

KIC 007900042

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})
007900042-01	OBS	No	456.887076	426.256933	1428.8	12.907	9.4	9.8	1.01	5824	4.49	0.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007900042-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

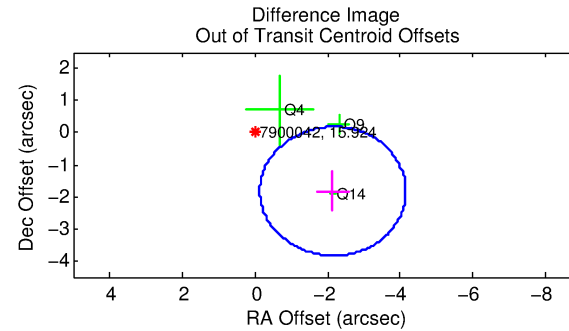
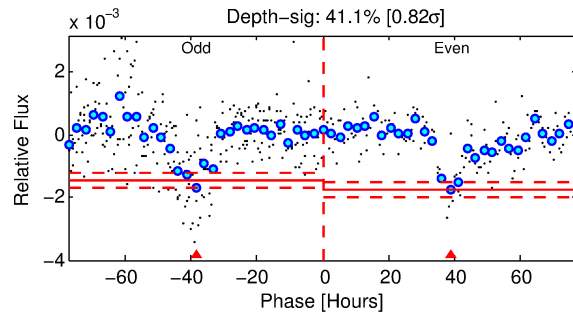
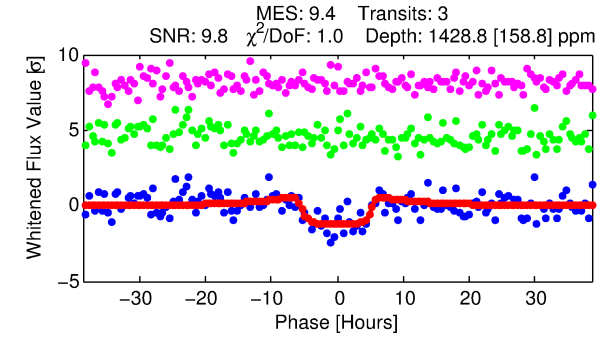
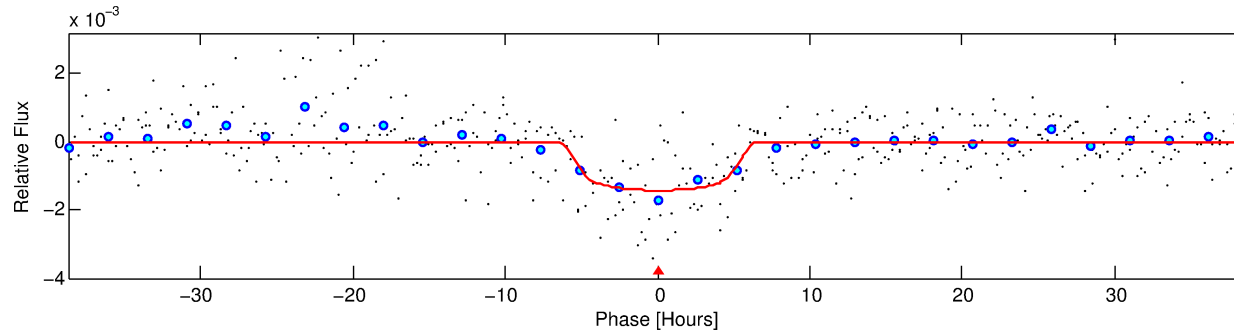
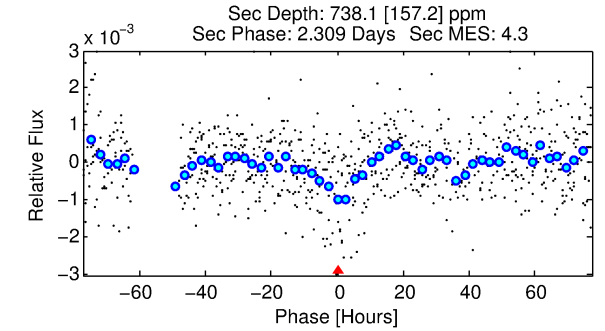
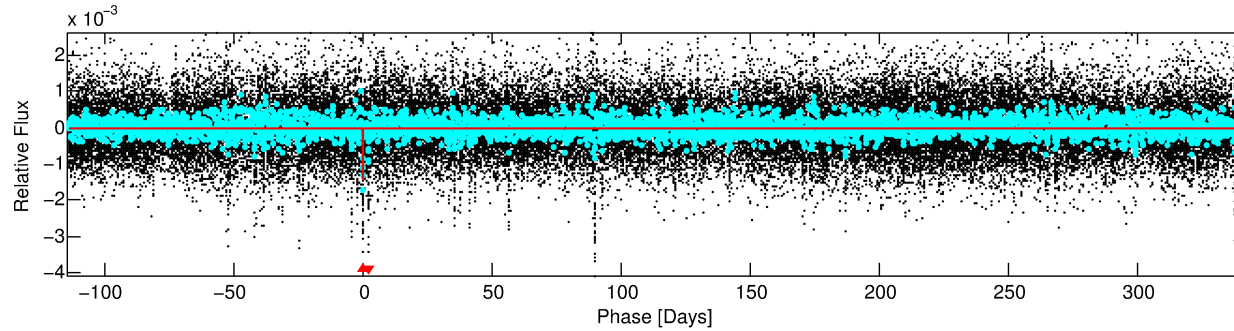
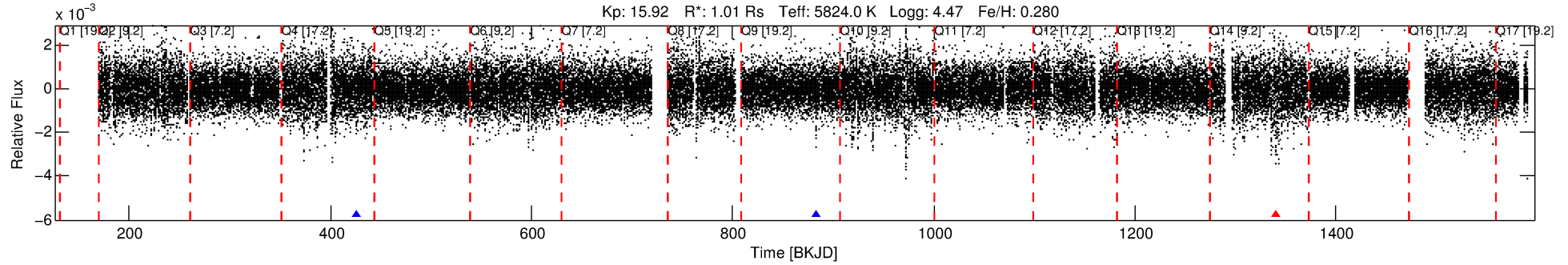
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007900042-01

No Significant Match Found

DV One-Page Summary

KIC: 7900042 Candidate: 1 of 1 Period: 456.887 d



DV Fit Results:

Period = 456.88708 [0.01576] d
Epoch = 426.2569 [0.0197] BKJD
Rp/R* = 0.0407 [0.0041]
a/R* = 148.97 [49.15]
b = 0.88 [0.08]
Seff = 0.73 [0.28]
Teq = 236 [22] K
Rp = 4.49 [1.36] Re
a = 1.1996 [0.2888] AU
Ag = 28971.73 [13219.10] [2.19σ]
Teff = 4760 [387] K [11.69σ]

