

KIC 004243442

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})
004243442-01	OBS	No	497.878249	316.592687	460.5	26.320	7.8	9.1	0.74	4978	1.63	0.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004243442-01	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.

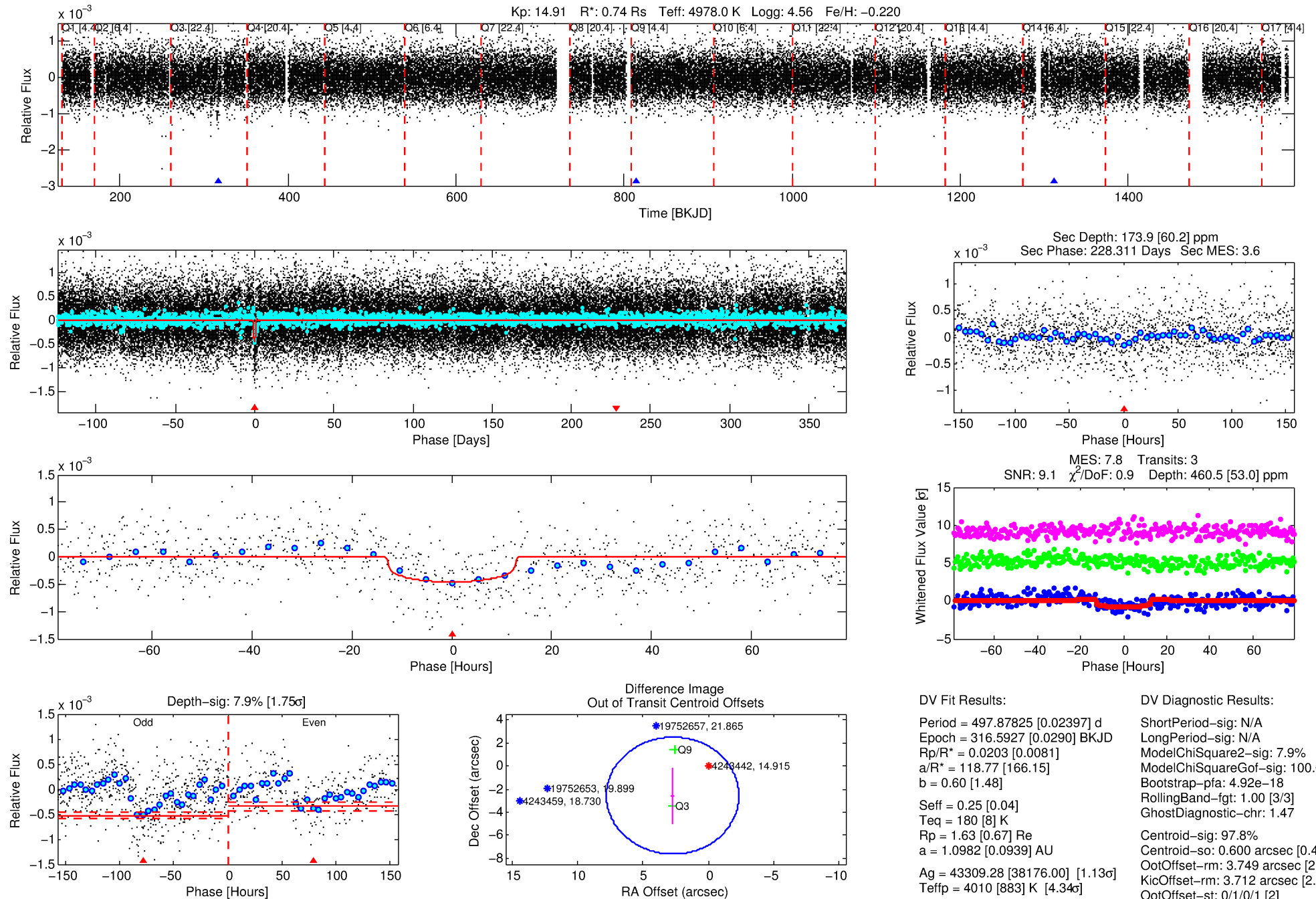
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004243442-01

No Significant Match Found

DV One-Page Summary

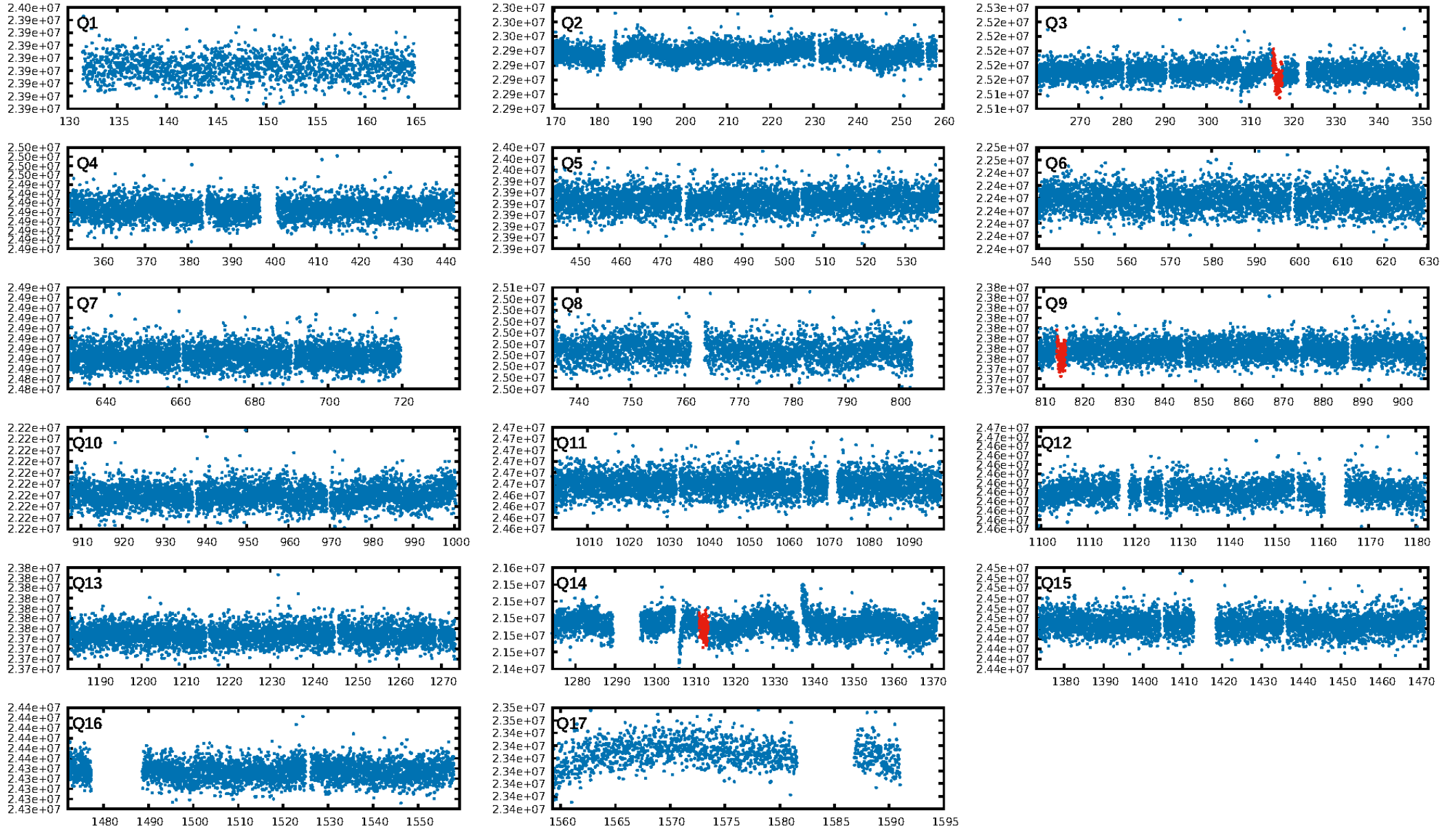
KIC: 4243442 Candidate: 1 of 1 Period: 497.878 d



