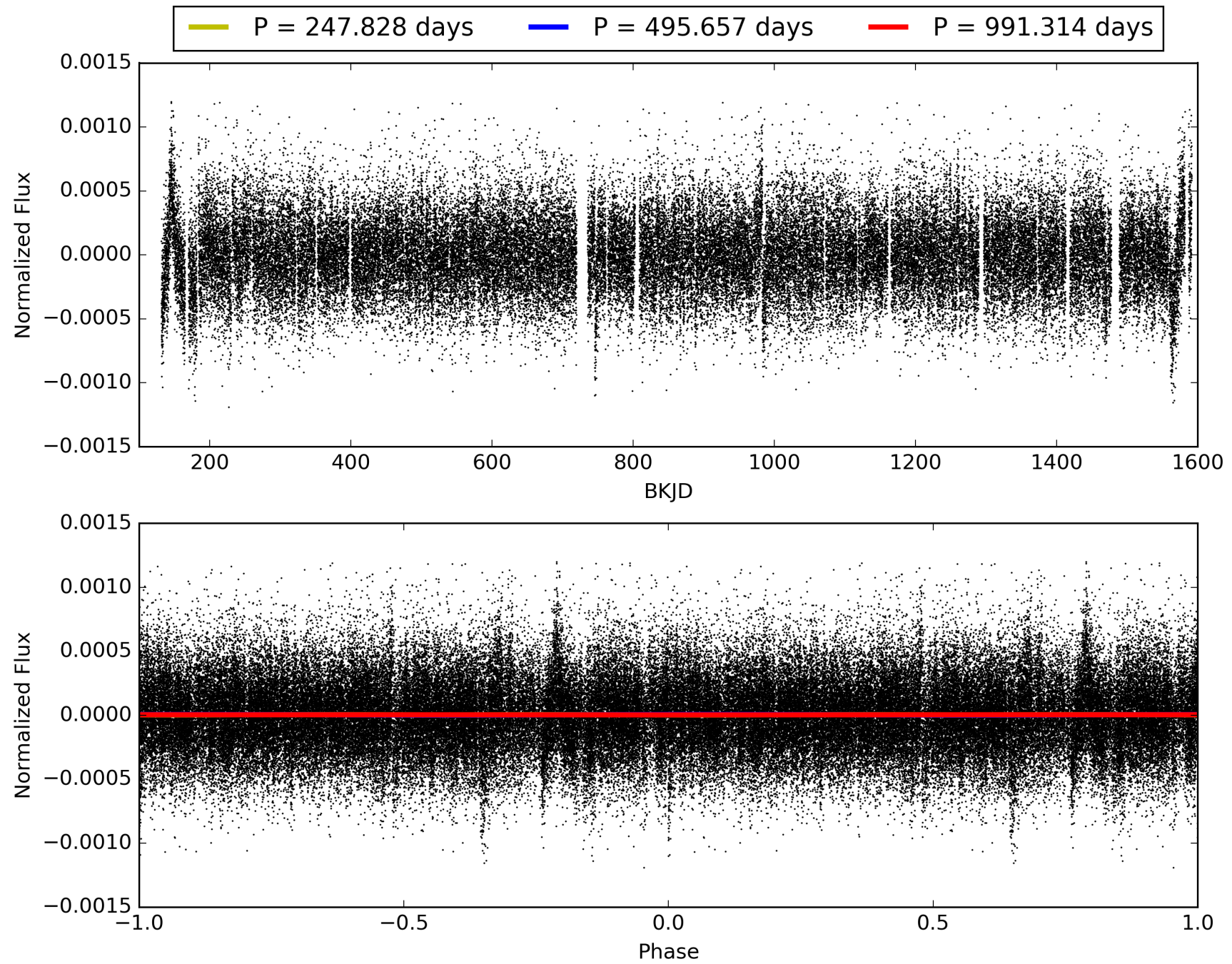
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 1.63e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.2
Centroid-sig: 2.8%
Centroid-so: 2.759 arcsec [2.10 σ]
OotOffset-rm: 0.869 arcsec [3.35 σ]
KicOffset-rm: 0.869 arcsec [3.36 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 007351428-01, PDC Light Curves

