

KIC 004939472

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})
004939472-01	OBS	No	418.251399	256.821613	306.1	10.217	11.2	5.4	0.78	5278	1.54	0.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004939472-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

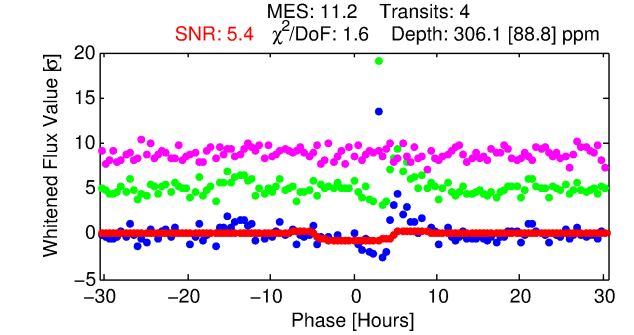
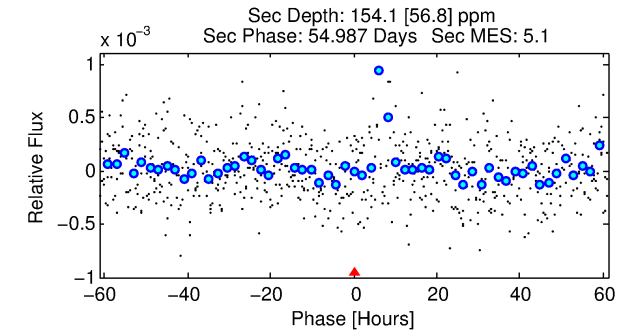
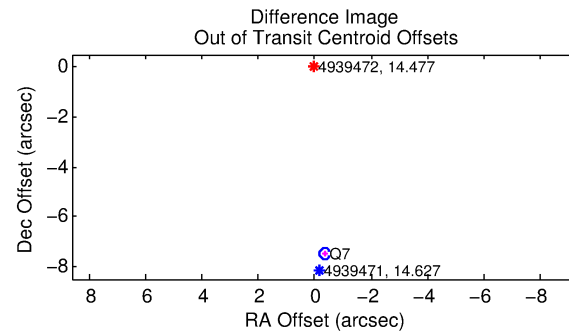
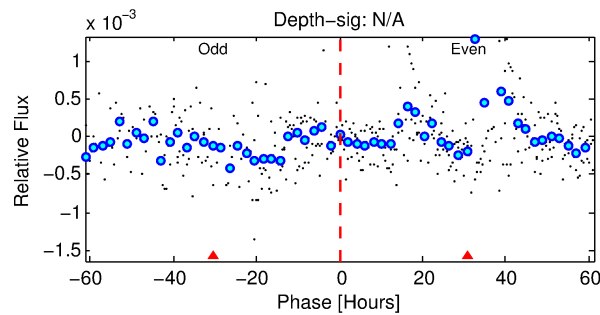
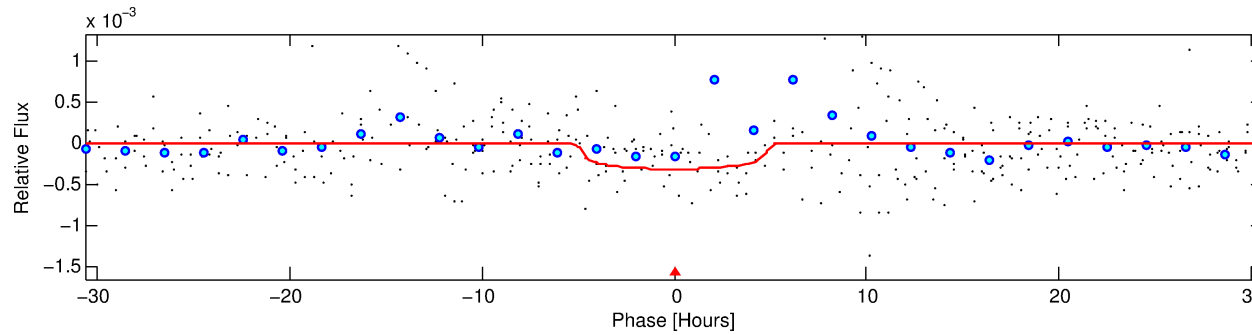
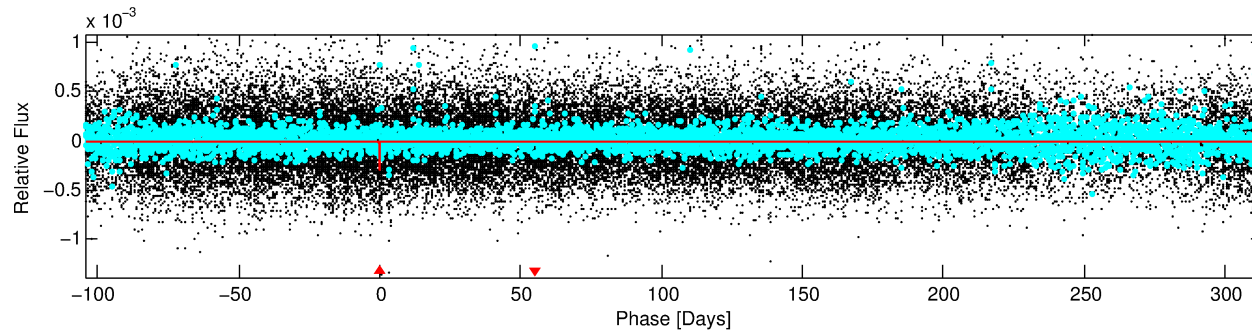
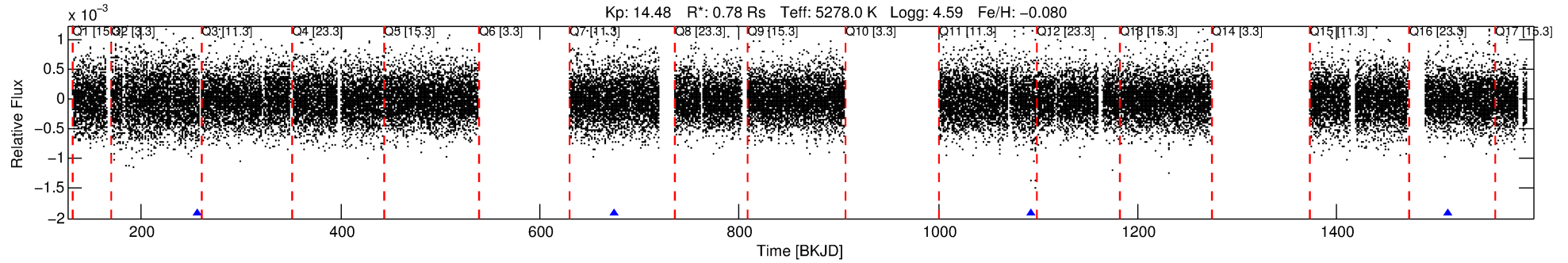
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004939472-01