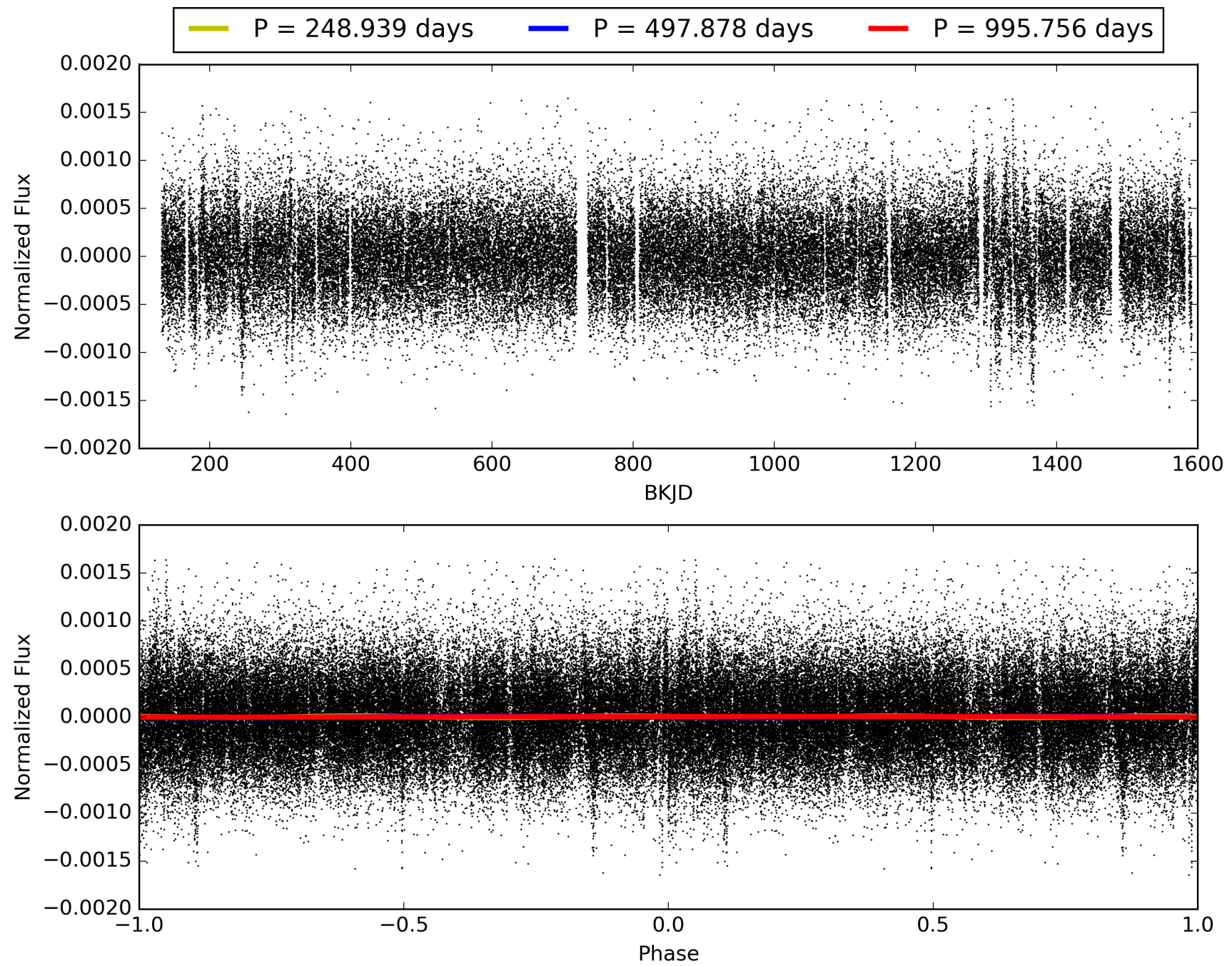
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:49:39 Z