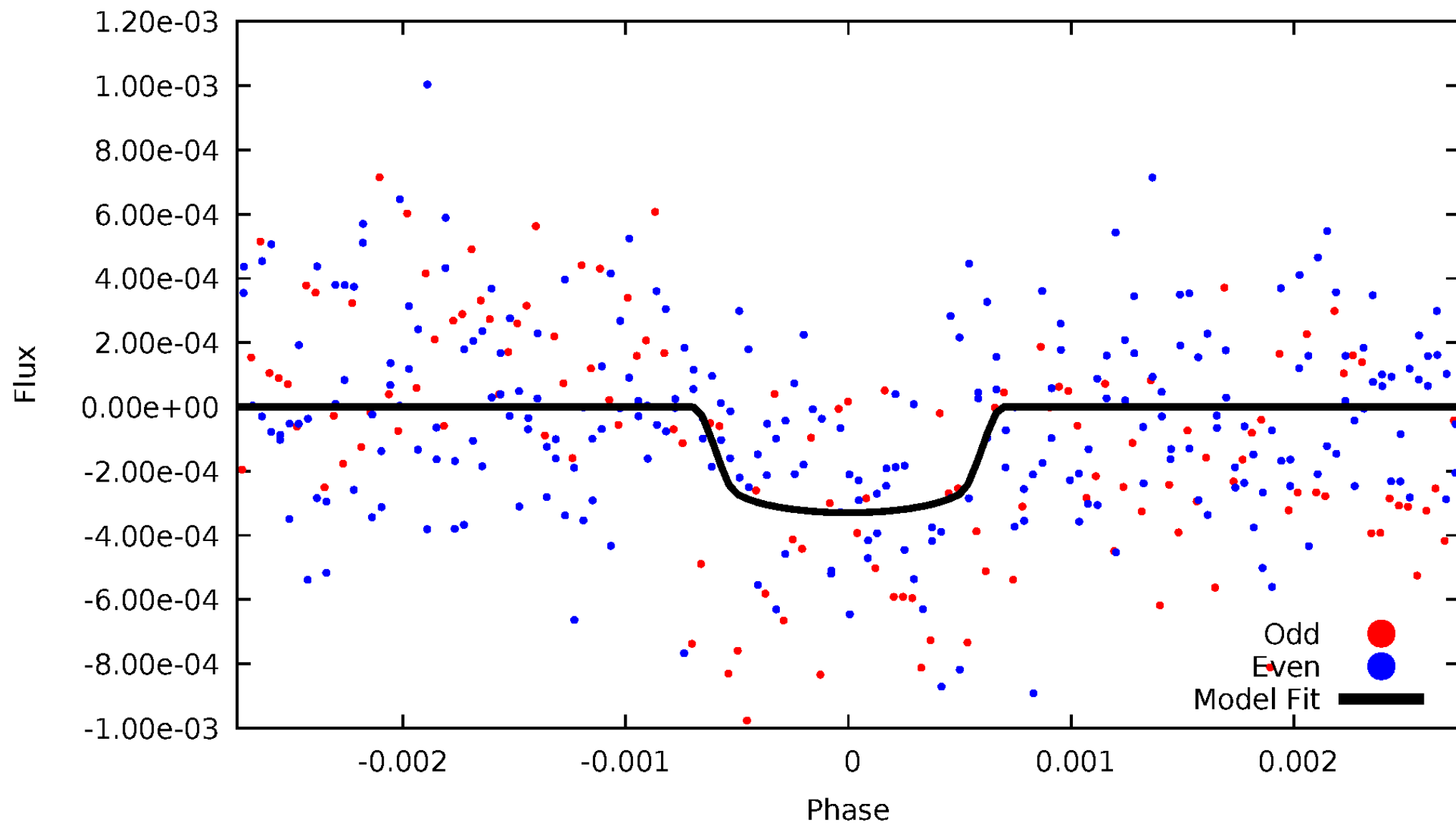


TCE 007351428-01



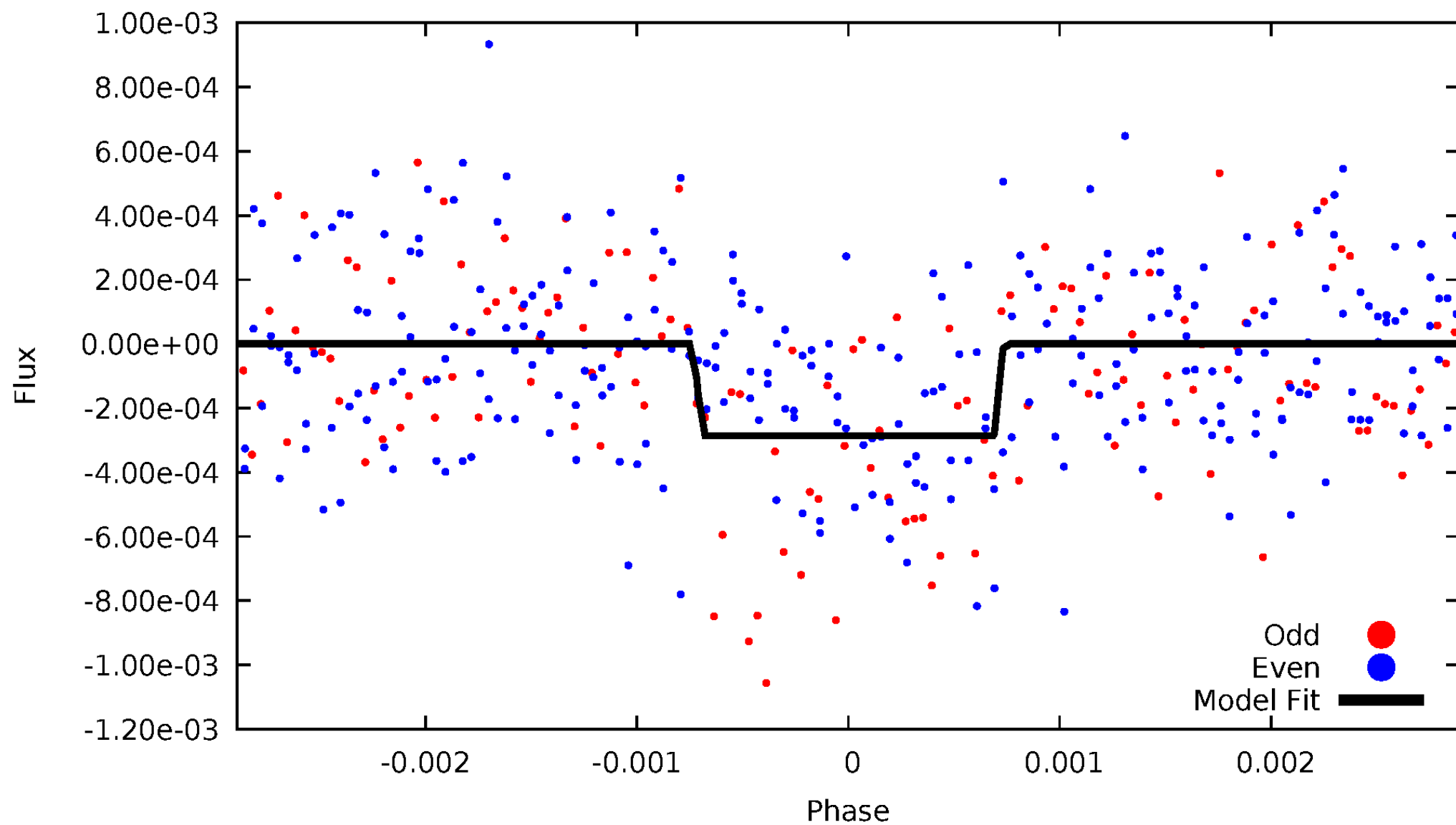
DV Odd/Even

TCE 007351428-01



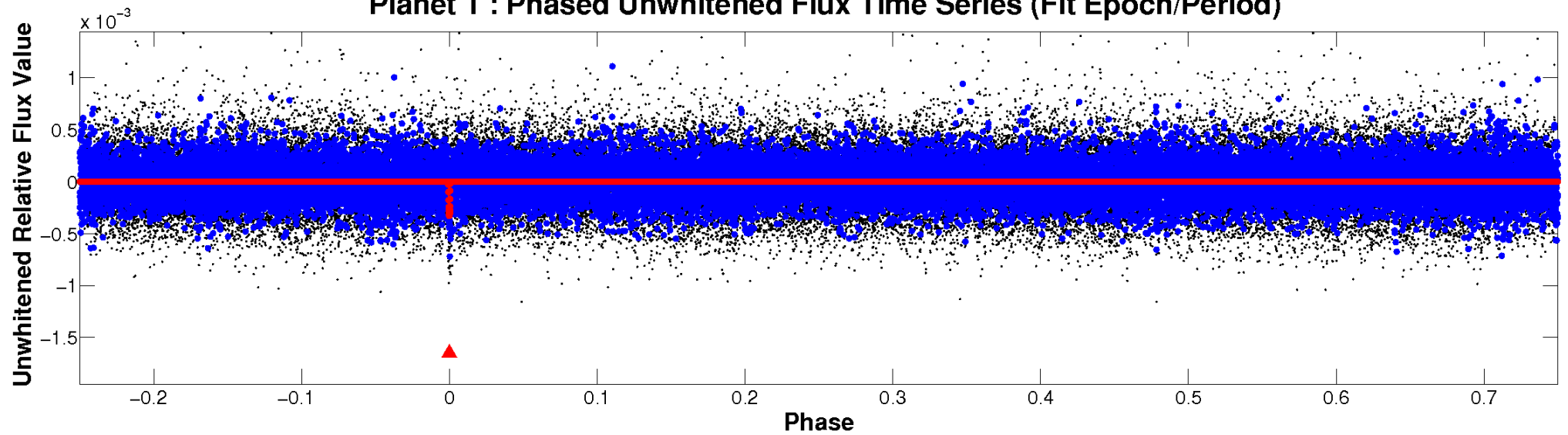
ALT Odd/Even

TCE 007351428-01