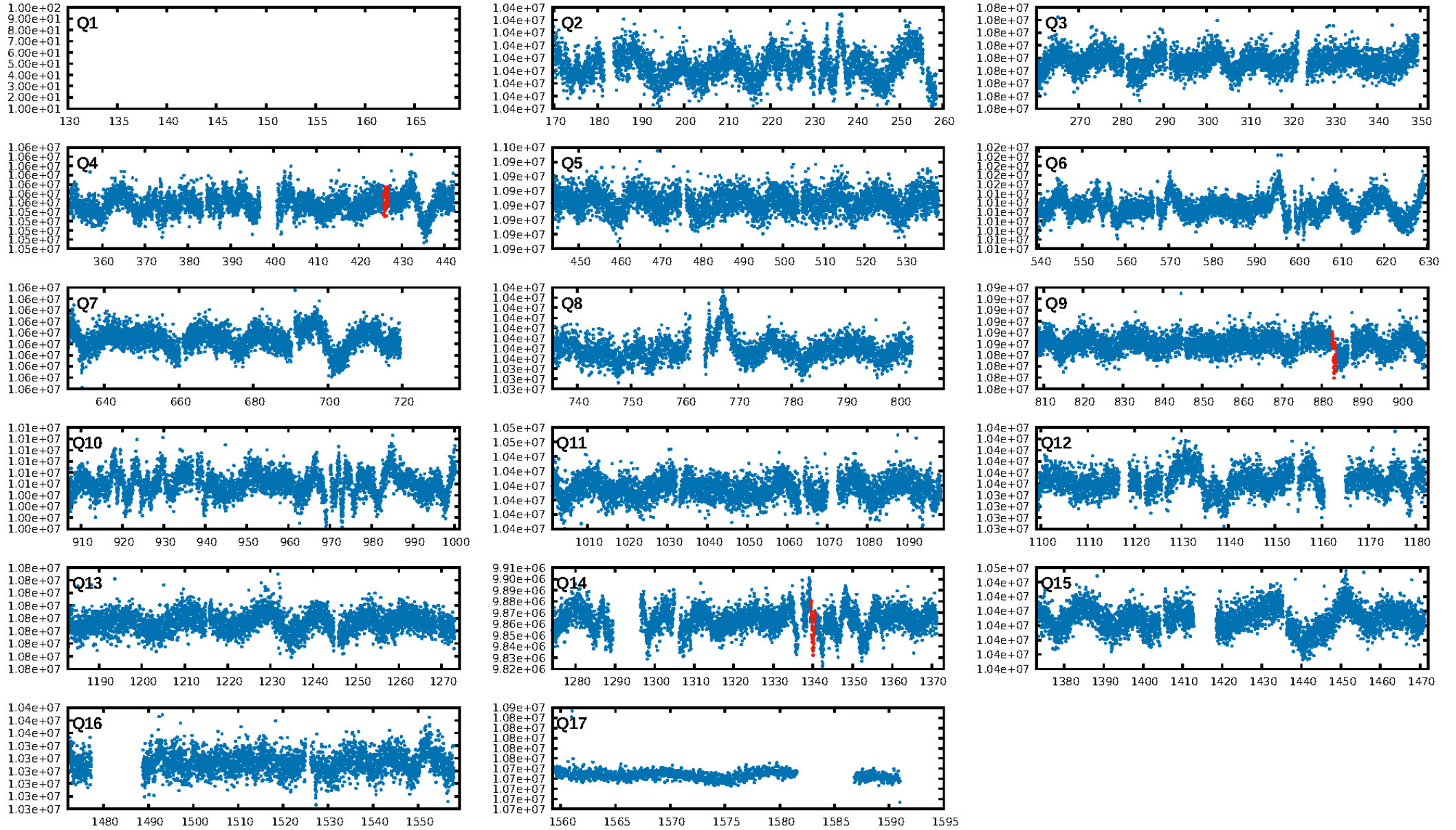
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.2%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 1.41e-09
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 14.33
Centroid-sig: 53.2%
Centroid-so: 1.185 arcsec [0.80σ]
OotOffset-rm: 2.821 arcsec [4.21σ]
KicOffset-rm: 2.500 arcsec [7.05σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

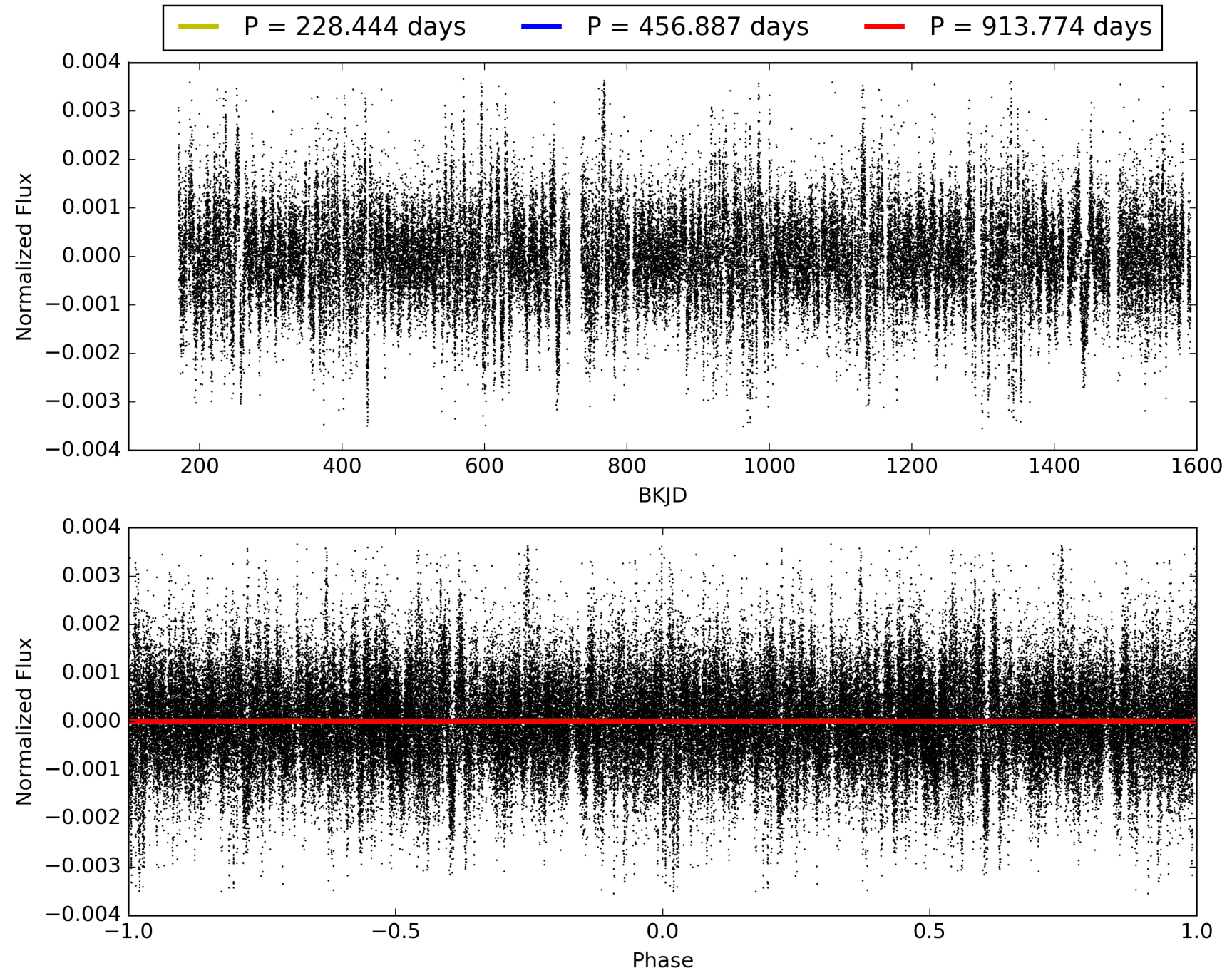
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:04:01 Z