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

TCE 004243442-01, PDC Light Curves

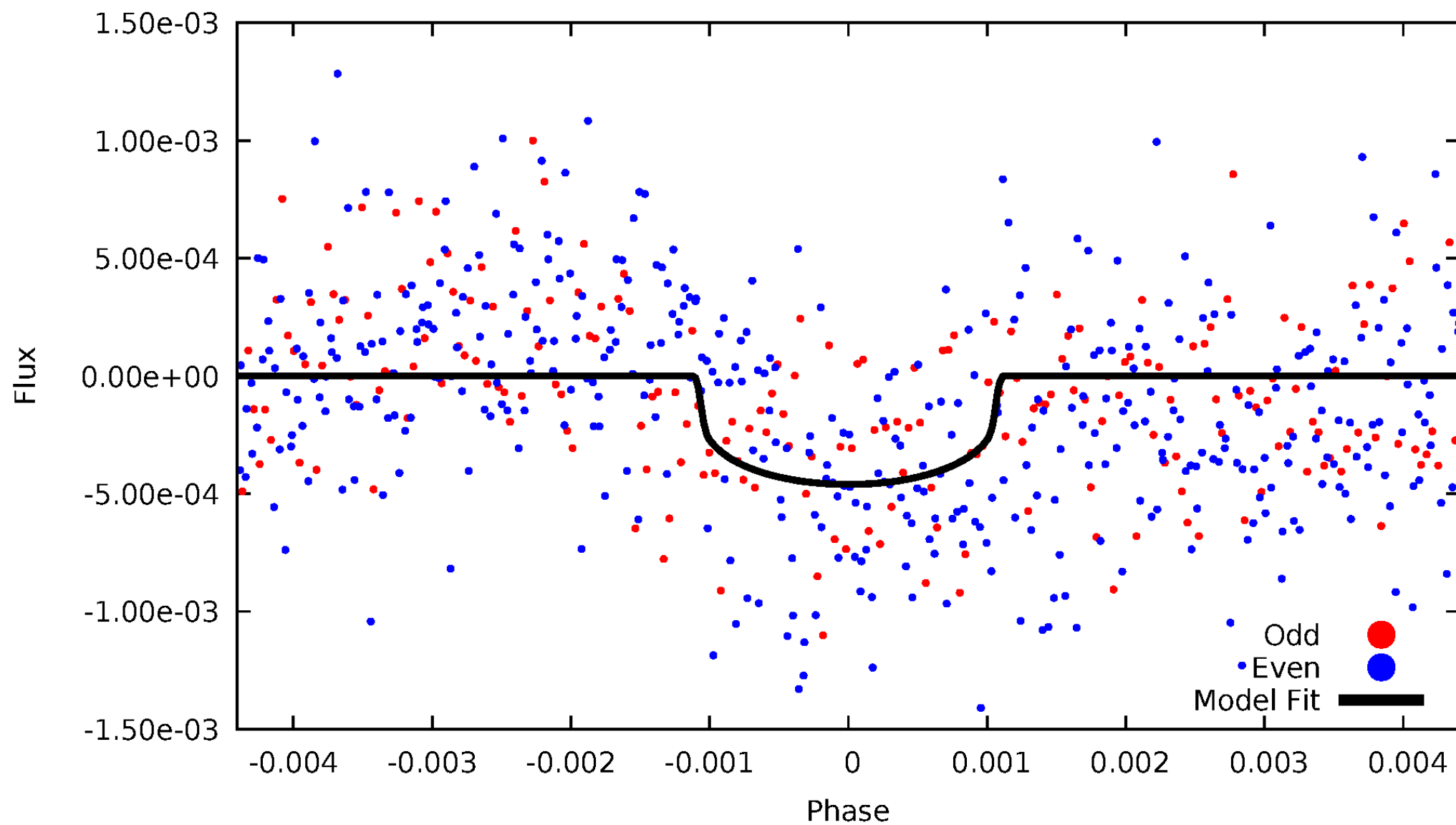


TCE 004243442-01



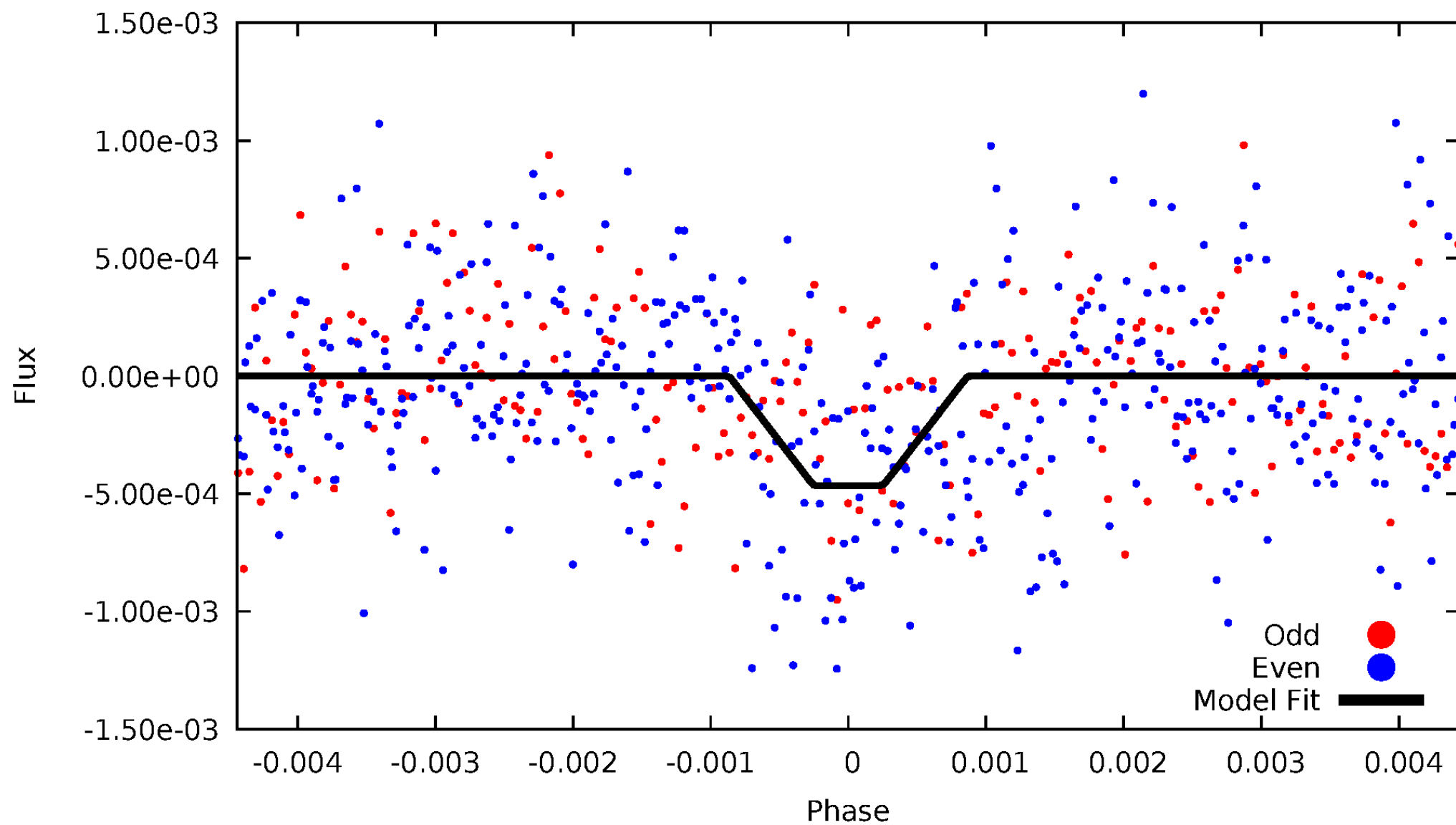
DV Odd/Even

TCE 004243442-01



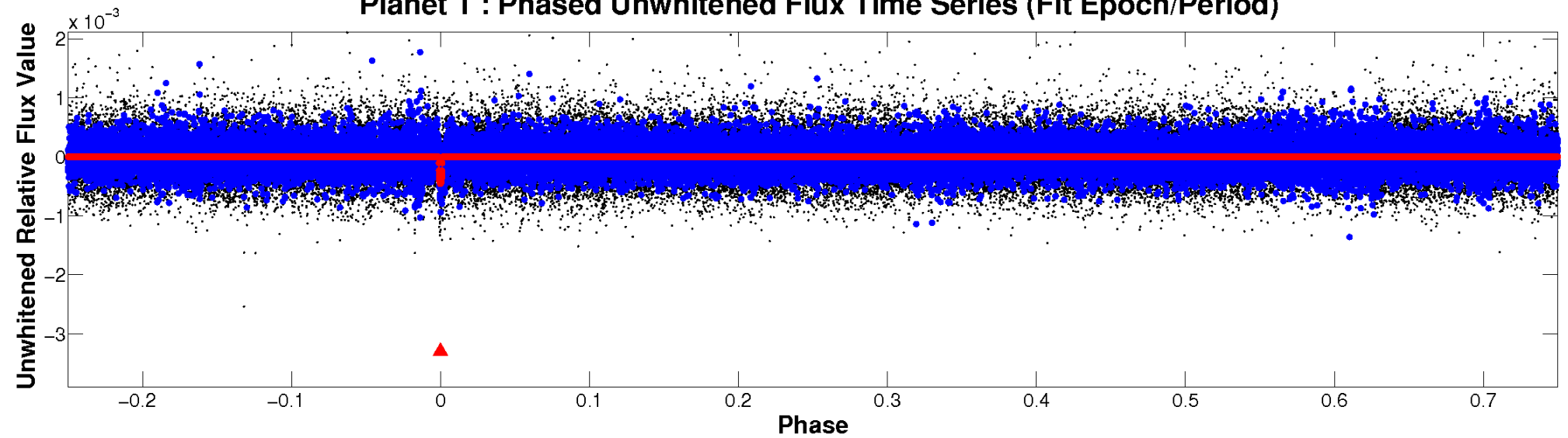
ALT Odd/Even

TCE 004243442-01

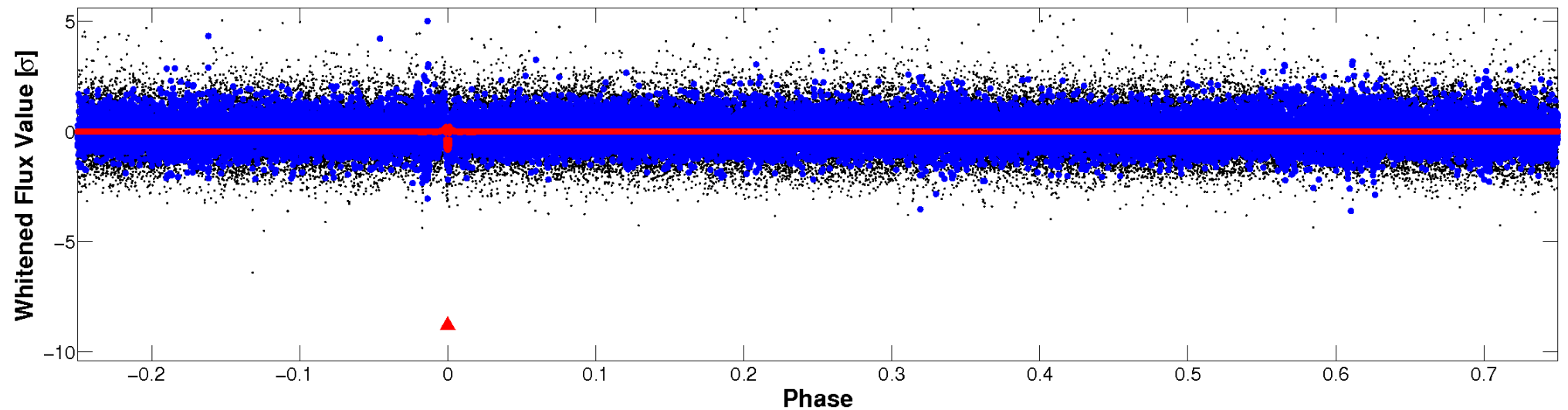