No Significant Match Found

DV One-Page Summary

KIC: 4939472 Candidate: 1 of 1 Period: 418.251 d



DV Fit Results:

Period = 418.25140 [0.01868] d
Epoch = 256.8216 [0.0389] BKJD
Rp/R* = 0.0182 [0.0140]
a/R* = 184.44 [554.45]
b = 0.83 [1.14]
Seff = 0.39 [0.09]
Teq = 201 [11] K
Rp = 1.54 [1.20] Re
a = 1.0404 [0.1377] AU
Ag = 38691.92 [61426.46] [0.63σ]
Teffp = 4358 [1722] K [2.41σ]

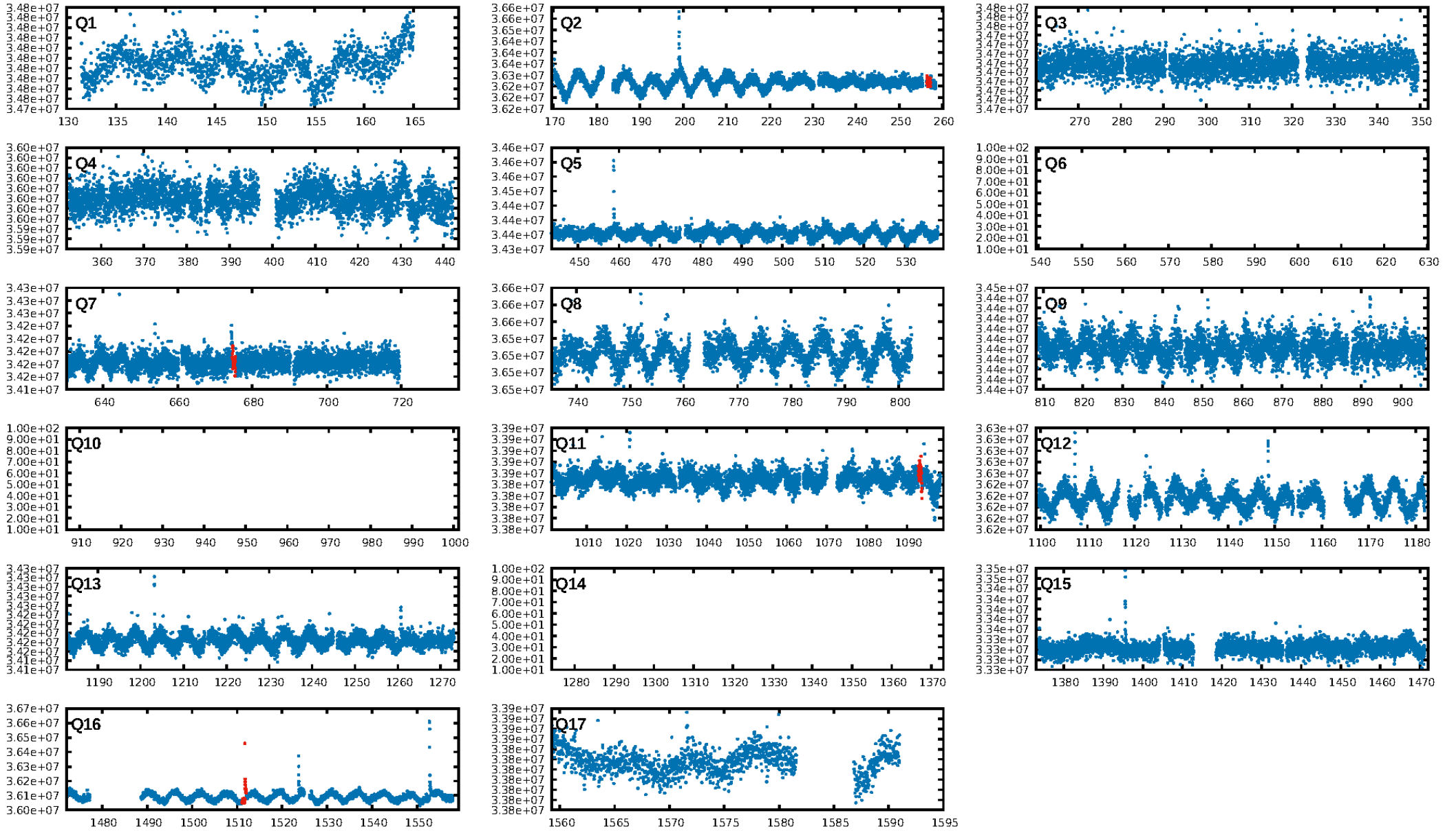
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 7.39e-19
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.1387
Centroid-sig: 0.0%
Centroid-so: 38.170 arcsec [5.22σ]
OotOffset-rm: 7.497 arcsec [109.55σ]
KicOffset-rm: 8.032 arcsec [117.37σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