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

TCE 007900042-01, PDC Light Curves

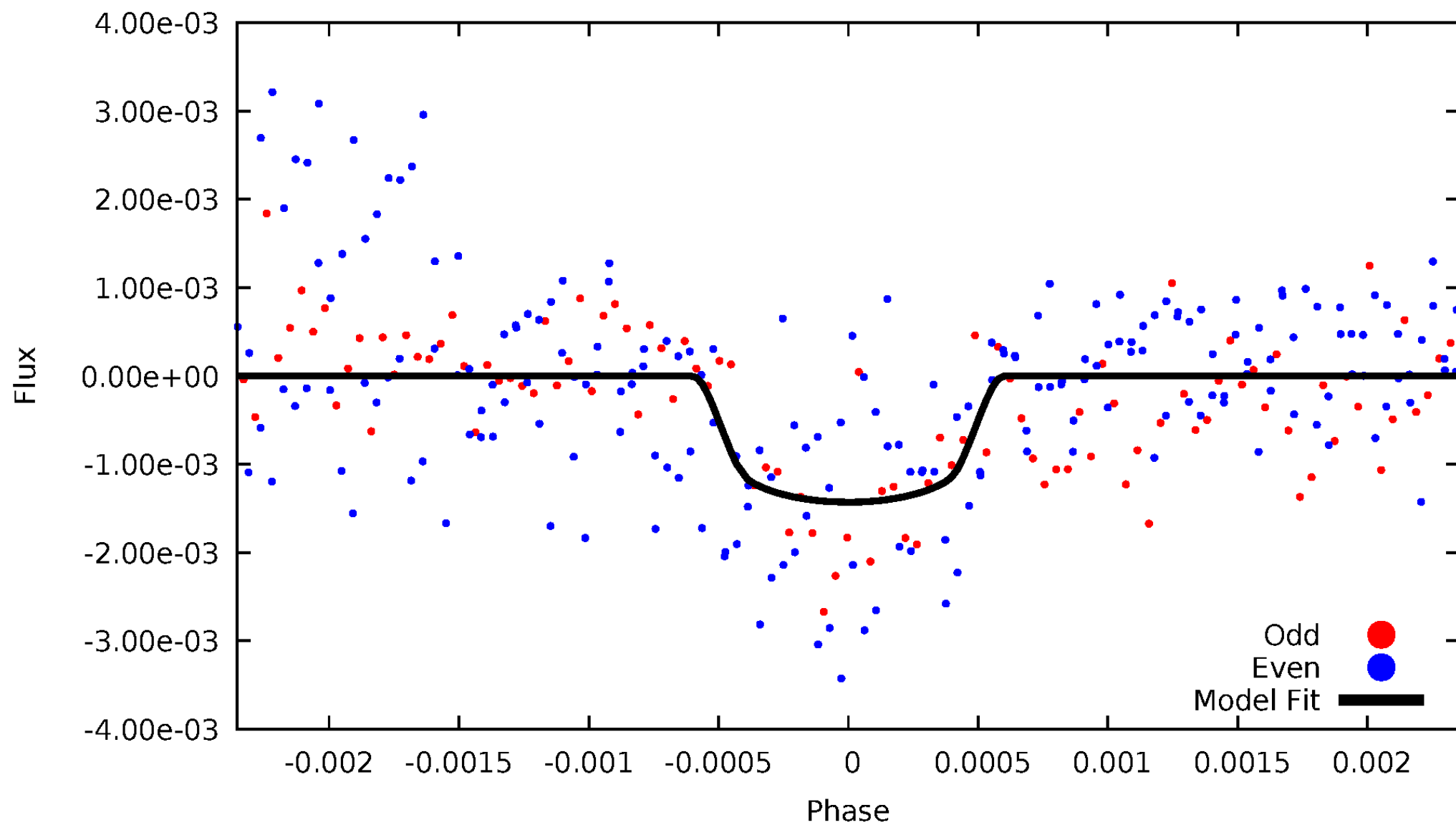


TCE 007900042-01



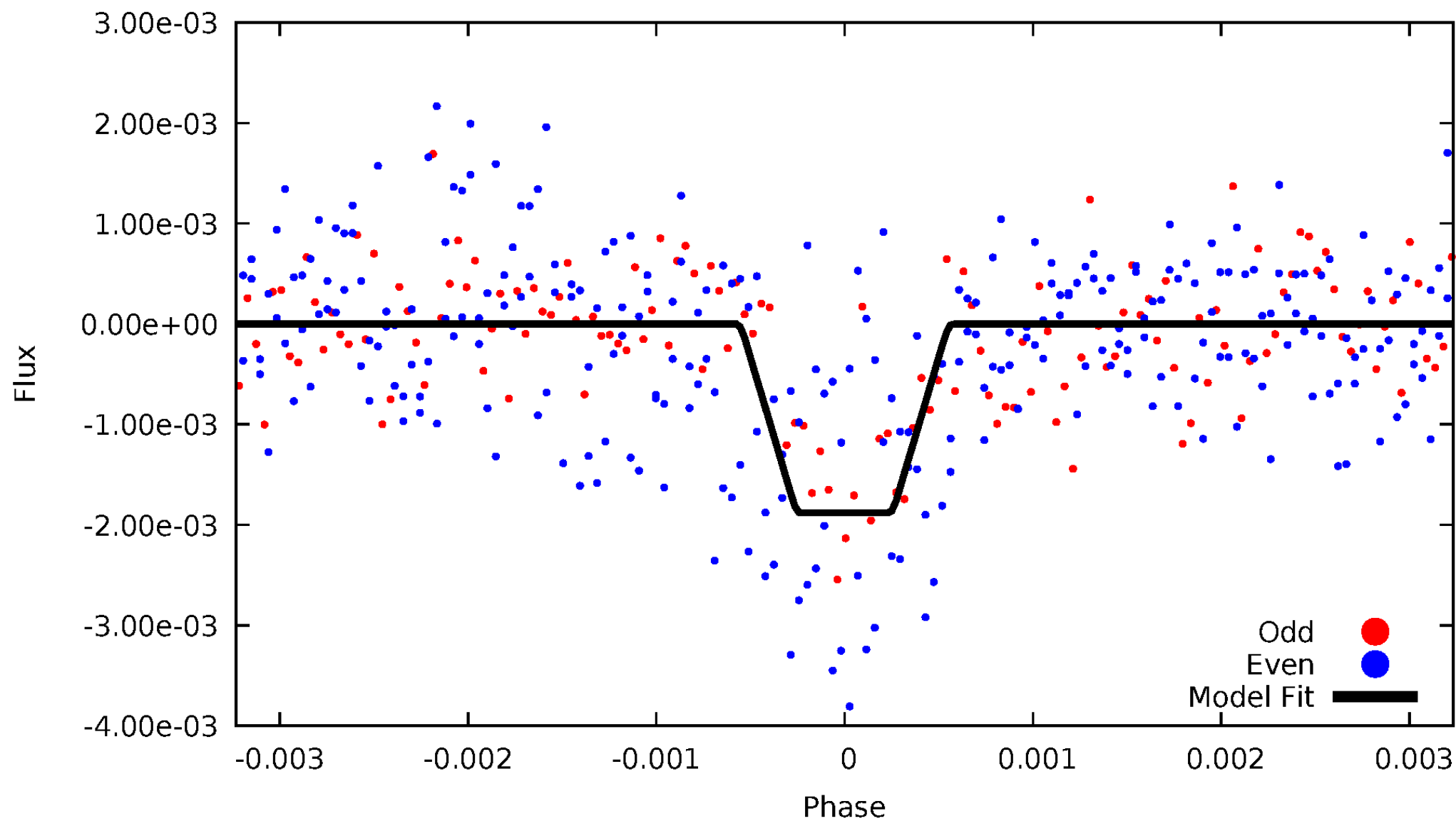
DV Odd/Even

TCE 007900042-01



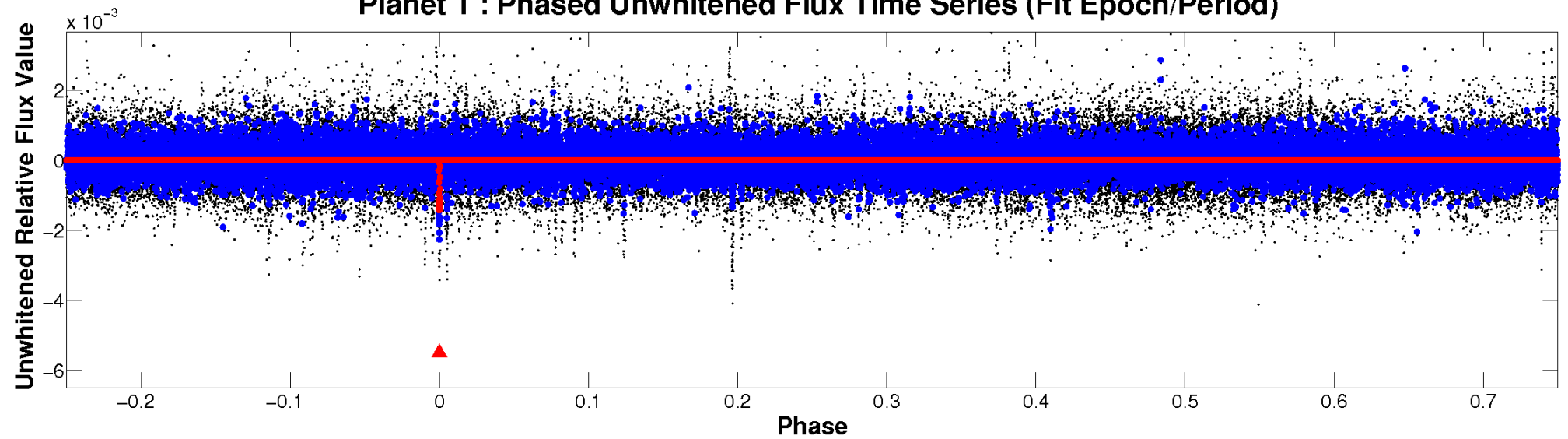
ALT Odd/Even