Non-Whitened Vs. Whitened Light Curve

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 004243442-01 P=497.878249 Days $T_0=316.592687$ (BKJD)



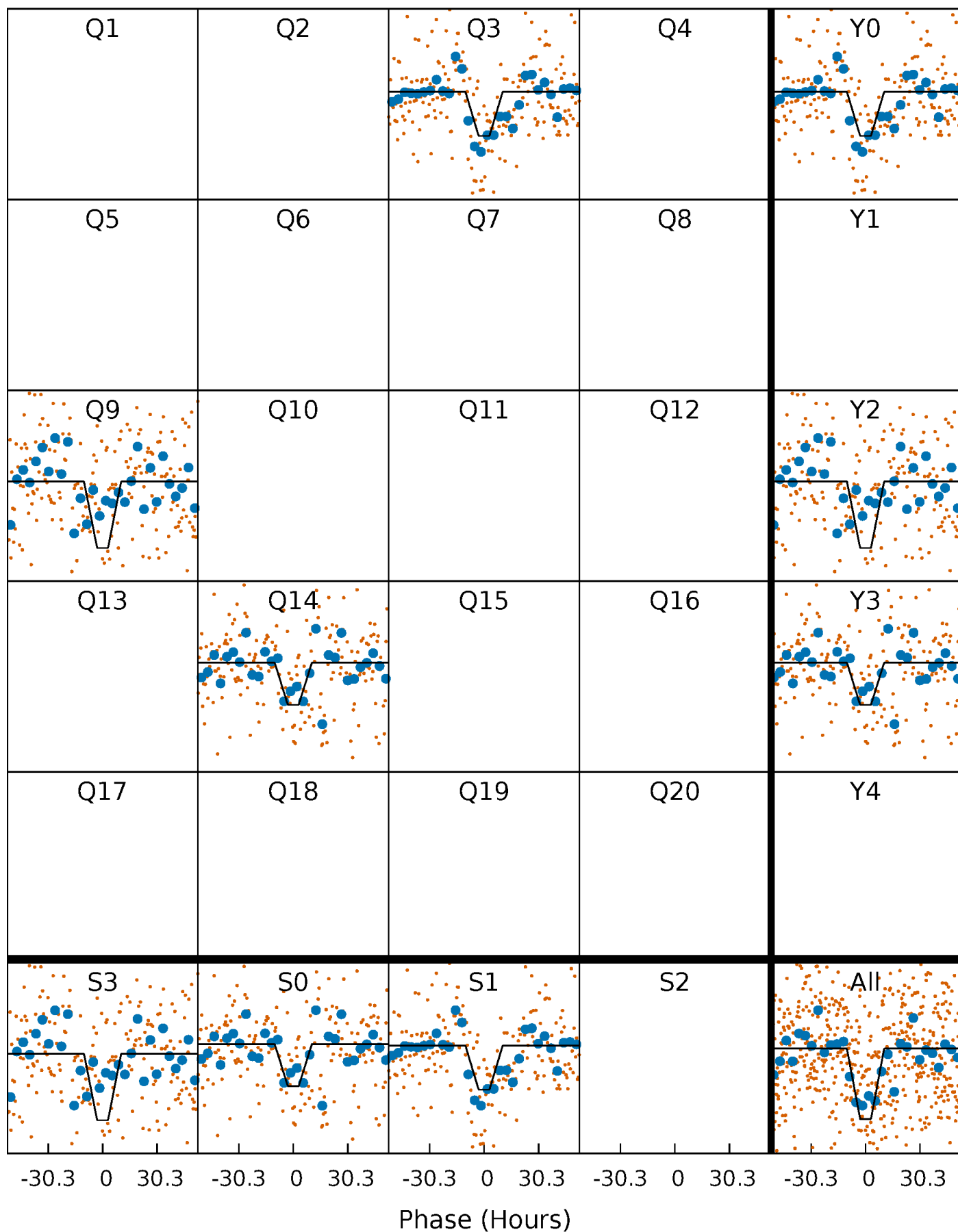
DV Quarter-Phased Transit Curves

TCE 004243442-01 P=497.878249 Days $T_0=316.592687$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