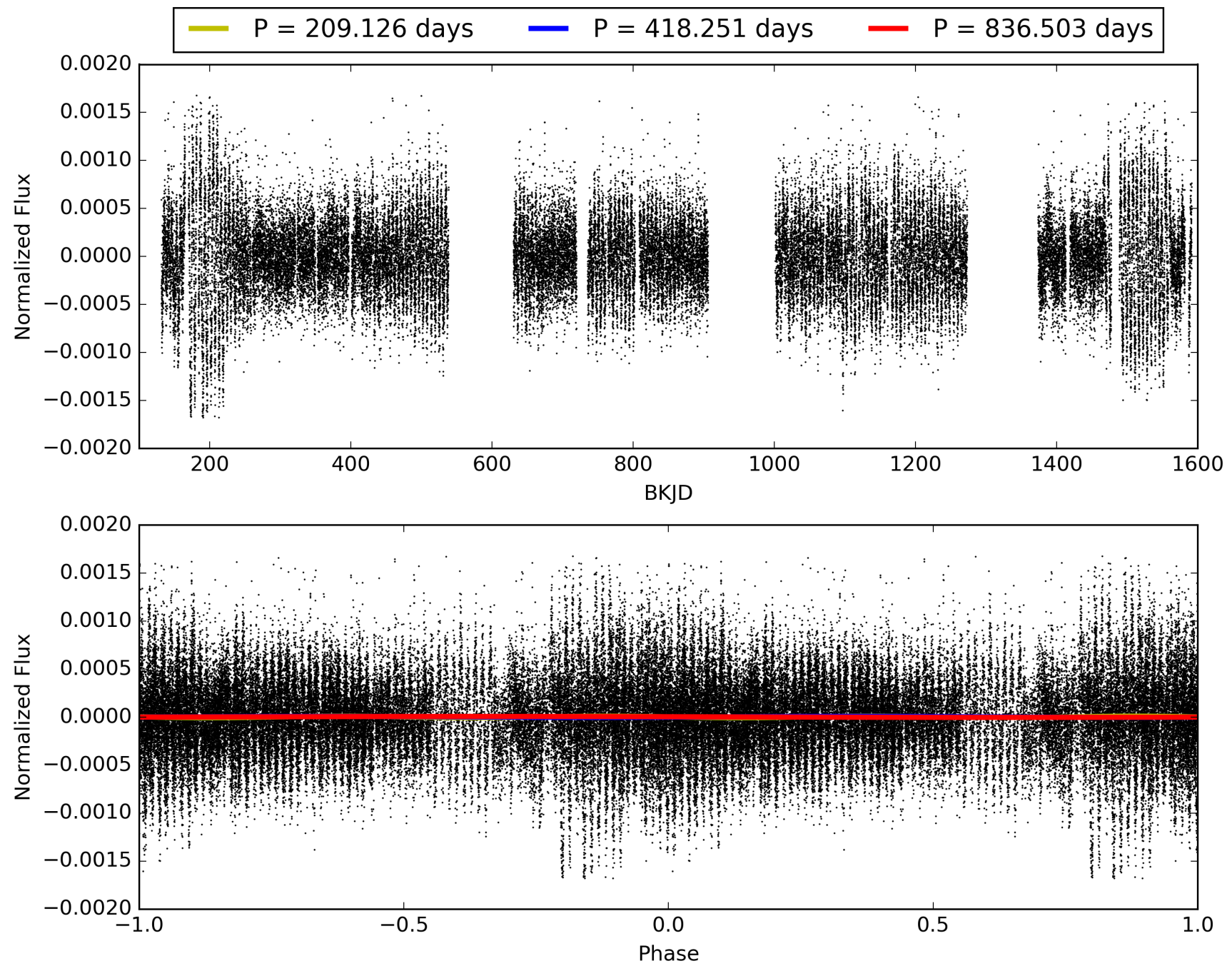
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:56:57 Z