TCE 007900042-01

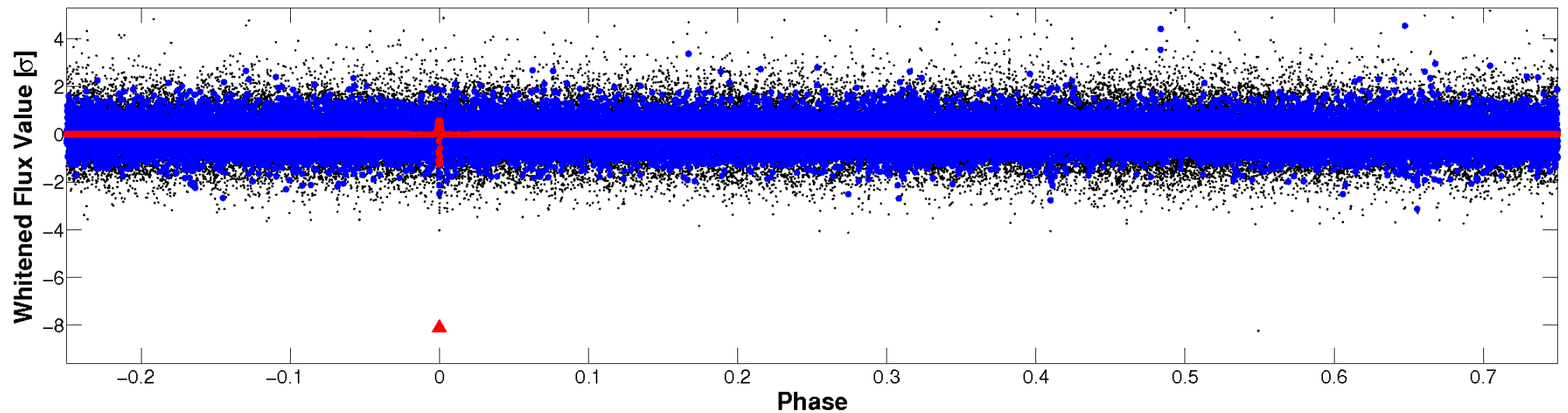


Non-Whitened Vs. Whitened Light Curve

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

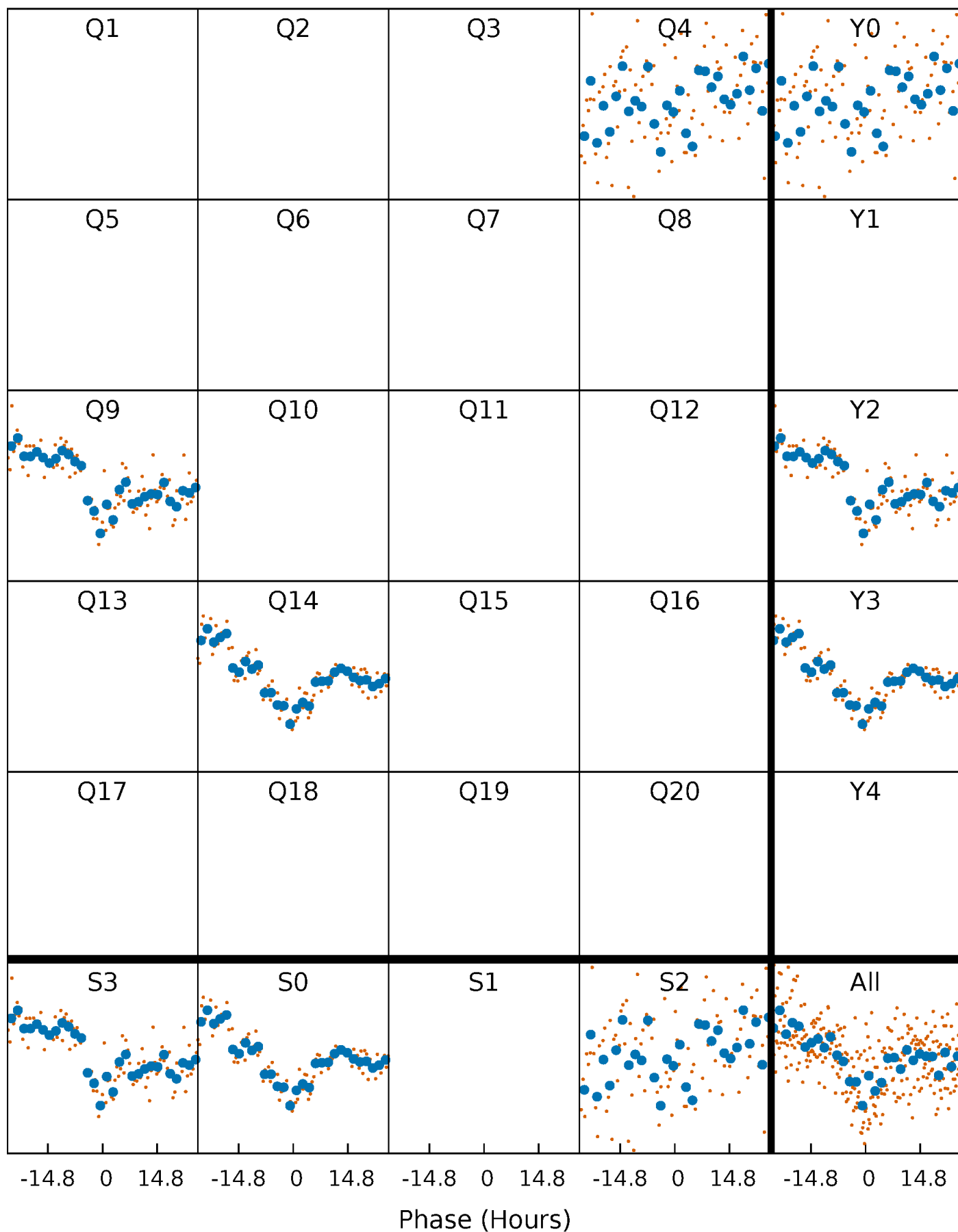


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



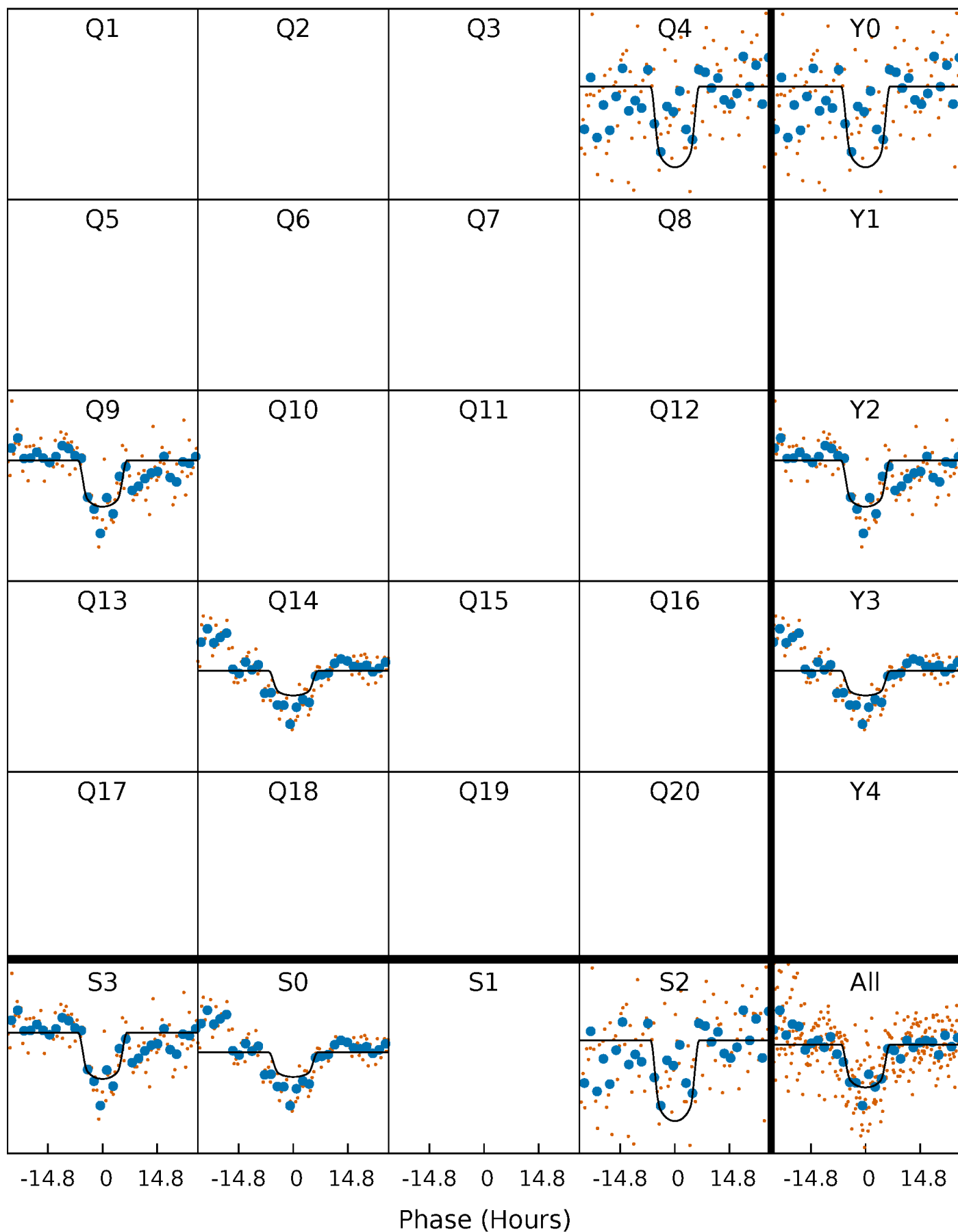