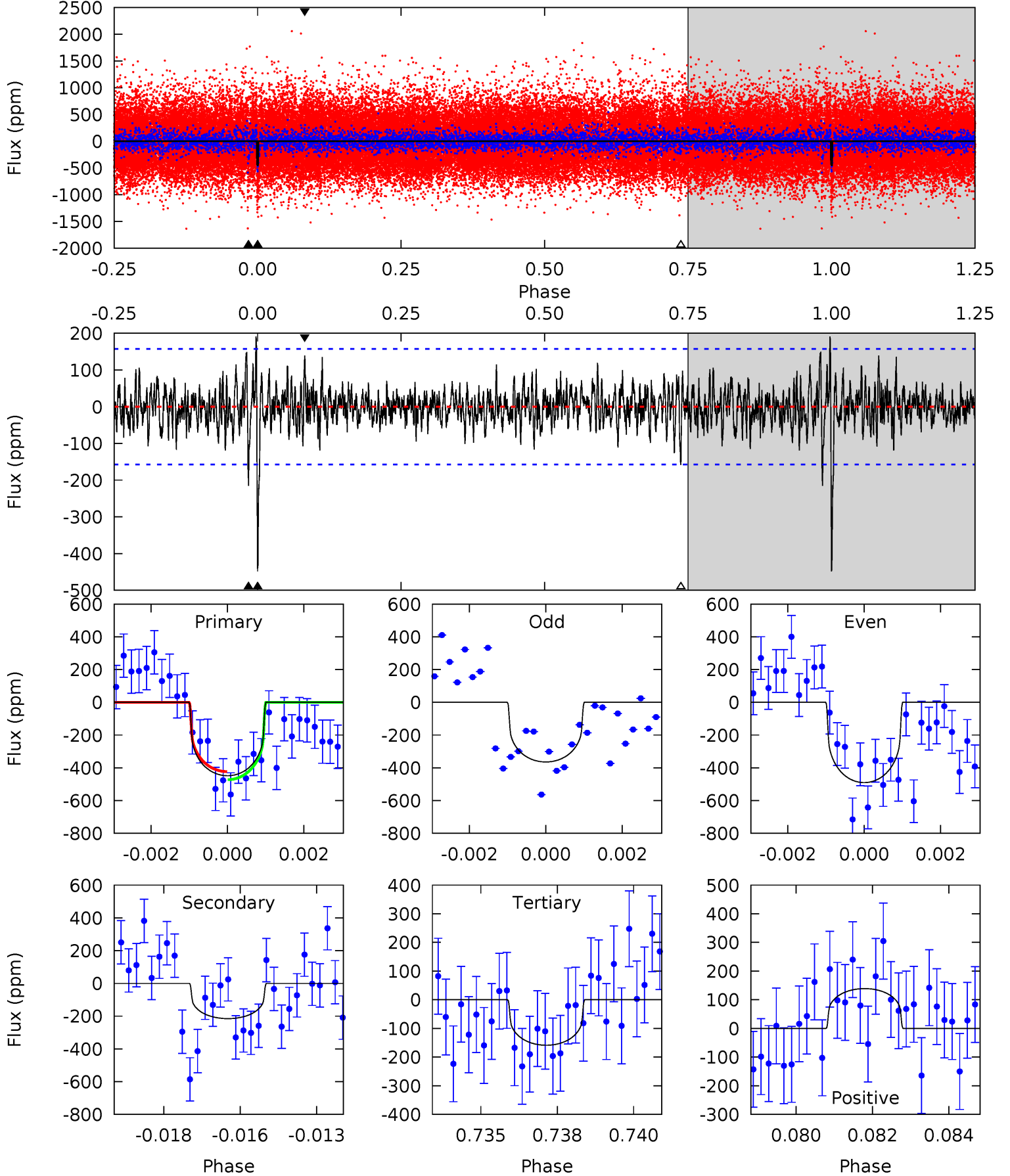
TCE 004243442-01 P=497.965857 Days $T_0=316.456187$ (BKJD)



DV Model-Shift Uniqueness Test

004243442-01, P = 497.878249 Days, E = 316.592687 Days

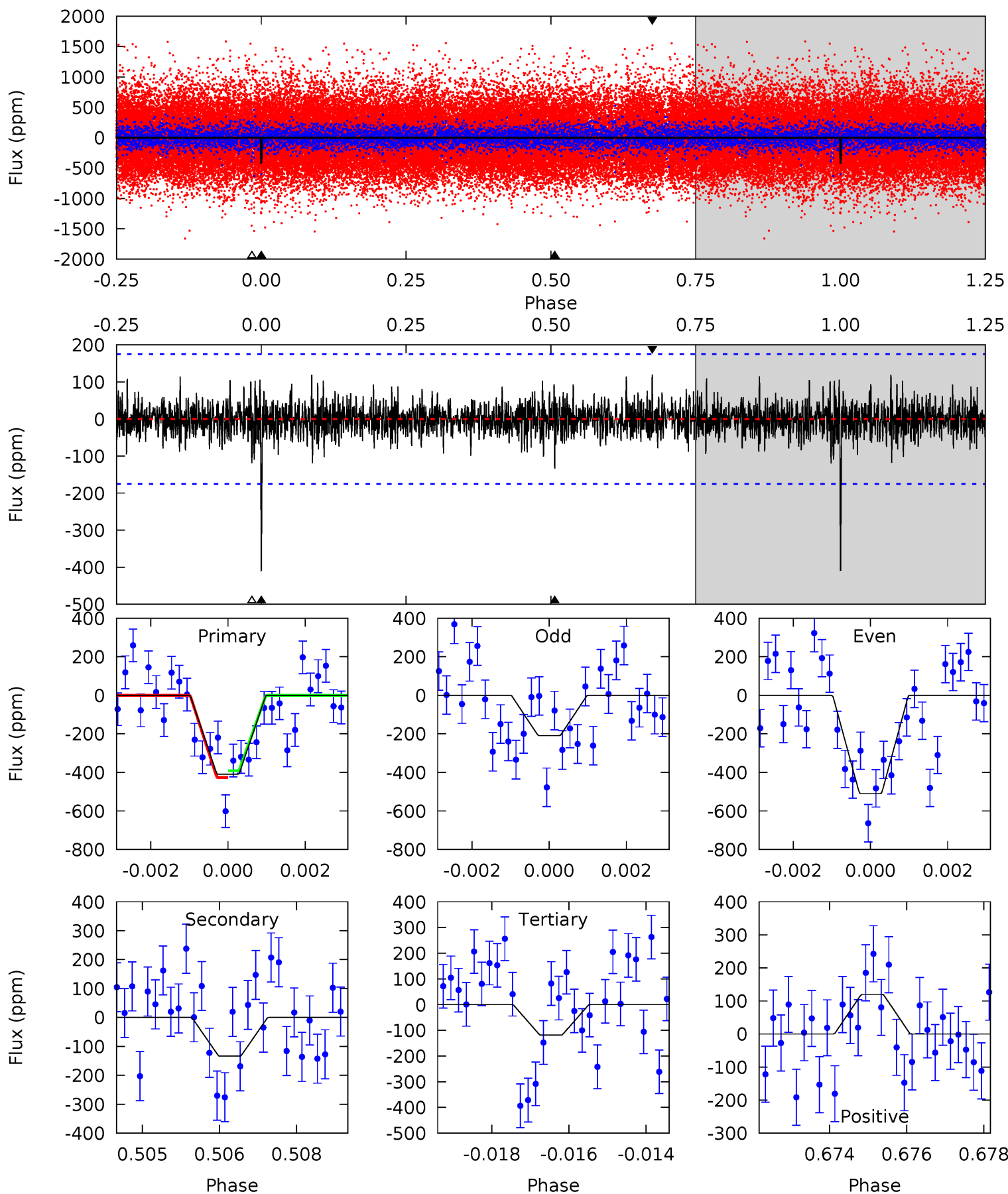
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	7.26	5.35	4.69	5.31	3.06	1.39	9.78	10.4	1.91	2.57	2.03	1.23	0.30	0.83



Alt Model-Shift Uniqueness Test

004243442-01, P = 497.965857 Days, E = 316.456187 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	4.08	3.63	3.66	5.35	3.13	1.00	8.88	8.85	0.45	0.43	4.37	1.05	0.23	0.54



Stellar Parameters For KIC 004243442

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4978^{+151}_{-136}	$4.557^{+0.072}_{-0.044}$	$-0.220^{+0.300}_{-0.300}$	$0.736^{+0.065}_{-0.072}$	$0.712^{+0.093}_{-0.050}$	$2.518^{+0.759}_{-0.406}$
	+3%/-3%	+2%/-1%	+136%/-136%	+9%/-10%	+13%/-7%	+30%/-16%
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 004243442-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-215 ± 30	$1.62^{+0.67}_{-0.63}$	250^{+10}_{-9}	4375^{+1032}_{-539}	54793^{+92013}_{-27606}
Alt.	-134 ± 33	$1.73^{+0.67}_{-0.65}$	250^{+9}_{-9}	3935^{+755}_{-463}	29966^{+49535}_{-15235}