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

TCE 004939472-01, PDC Light Curves

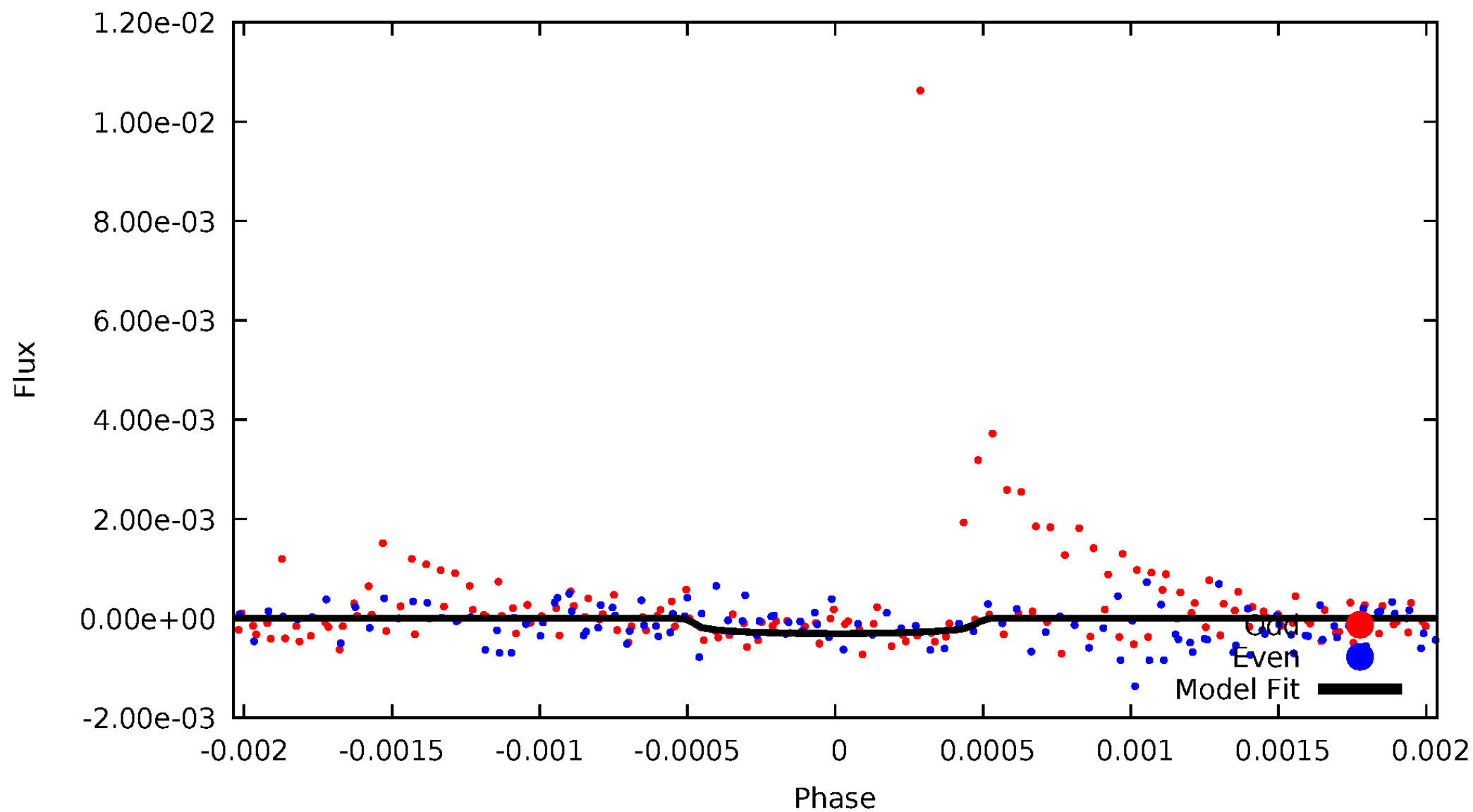


TCE 004939472-01