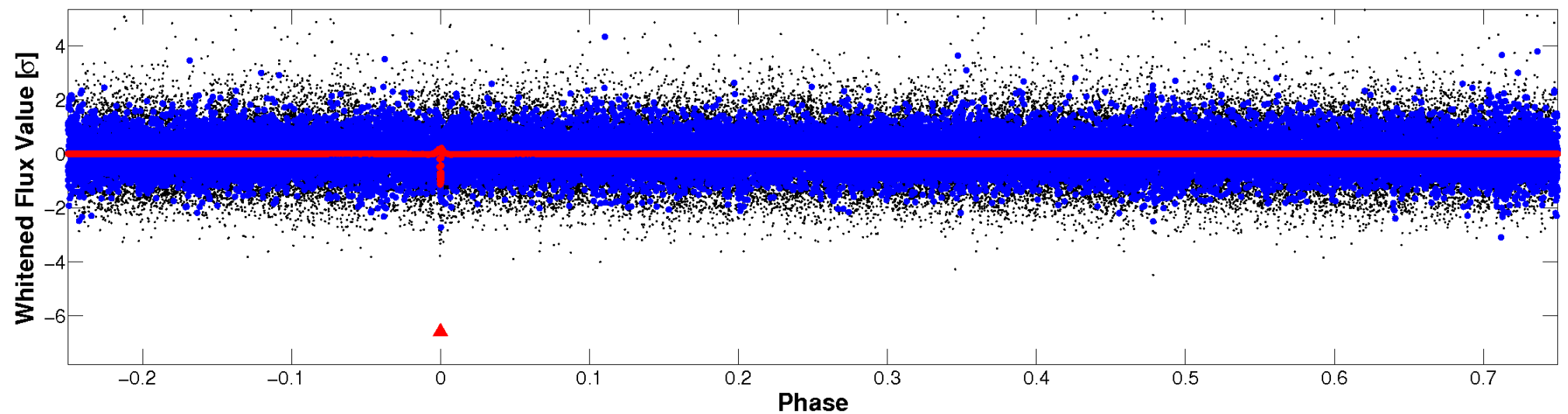


Non-Whitened Vs. Whitened Light Curve

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 007351428-01 P=495.656879 Days $T_0=250.189553$ (BKJD)