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

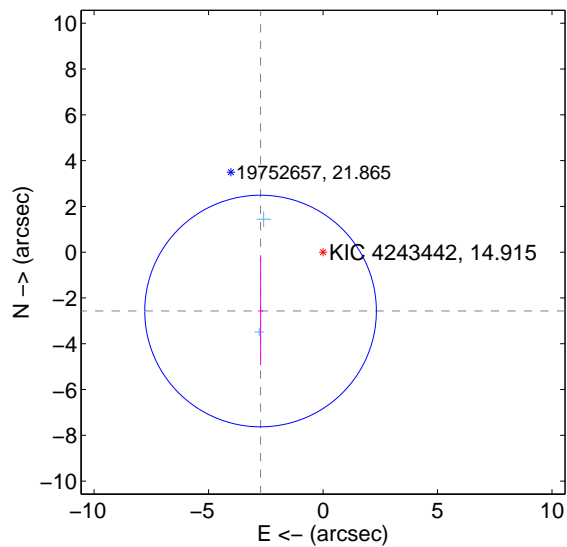
Supplemental centroid analysis for 004243442-01. Kepler magnitude: 14.91. Transit SNR 9.07

There are 2 quarters with good PRF difference image offsets

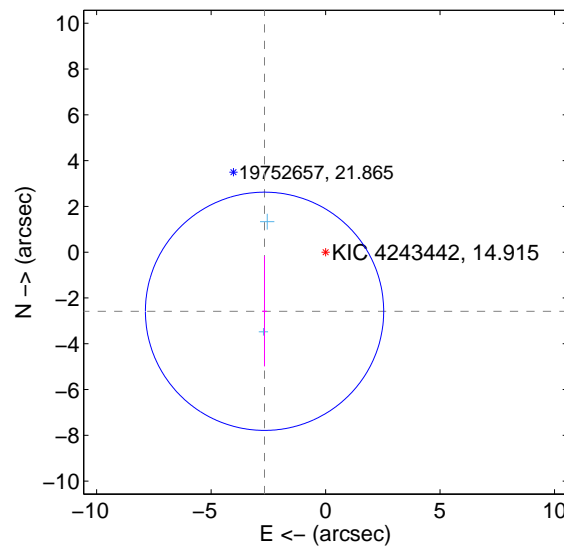
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.749 ± 1.686	2.22	2.729 ± 0.114	-2.571 ± 2.360
PRF-fit source offset from KIC position	3.712 ± 1.735	2.14	2.667 ± 0.106	-2.582 ± 2.408
photometric centroid source offset	0.60 ± 1.24	0.48	-0.37 ± 1.29	-0.47 ± 1.22

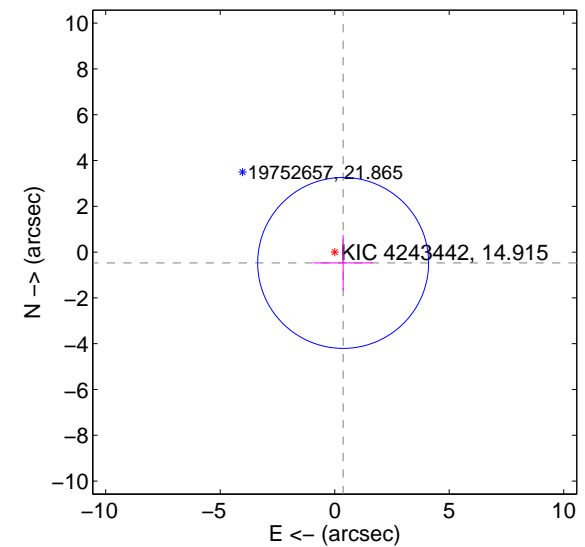
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

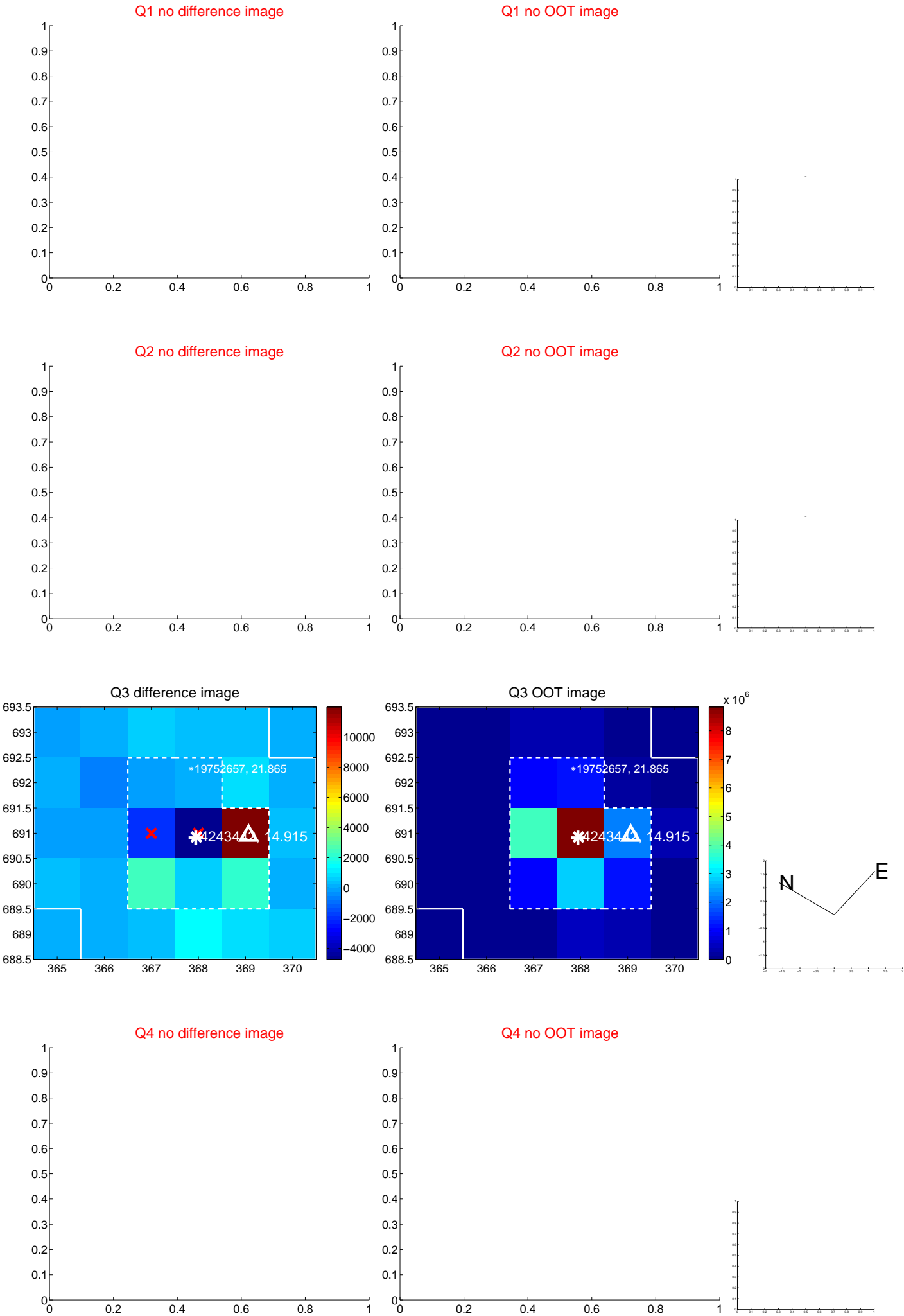


offset from photometric centroids



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.