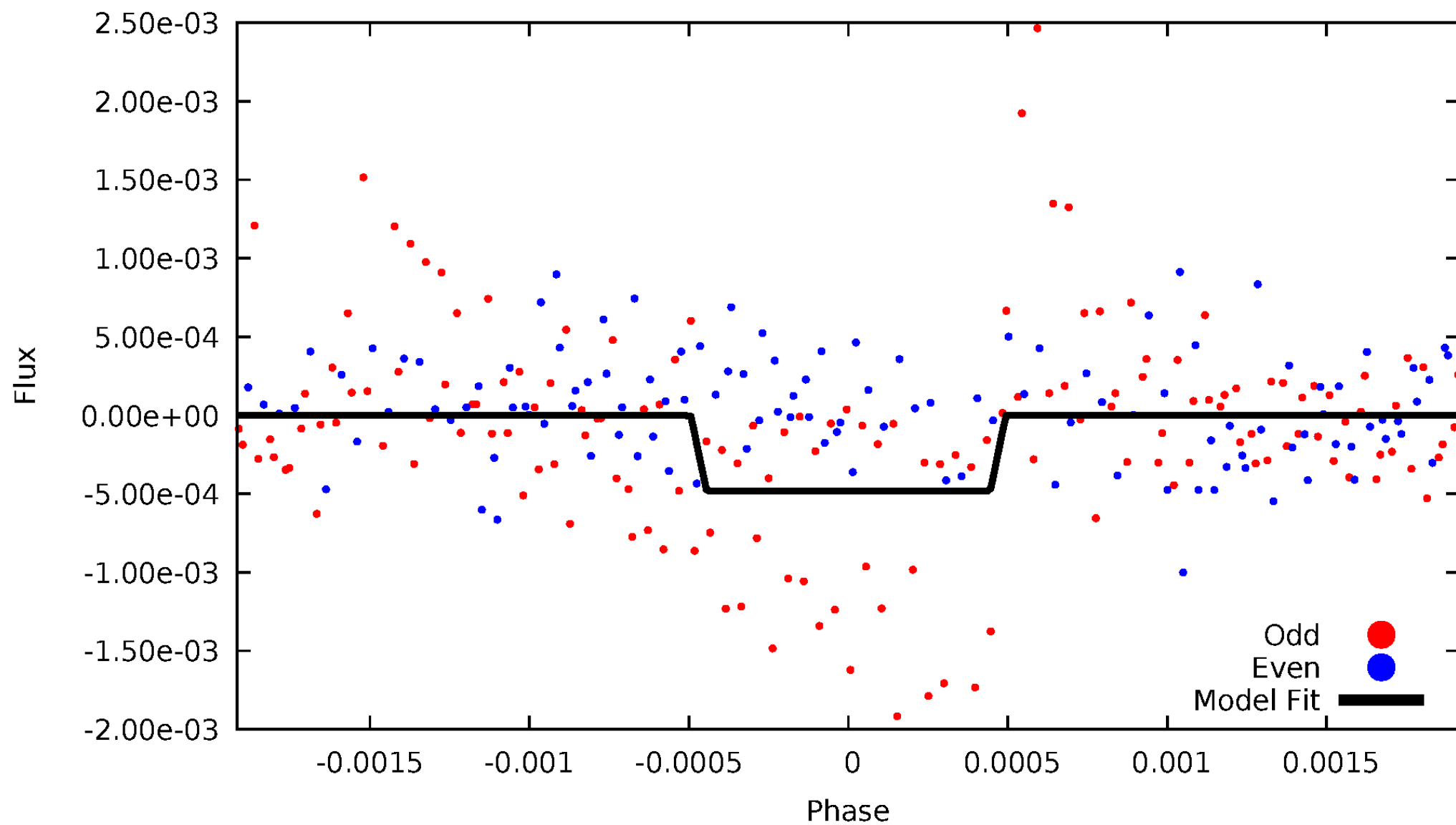
DV Odd/Even

TCE 004939472-01



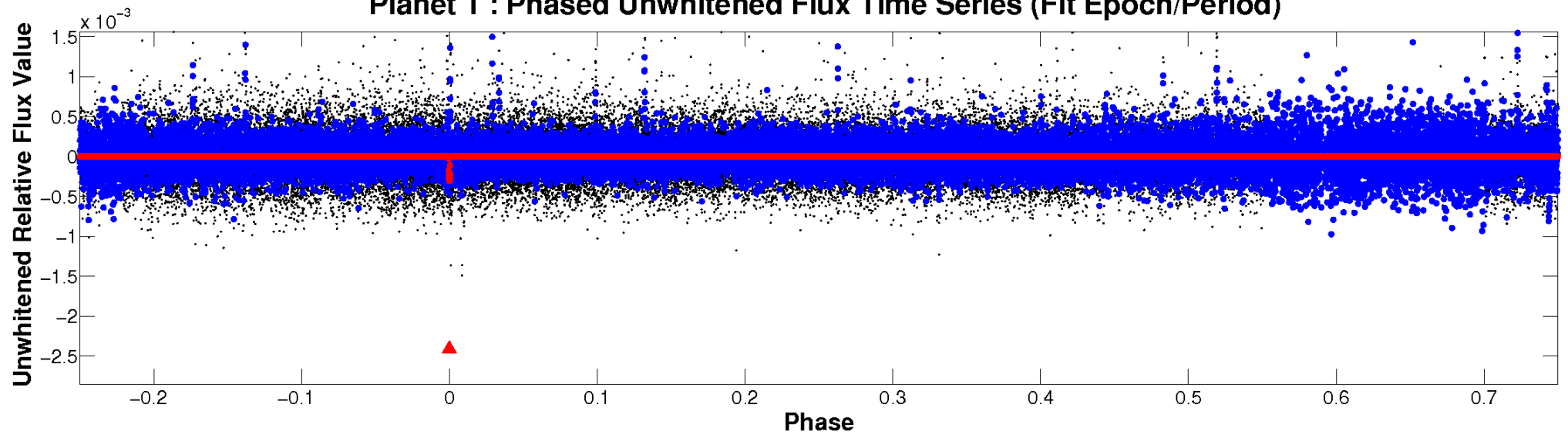
ALT Odd/Even

TCE 004939472-01

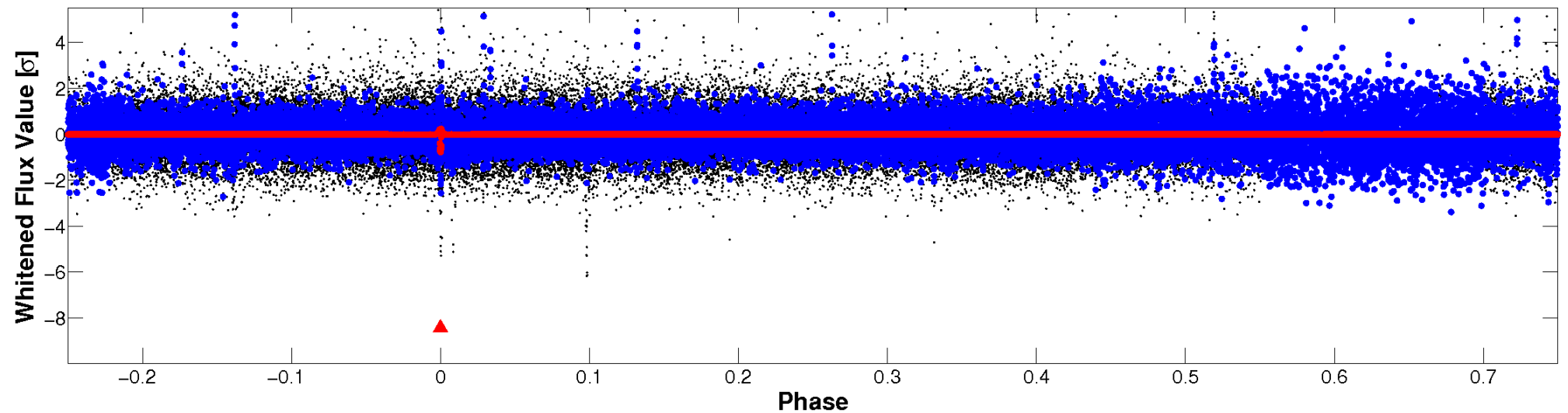