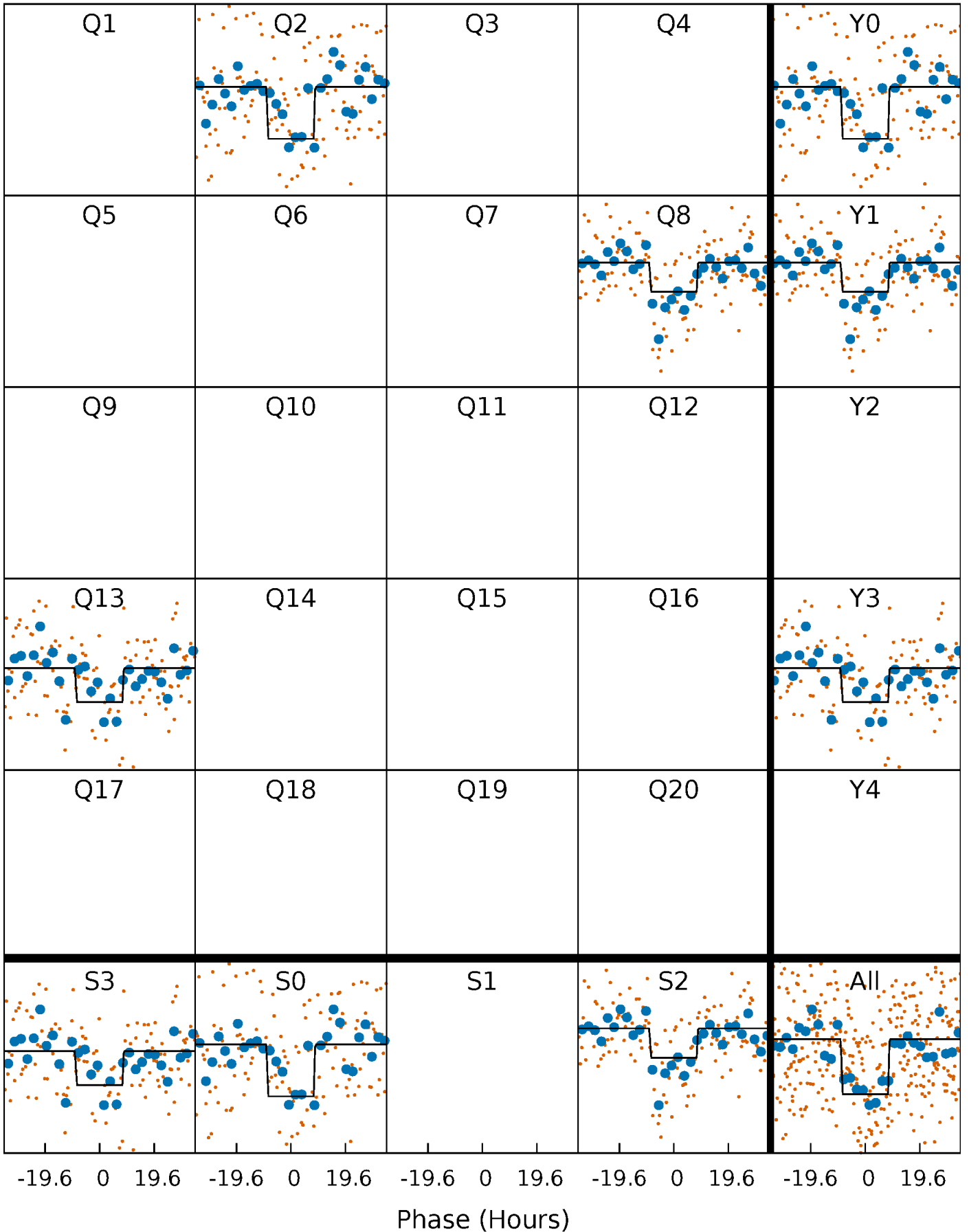
DV Quarter-Phased Transit Curves

TCE 007351428-01 $P=495.656879$ Days $T_0=250.189553$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

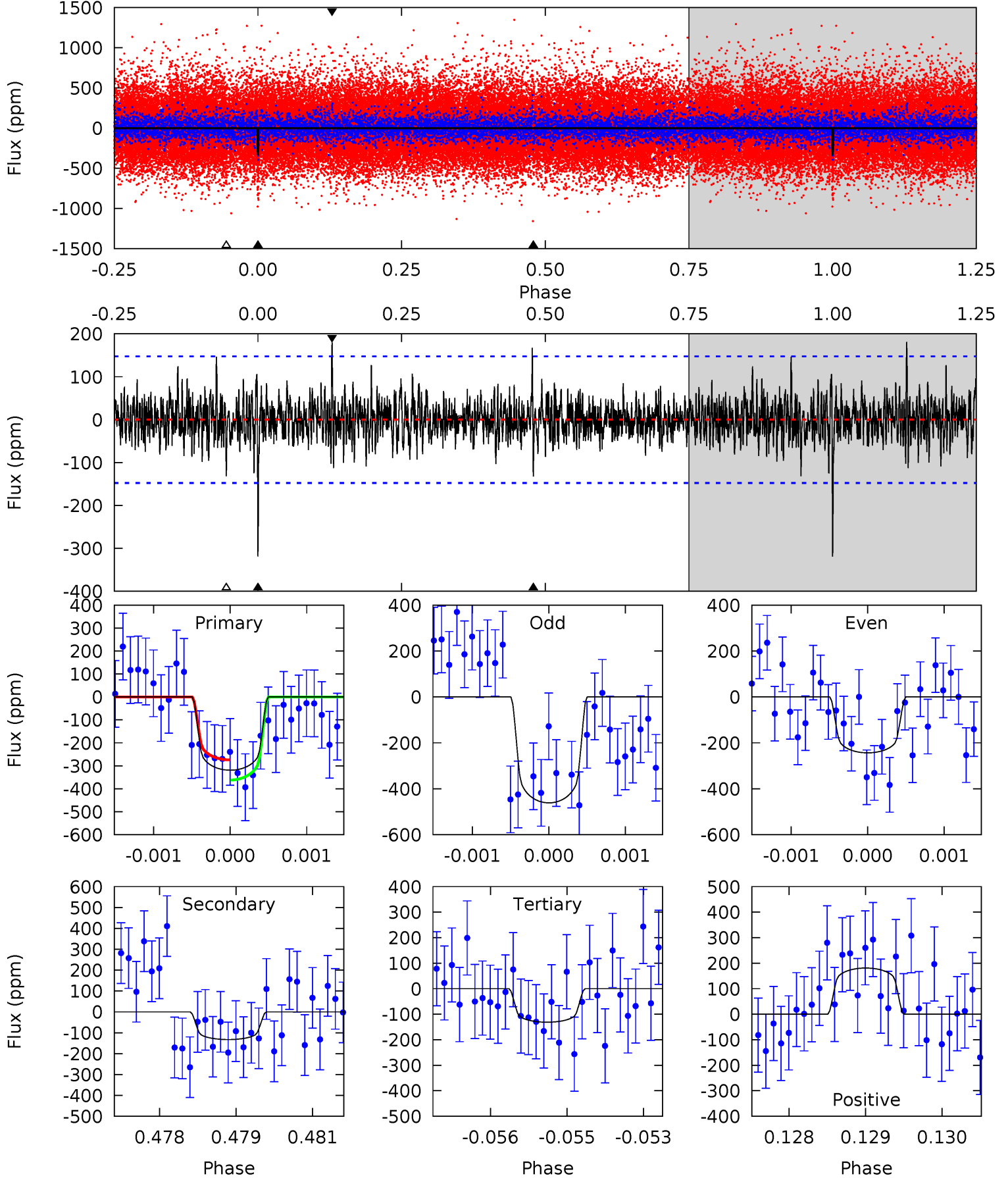
TCE 007351428-01 P=495.595564 Days $T_0=250.217740$ (BKJD)