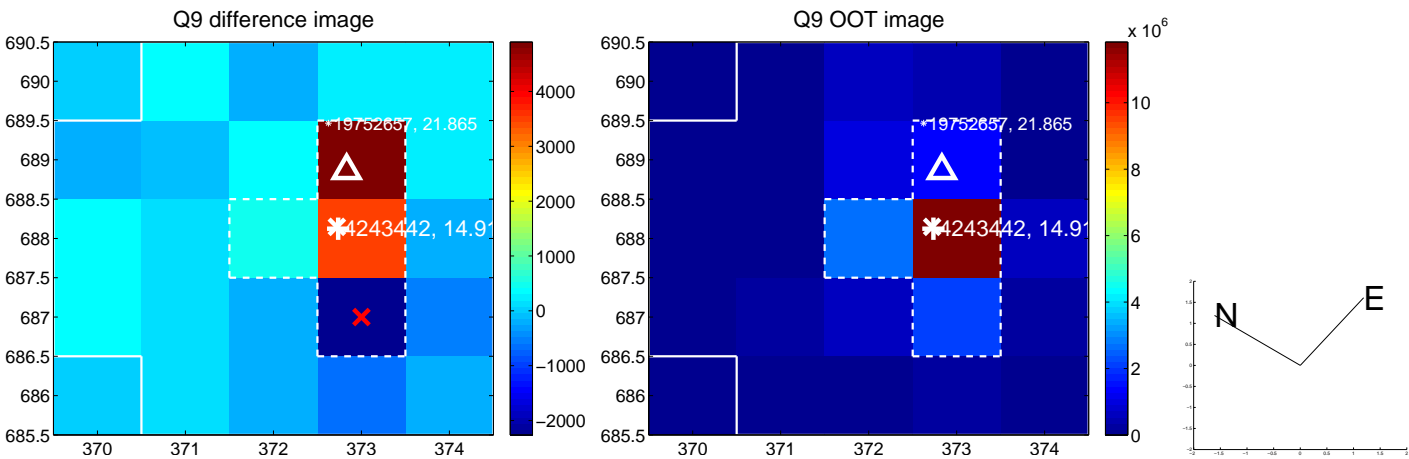
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



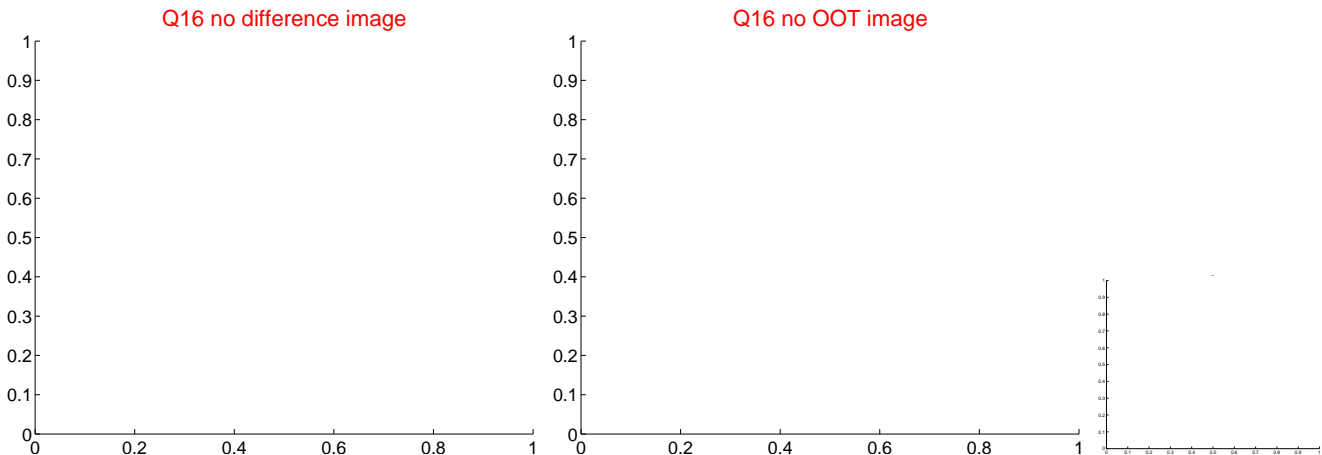
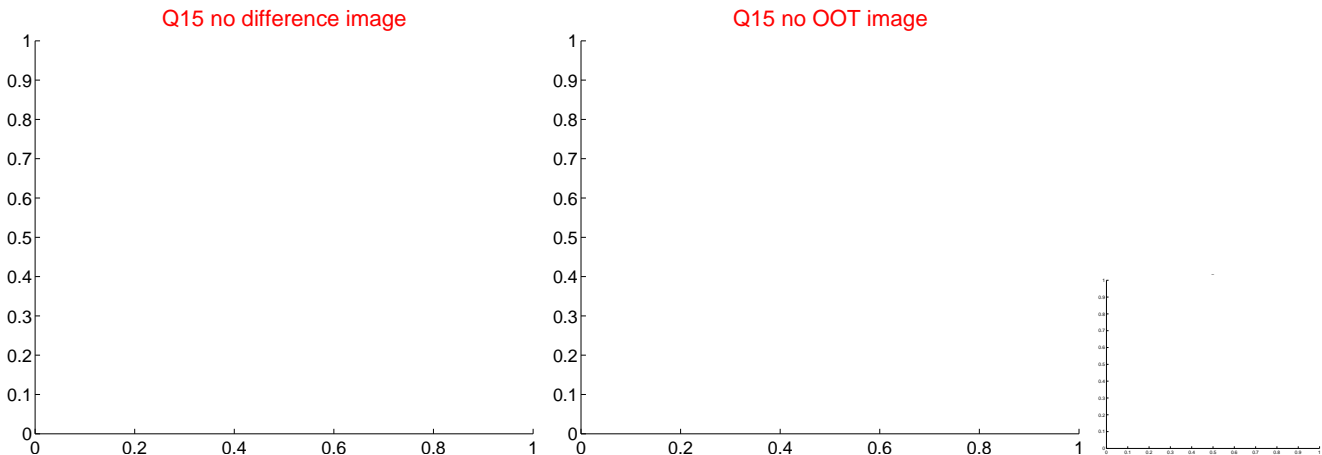
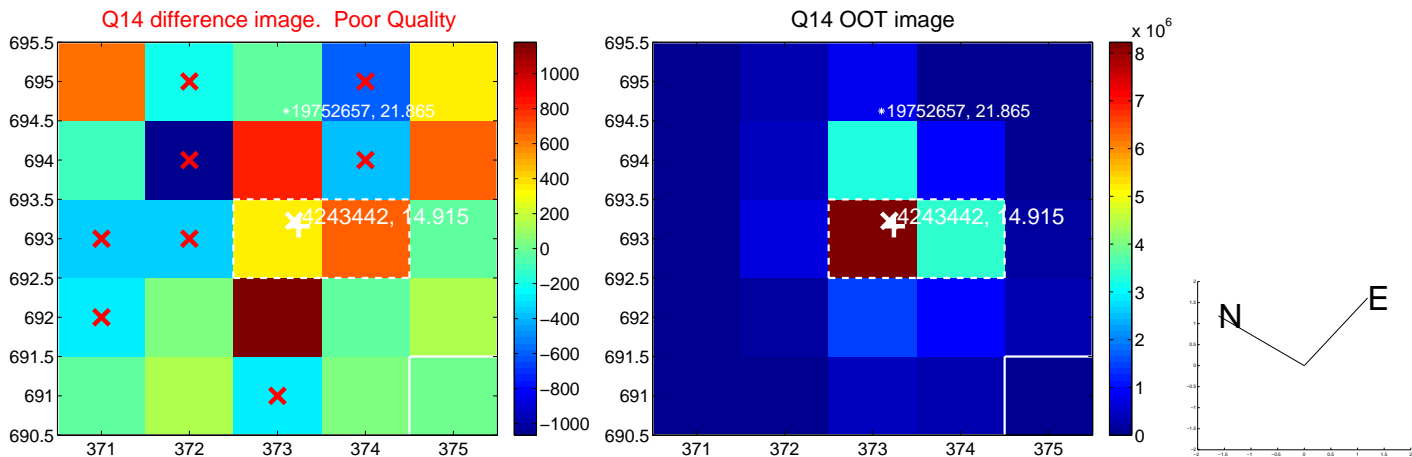
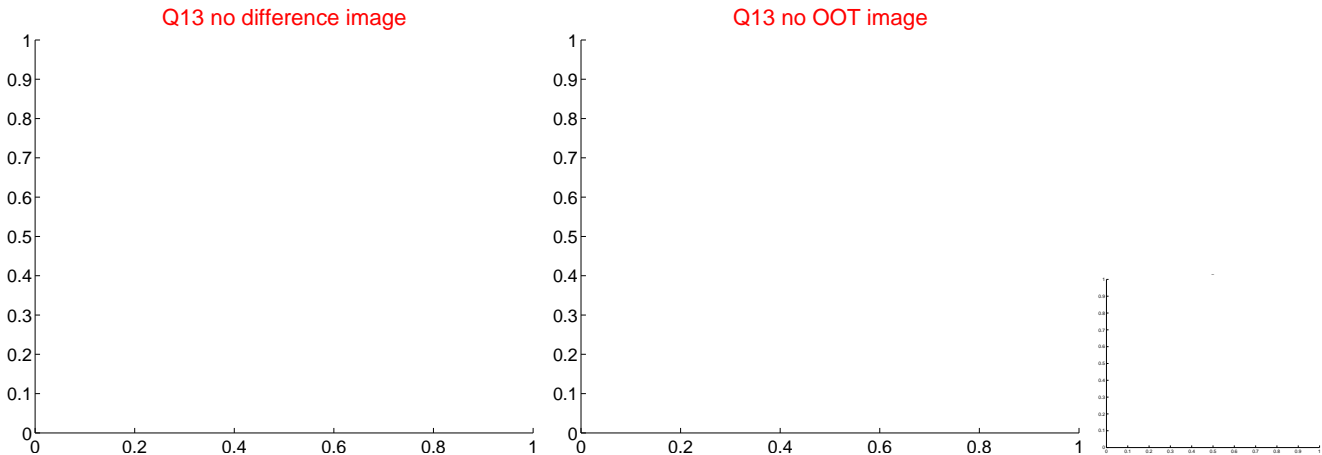
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