Non-Whitened Vs. Whitened Light Curve

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

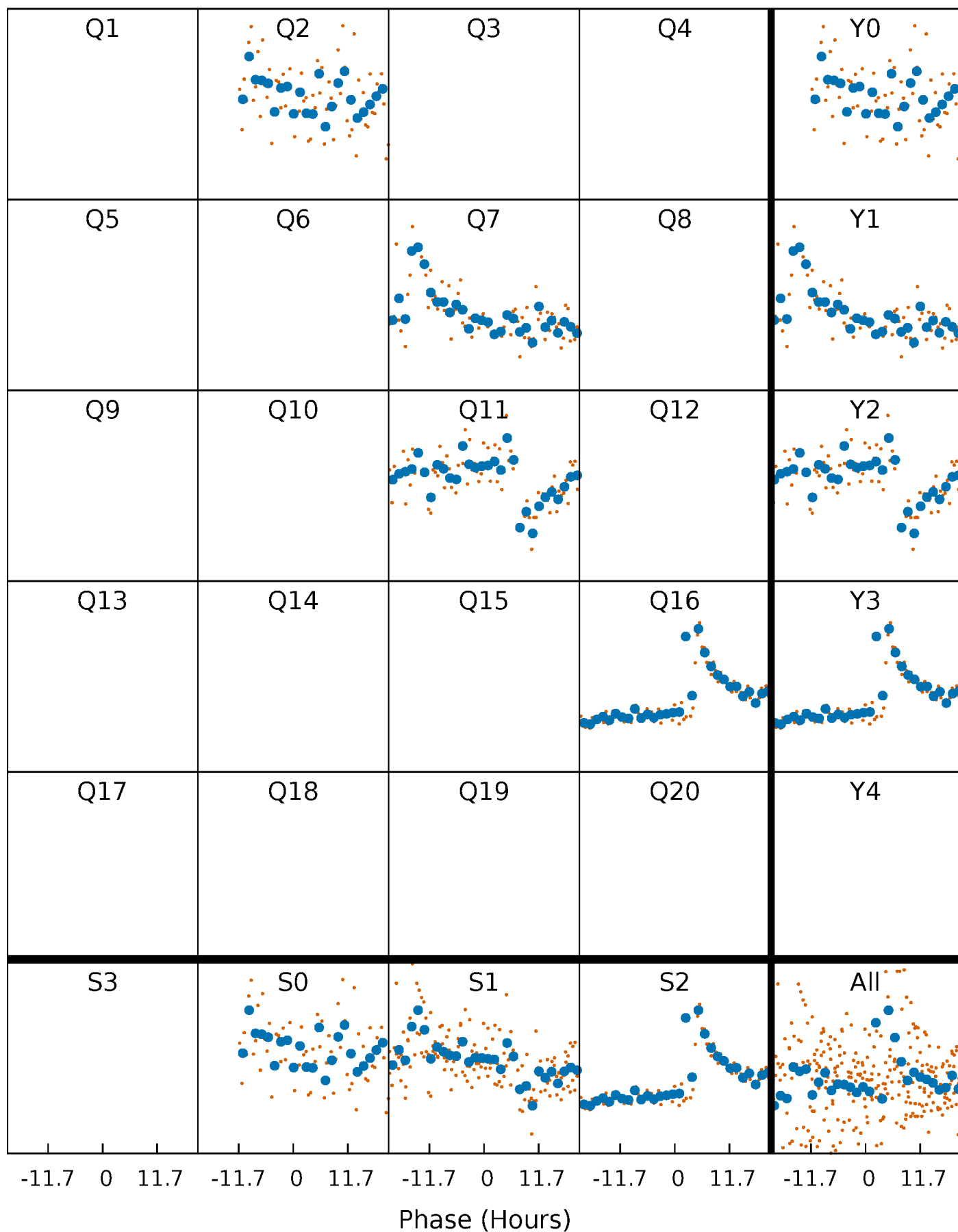