DV Model-Shift Uniqueness Test

007351428-01, P = 495.656879 Days, E = 250.189553 Days

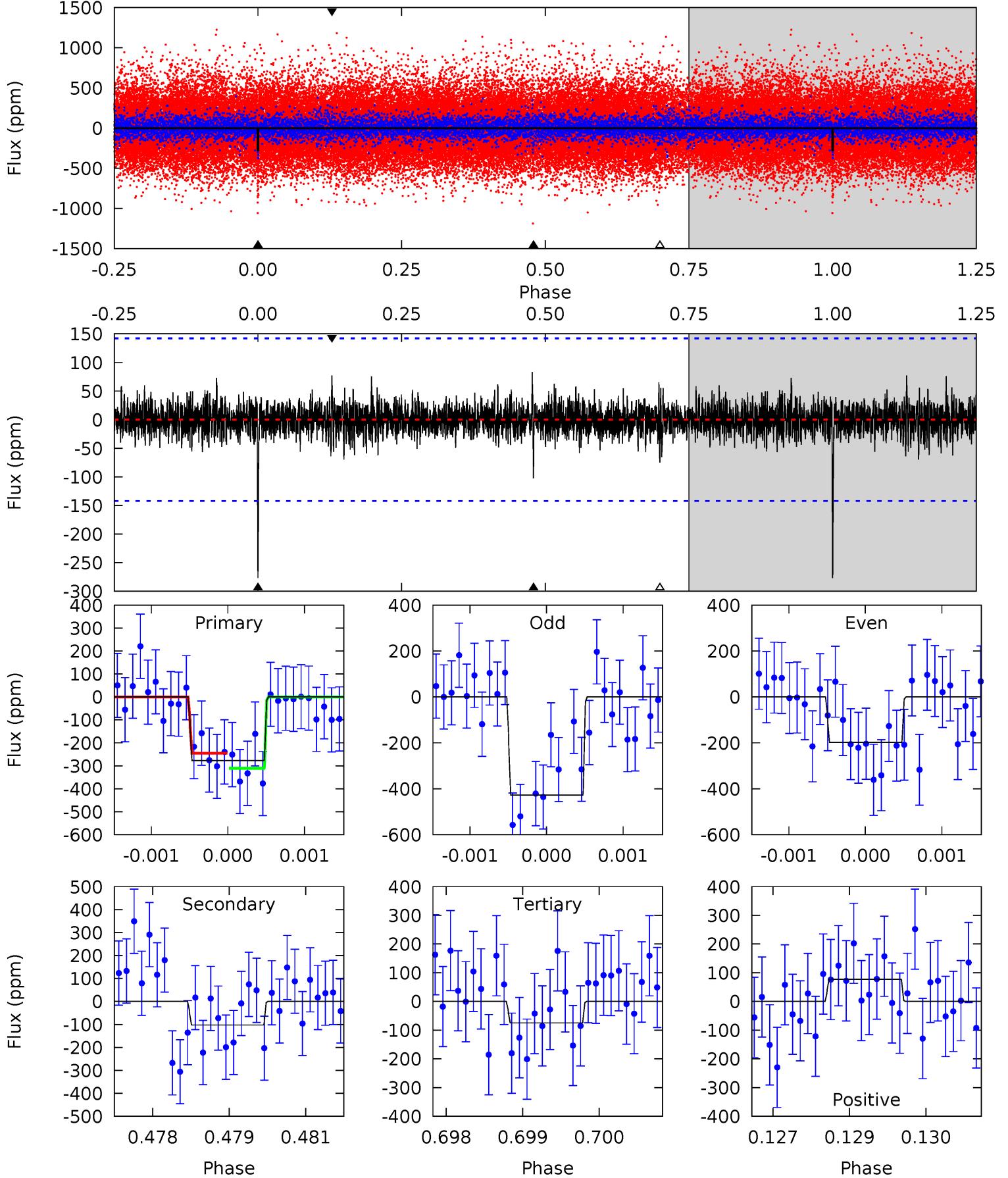
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	4.84	4.80	6.61	5.39	3.19	1.30	6.85	5.04	0.04	-1.77	3.81	0.98	0.36	1.60



Alt Model-Shift Uniqueness Test

007351428-01, P = 495.595564 Days, E = 250.217740 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	3.88	2.83	2.91	5.39	3.19	0.68	7.65	7.57	1.05	0.97	4.16	1.27	0.23	1.25



Stellar Parameters For KIC 007351428

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6335^{+150}_{-206}	$4.427^{+0.054}_{-0.216}$	$-0.140^{+0.250}_{-0.300}$	$1.072^{+0.349}_{-0.116}$	$1.120^{+0.154}_{-0.154}$	$1.280^{+0.377}_{-0.695}$
	+2%/-3%	+1%/-5%	+179%/-214%	+33%/-11%	+14%/-14%	+29%/-54%
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 007351428-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-133 ± 27	$2.41^{+0.44}_{-0.39}$	365^{+25}_{-17}	4887^{+411}_{-335}	19311^{+9862}_{-6578}
Alt.	-102 ± 26	$2.08^{+0.46}_{-0.35}$	365^{+29}_{-18}	4951^{+457}_{-435}	20098^{+11831}_{-7659}

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

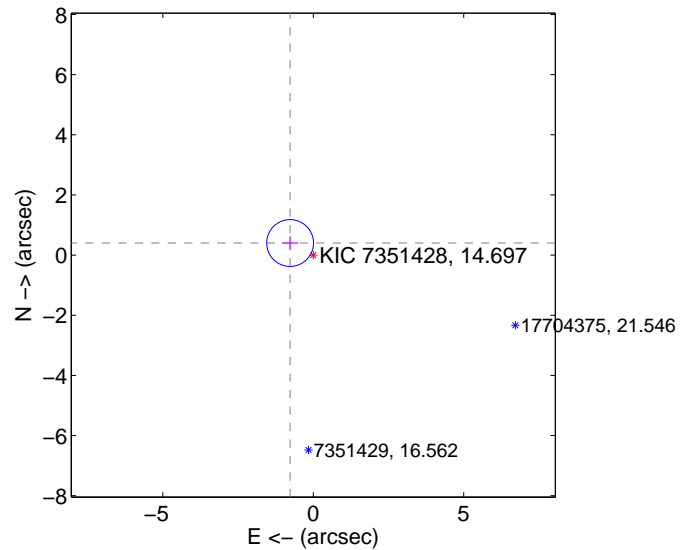
Supplemental centroid analysis for 007351428-01. Kepler magnitude: 14.70. Transit SNR 8.61