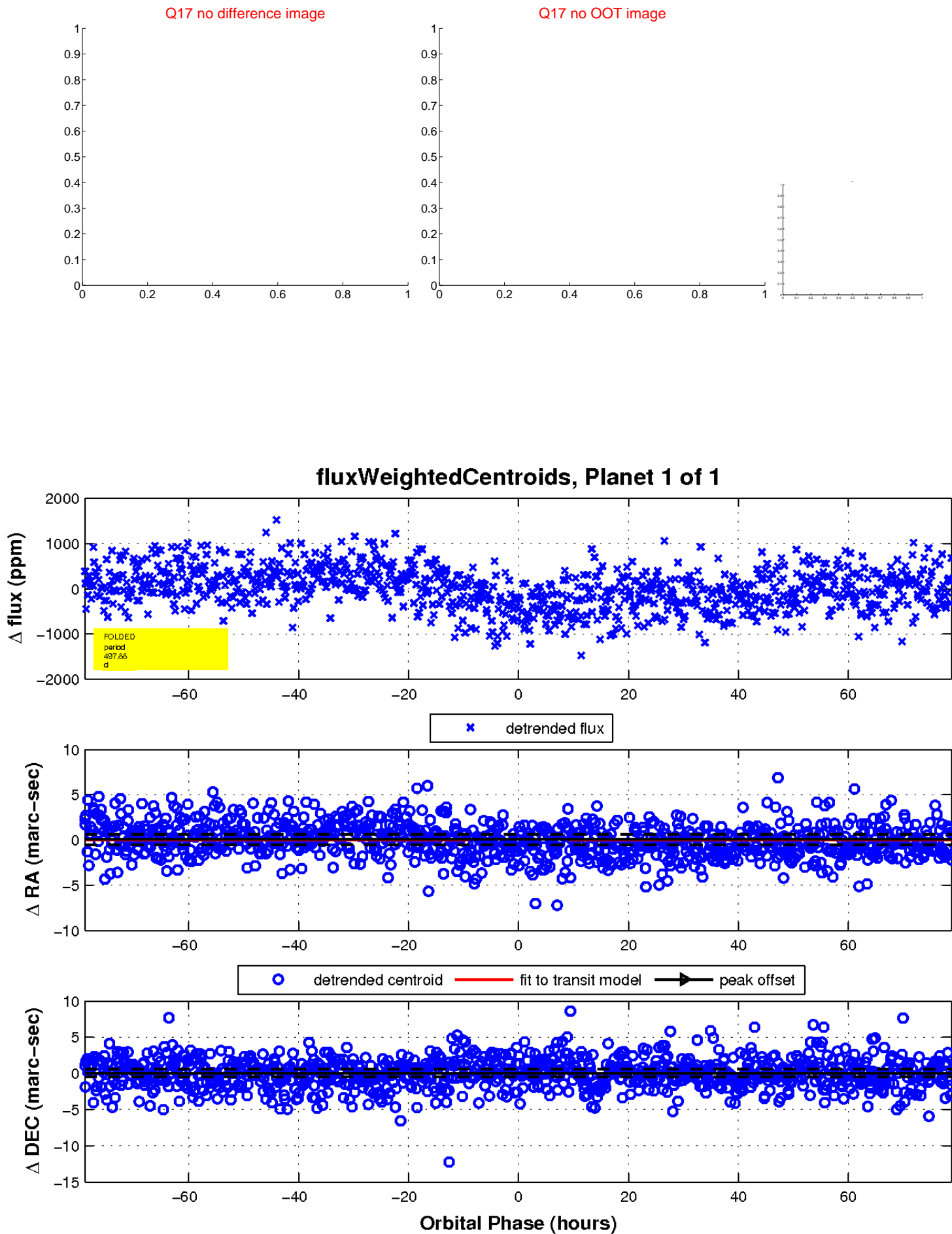
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