PDC Quarter-Phased Transit Curves

TCE 007900042-01 P=456.887076 Days $T_0=426.256933$ (BKJD)



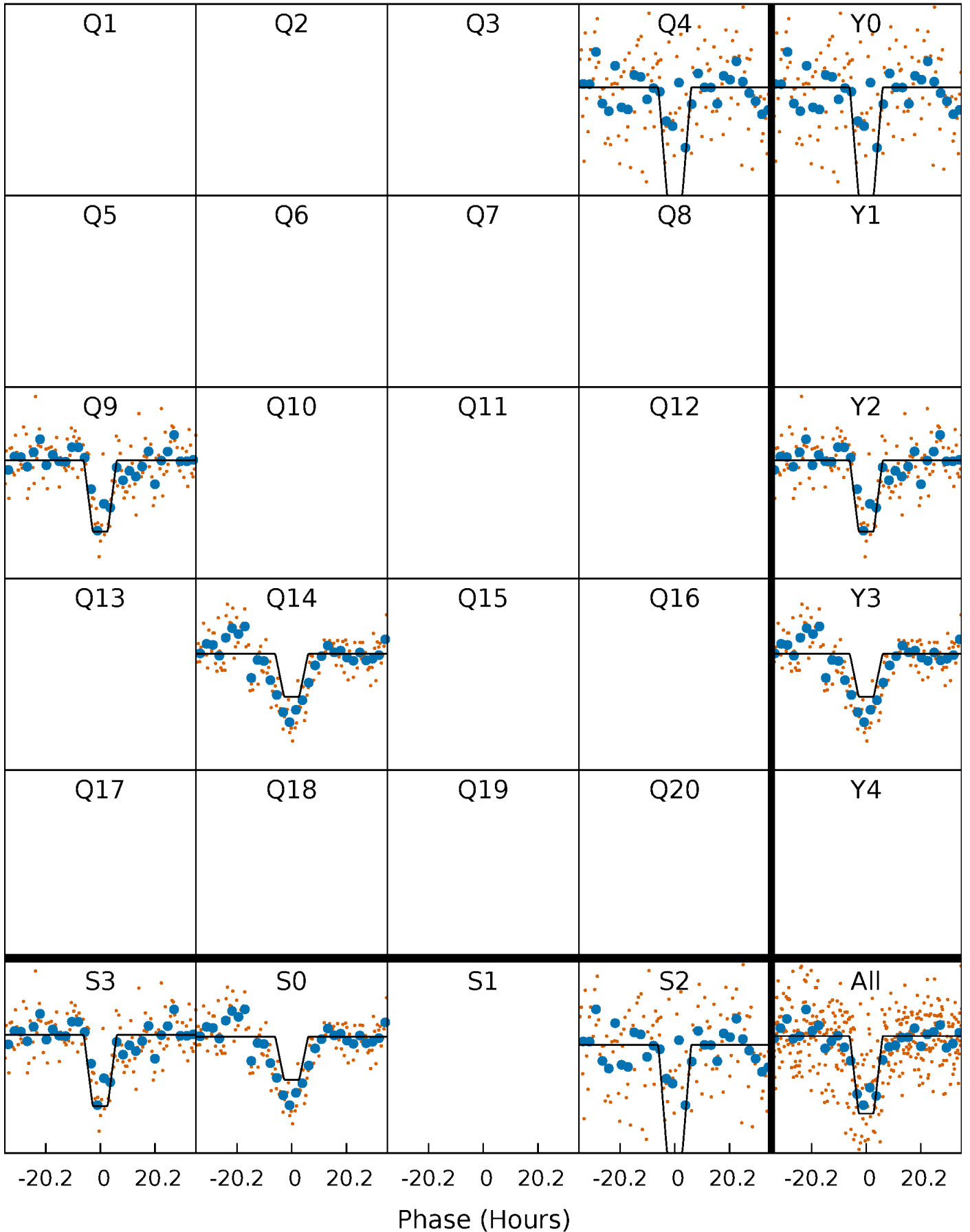
DV Quarter-Phased Transit Curves

TCE 007900042-01 P=456.887076 Days $T_0=426.256933$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