There are 1 quarters with good PRF difference image offsets

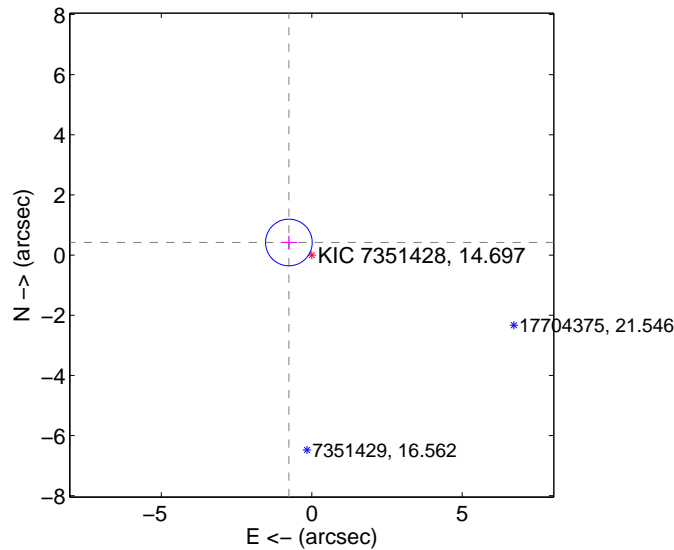
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.869 \pm 0.259	3.35	0.770 \pm 0.269	0.402 \pm 0.222
PRF-fit source offset from KIC position	0.869 \pm 0.259	3.36	0.760 \pm 0.269	0.420 \pm 0.222
photometric centroid source offset	2.76 \pm 1.32	2.10	-2.25 \pm 1.27	-1.60 \pm 1.40

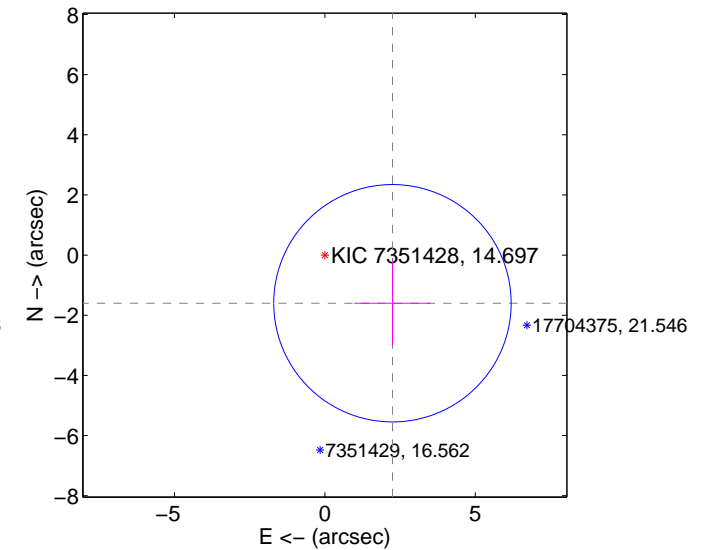
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