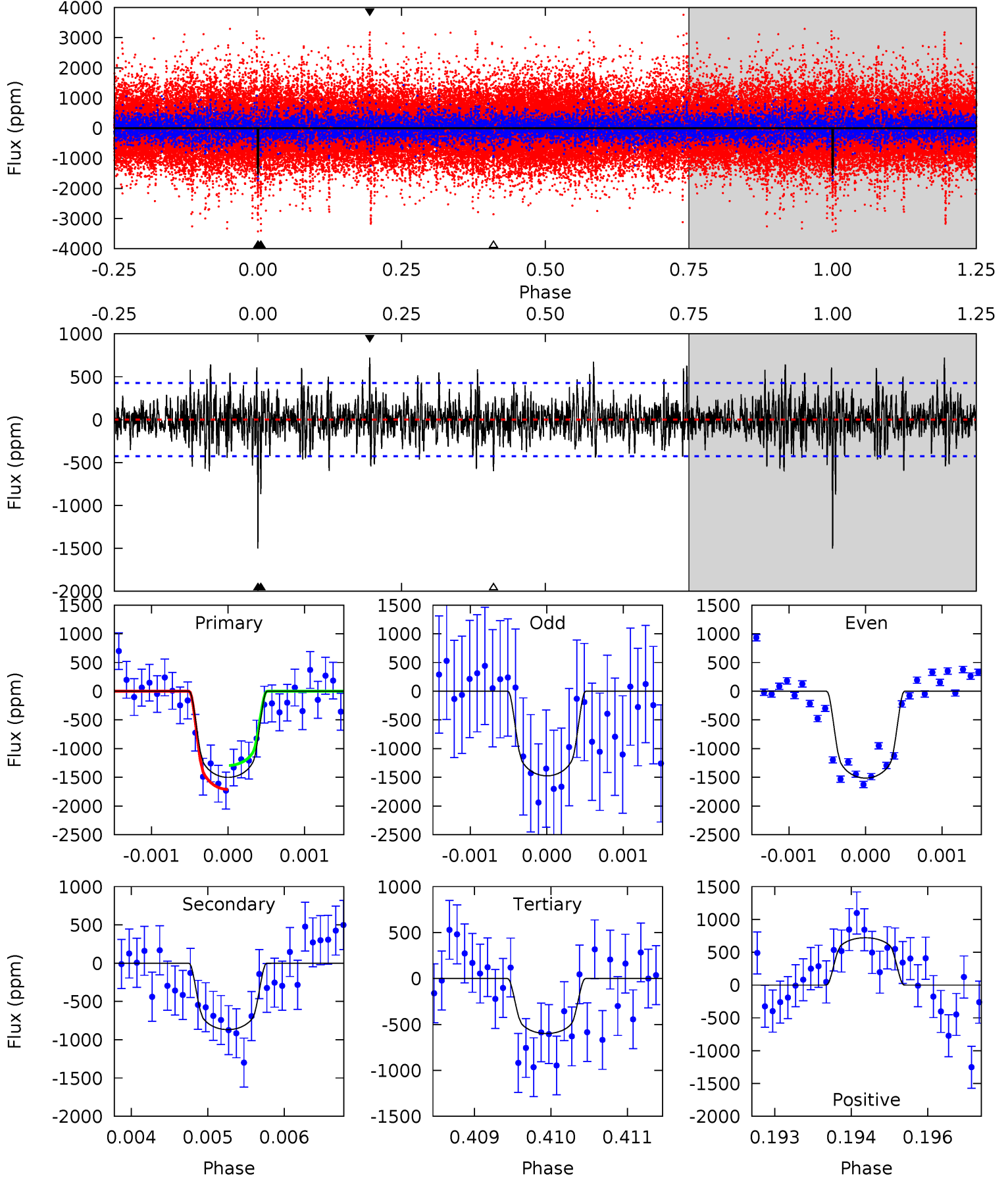
TCE 007900042-01 P=456.887590 Days $T_0=426.231510$ (BKJD)



DV Model-Shift Uniqueness Test

007900042-01, P = 456.887076 Days, E = 426.256933 Days

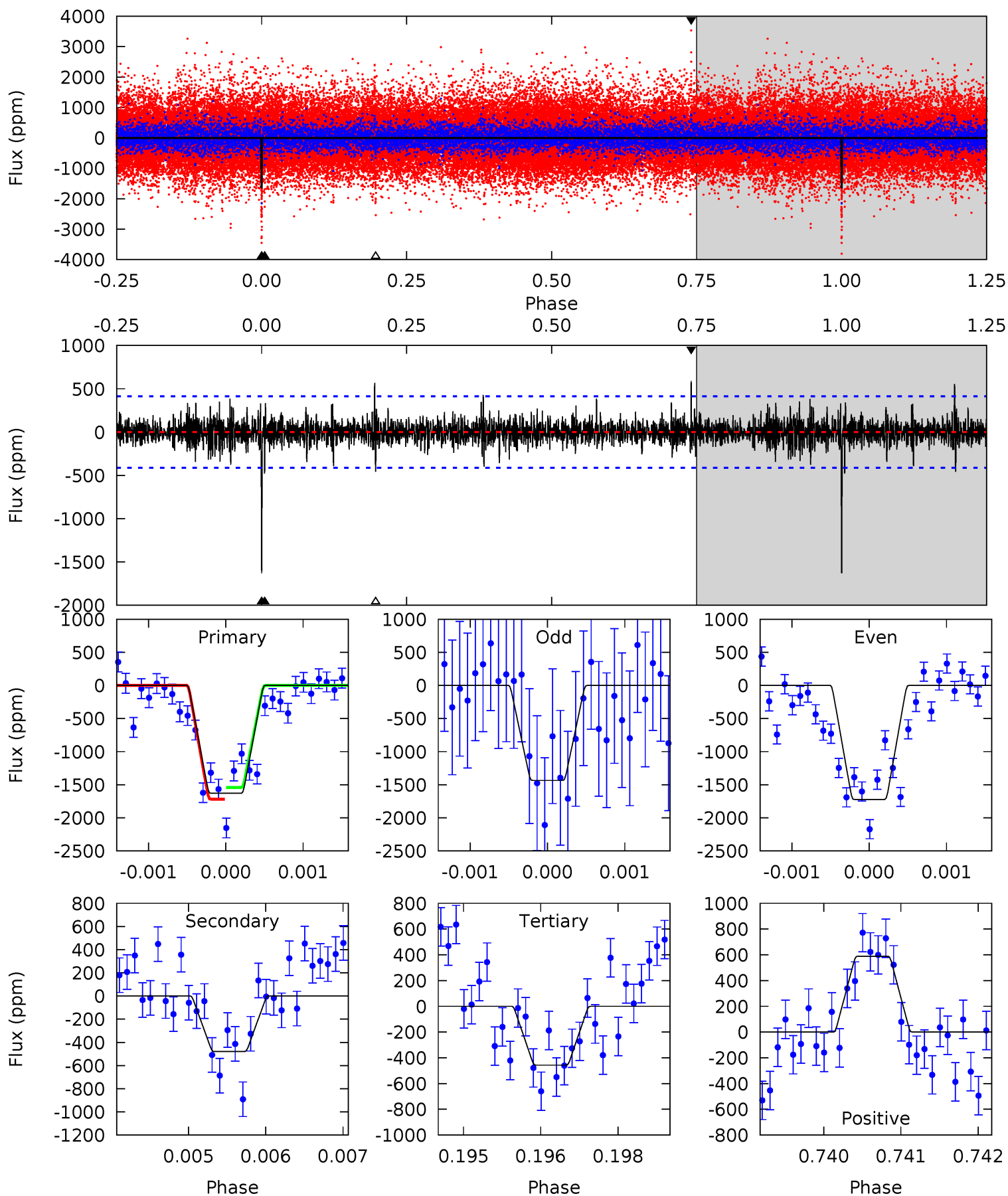
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	11.0	7.61	9.15	5.42	3.24	2.13	11.5	9.91	3.41	1.87	0.24	1.02	0.32	2.65



Alt Model-Shift Uniqueness Test

007900042-01, P = 456.887590 Days, E = 426.231510 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	6.31	6.02	7.76	5.43	3.25	1.30	15.4	13.7	0.29	-1.45	1.79	1.13	0.27	1.15



Stellar Parameters For KIC 007900042

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot cm^{-3})$
	5824^{+174}_{-208}	$4.470^{+0.048}_{-0.192}$	$0.280^{+0.150}_{-0.300}$	$1.012^{+0.289}_{-0.096}$	$1.102^{+0.112}_{-0.137}$	$1.498^{+0.377}_{-0.734}$
	+3%/-4%	+1%/-4%	+54%/-107%	+29%/-9%	+10%/-12%	+25%/-49%
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 007900042-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-868 ± 79	$4.60^{+0.78}_{-0.57}$	336^{+20}_{-17}	5027^{+293}_{-252}	31722^{+9059}_{-8206}
Alt.	-479 ± 76	$4.99^{+0.83}_{-0.62}$	337^{+22}_{-15}	4333^{+242}_{-226}	14678^{+5160}_{-4165}

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

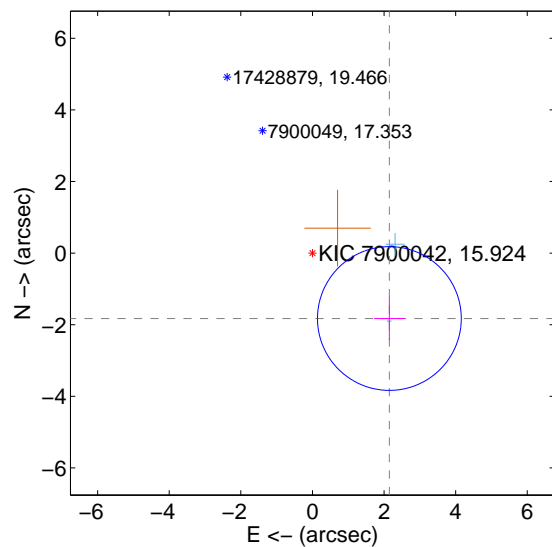
Supplemental centroid analysis for 007900042-01. Kepler magnitude: 15.92. Transit SNR 9.85

There are 2 quarters with good PRF difference image offsets

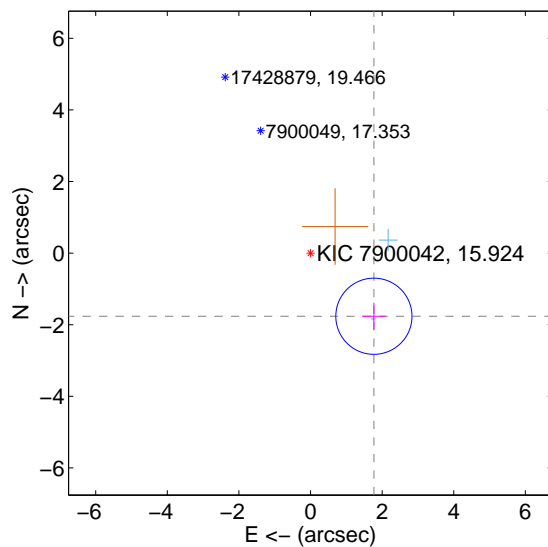
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.821 ± 0.669	4.21	-2.150 ± 0.425	-1.827 ± 0.605
PRF-fit source offset from KIC position	2.500 ± 0.355	7.05	-1.770 ± 0.329	-1.764 ± 0.378
photometric centroid source offset	1.19 ± 1.48	0.80	-0.68 ± 1.37	0.97 ± 1.54

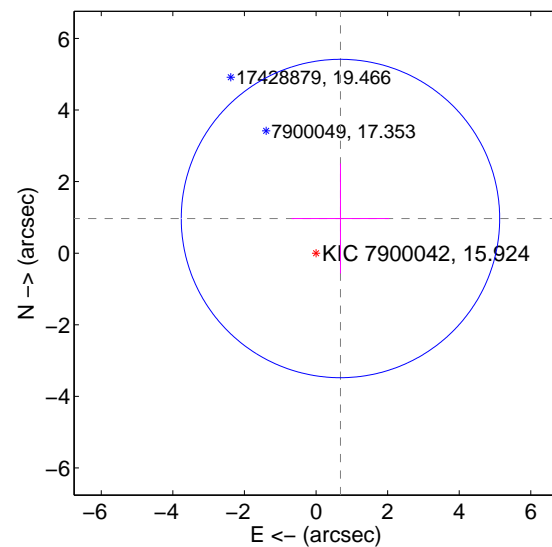
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

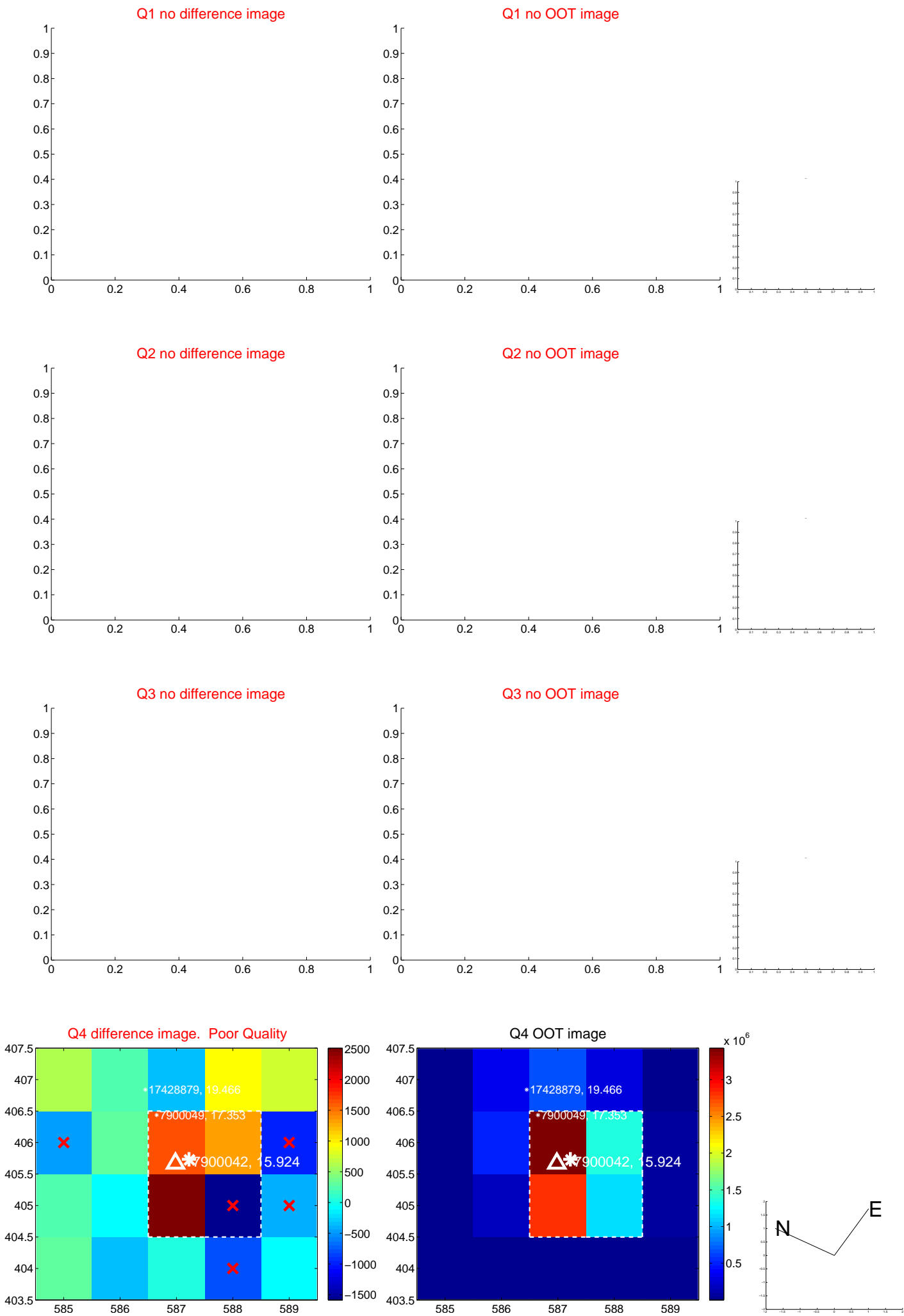


offset from photometric centroids



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.

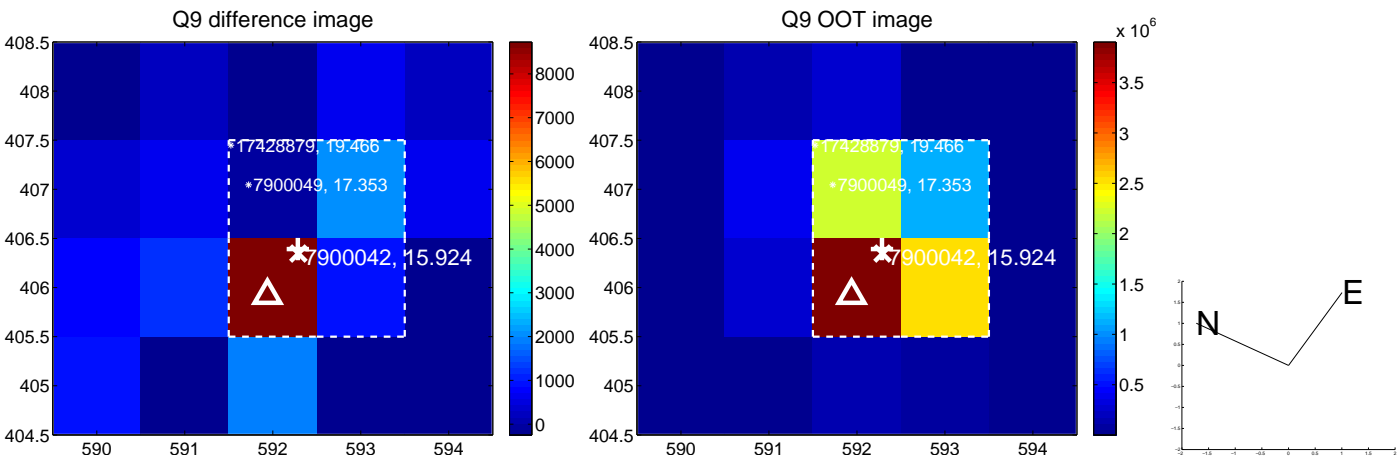
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