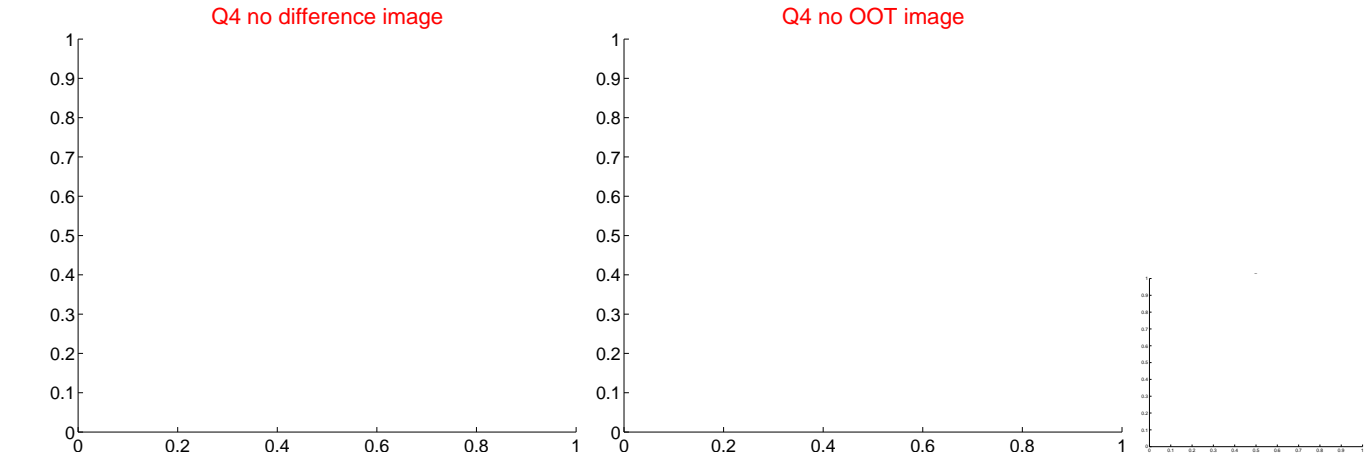
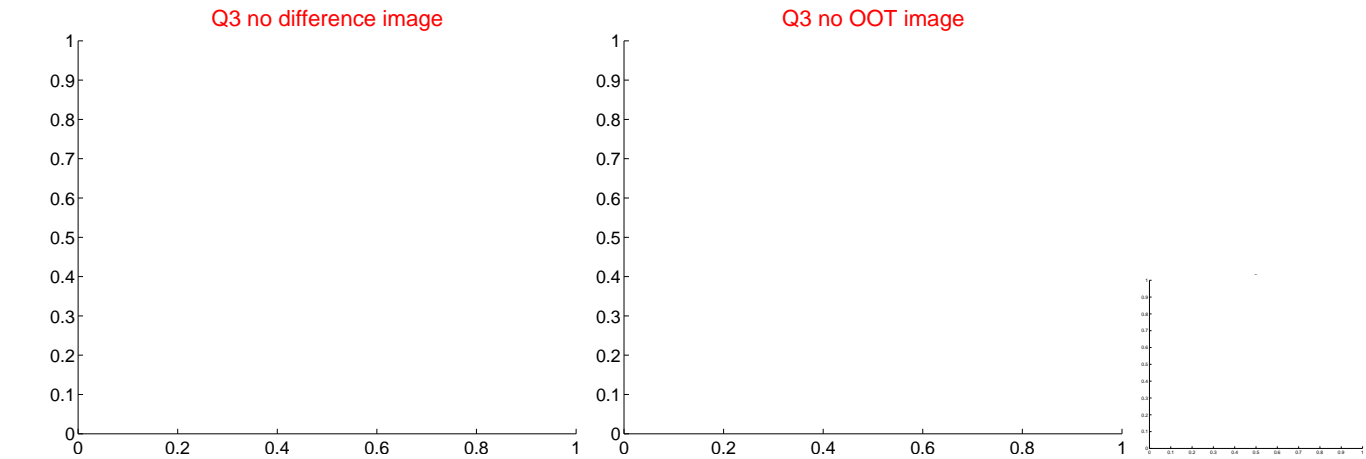
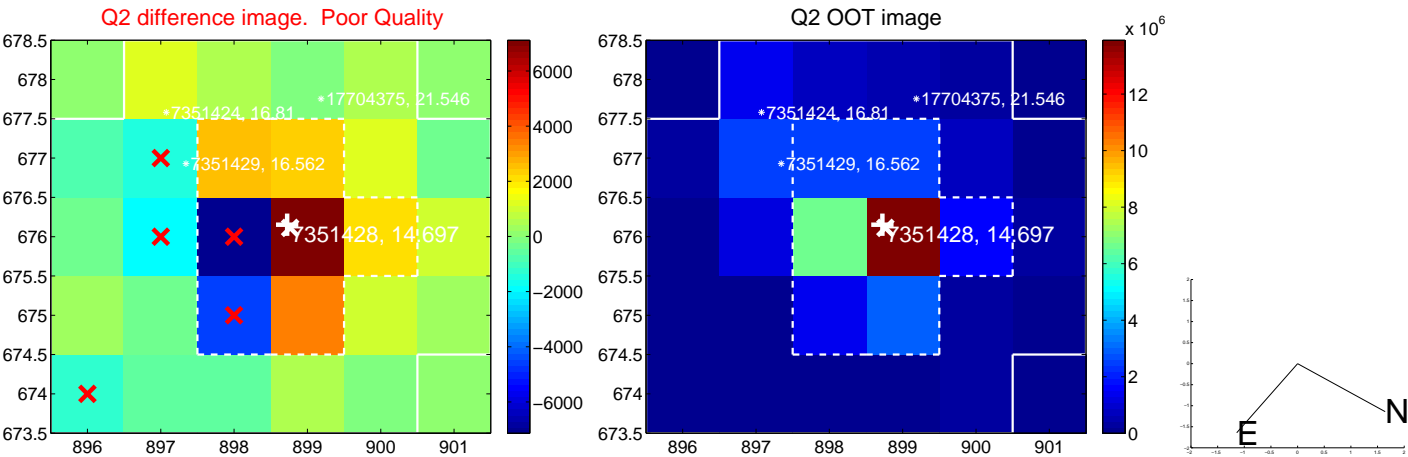
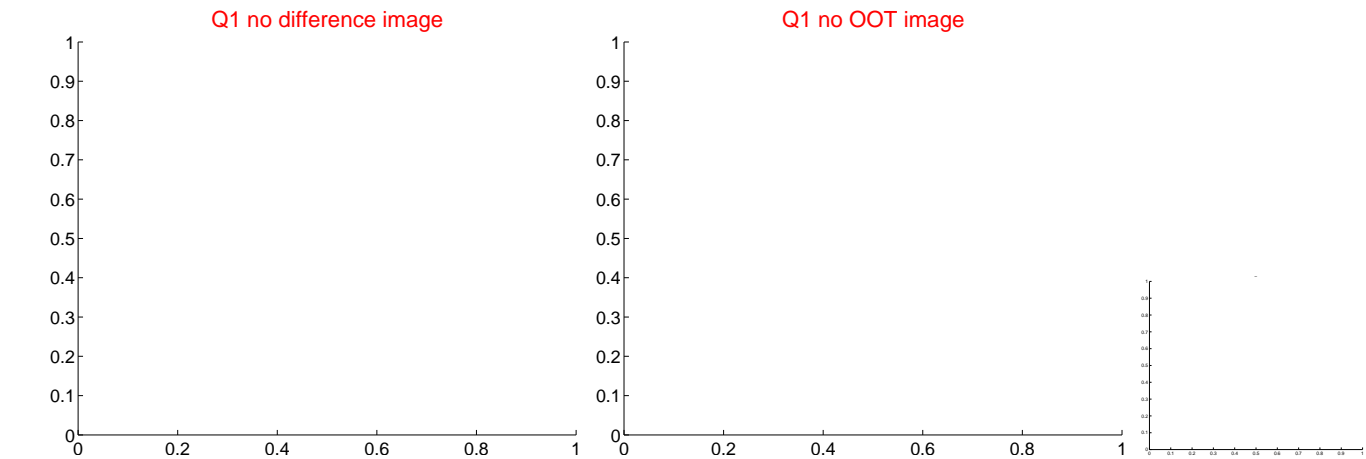