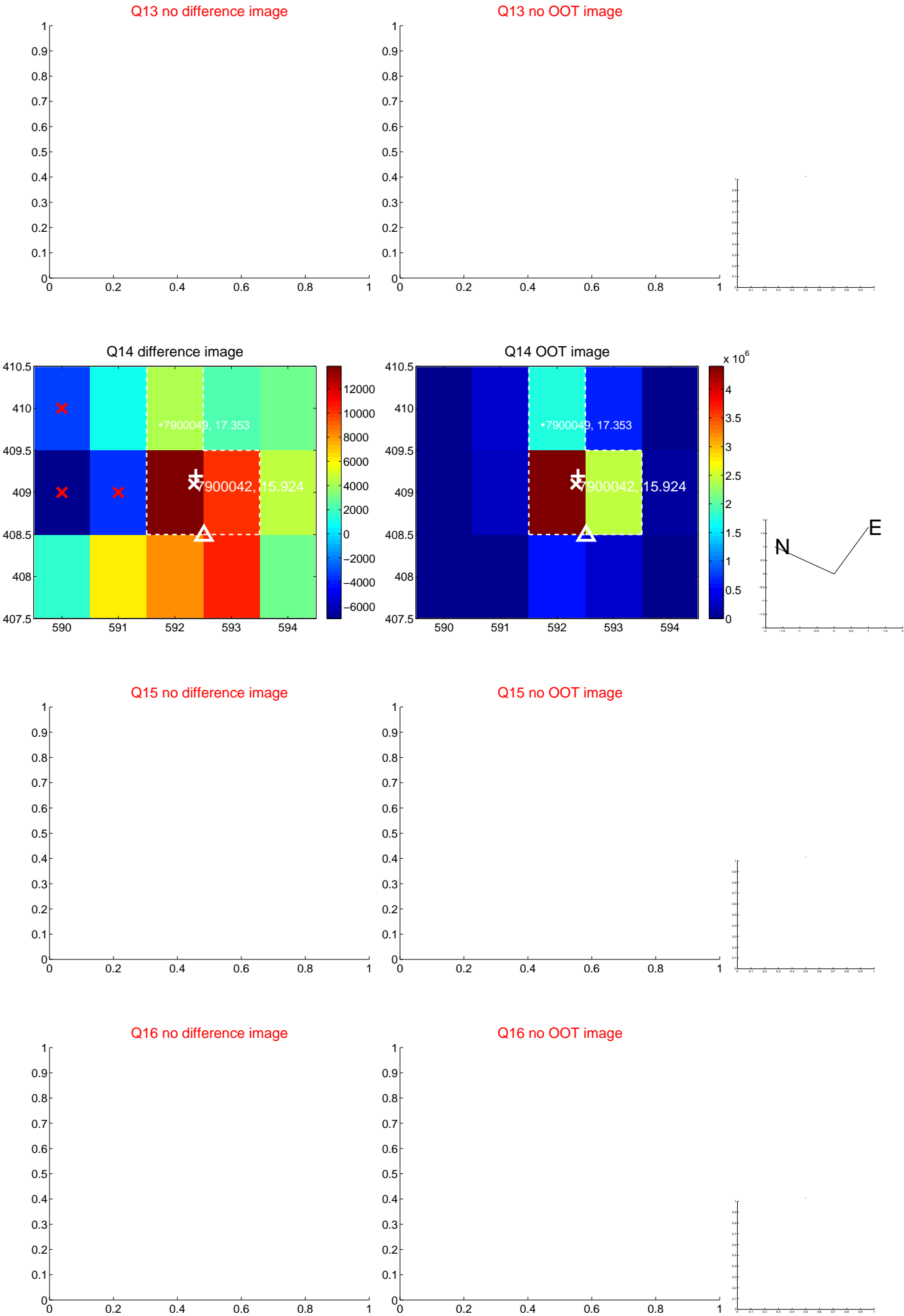
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



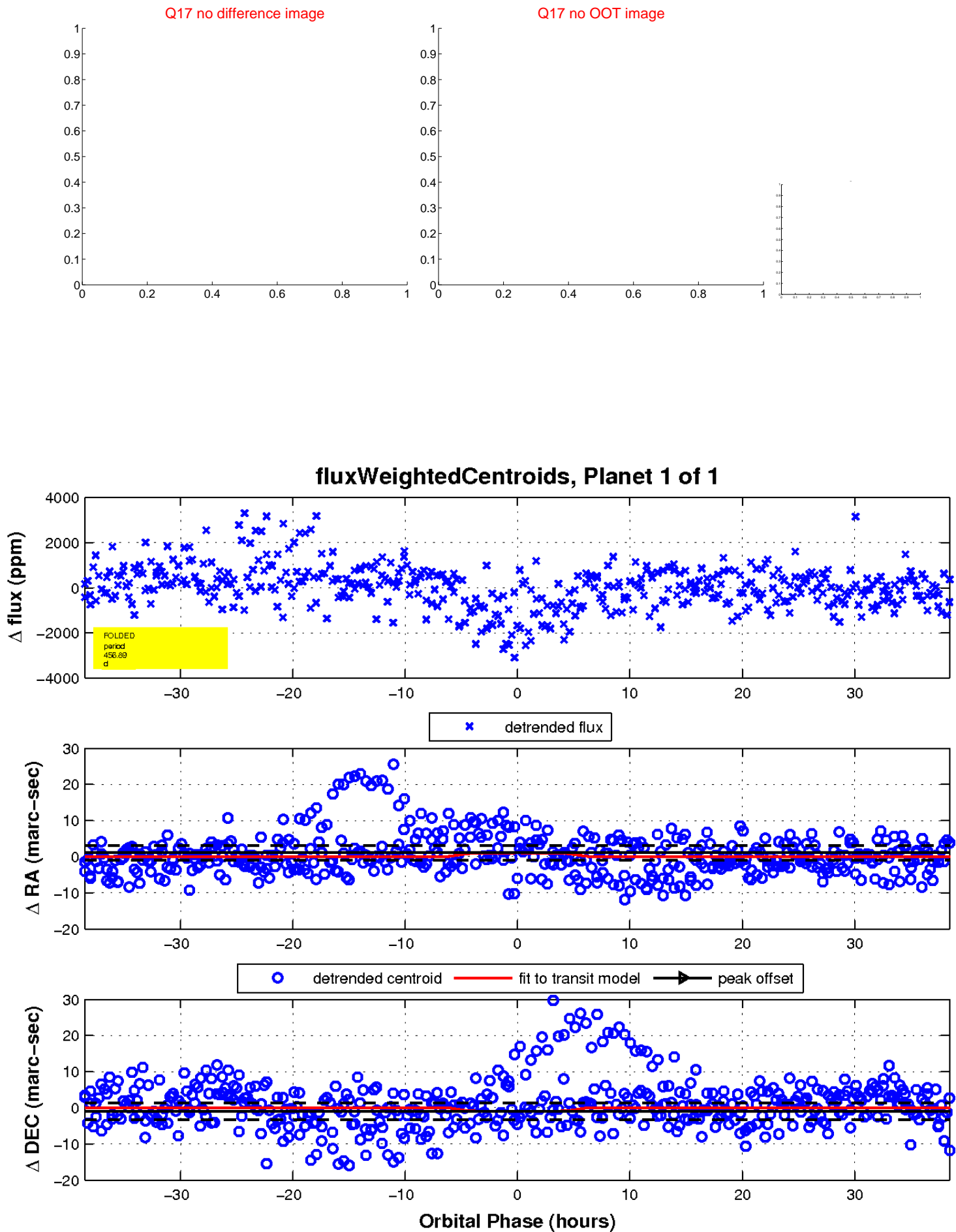
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