offset from photometric centroids

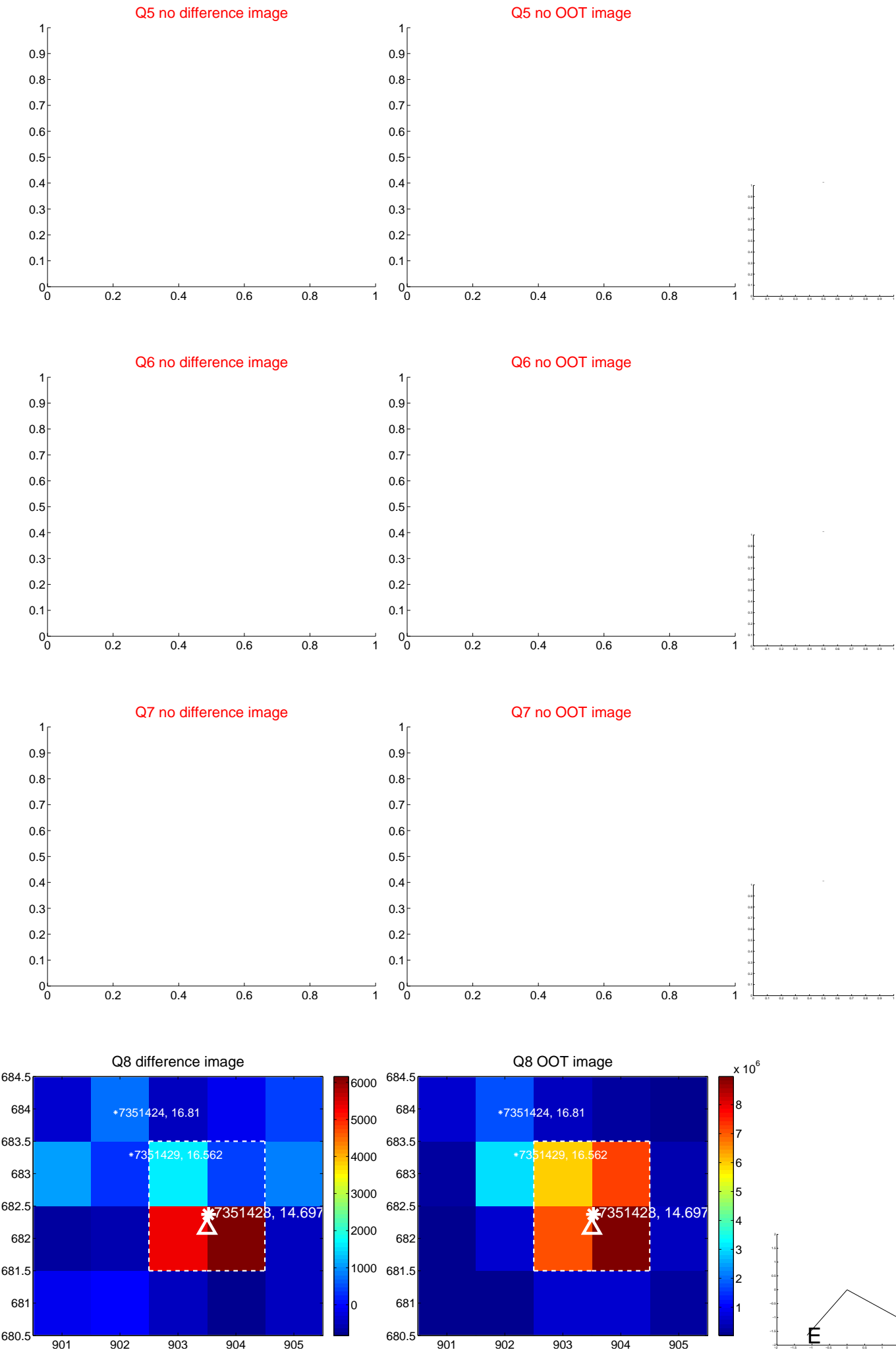


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



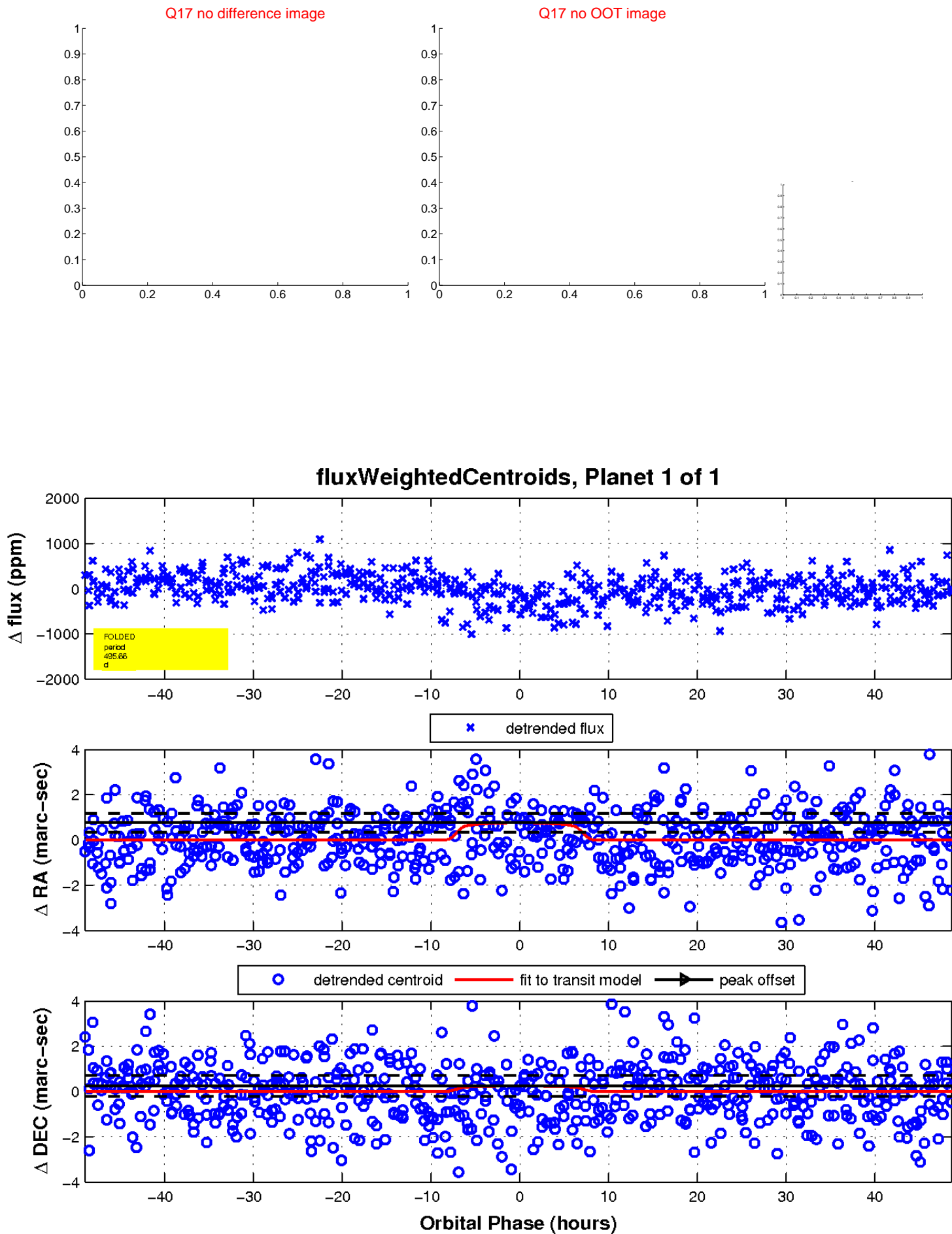
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