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



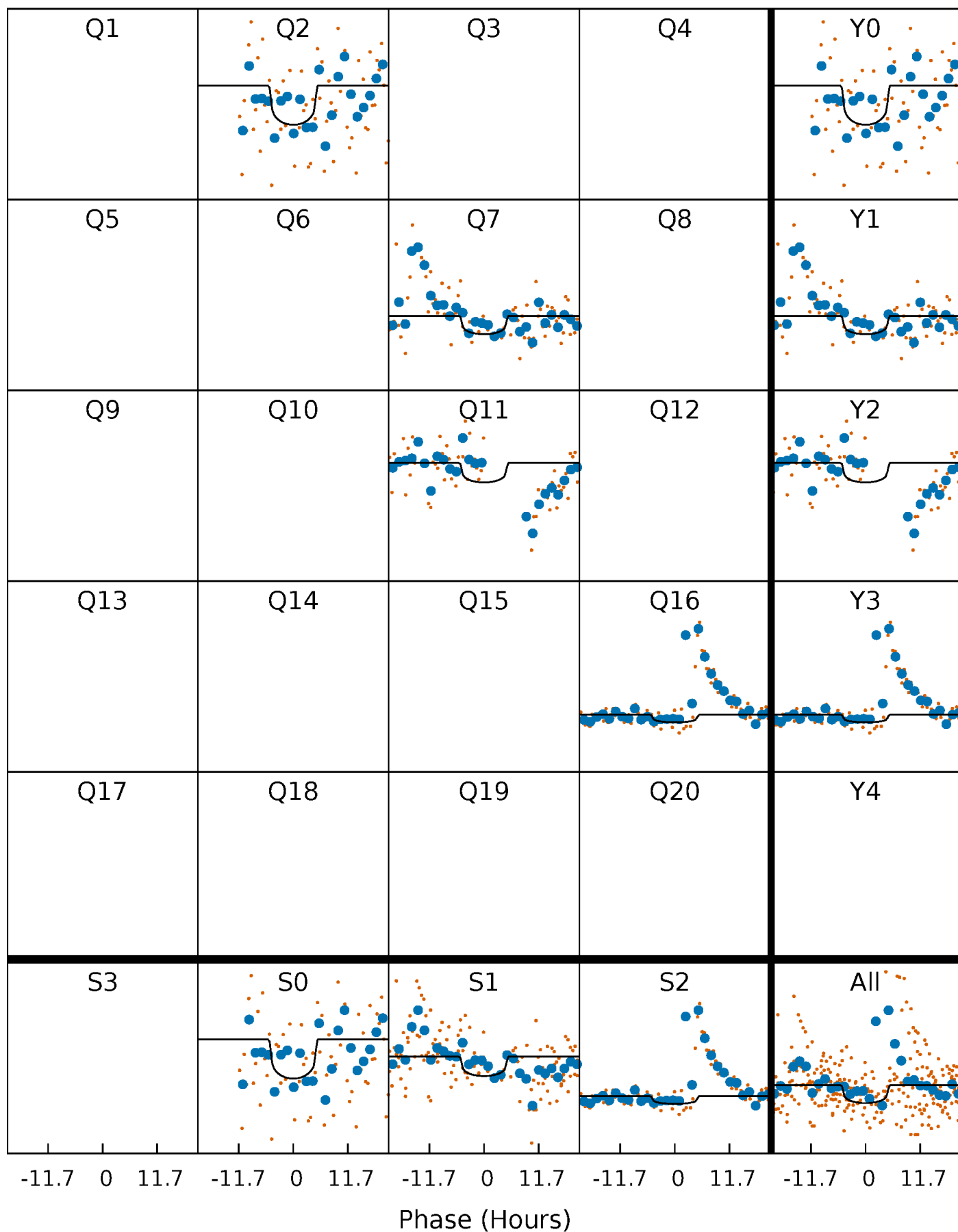
PDC Quarter-Phased Transit Curves

TCE 004939472-01 P=418.251399 Days $T_0=256.821613$ (BKJD)



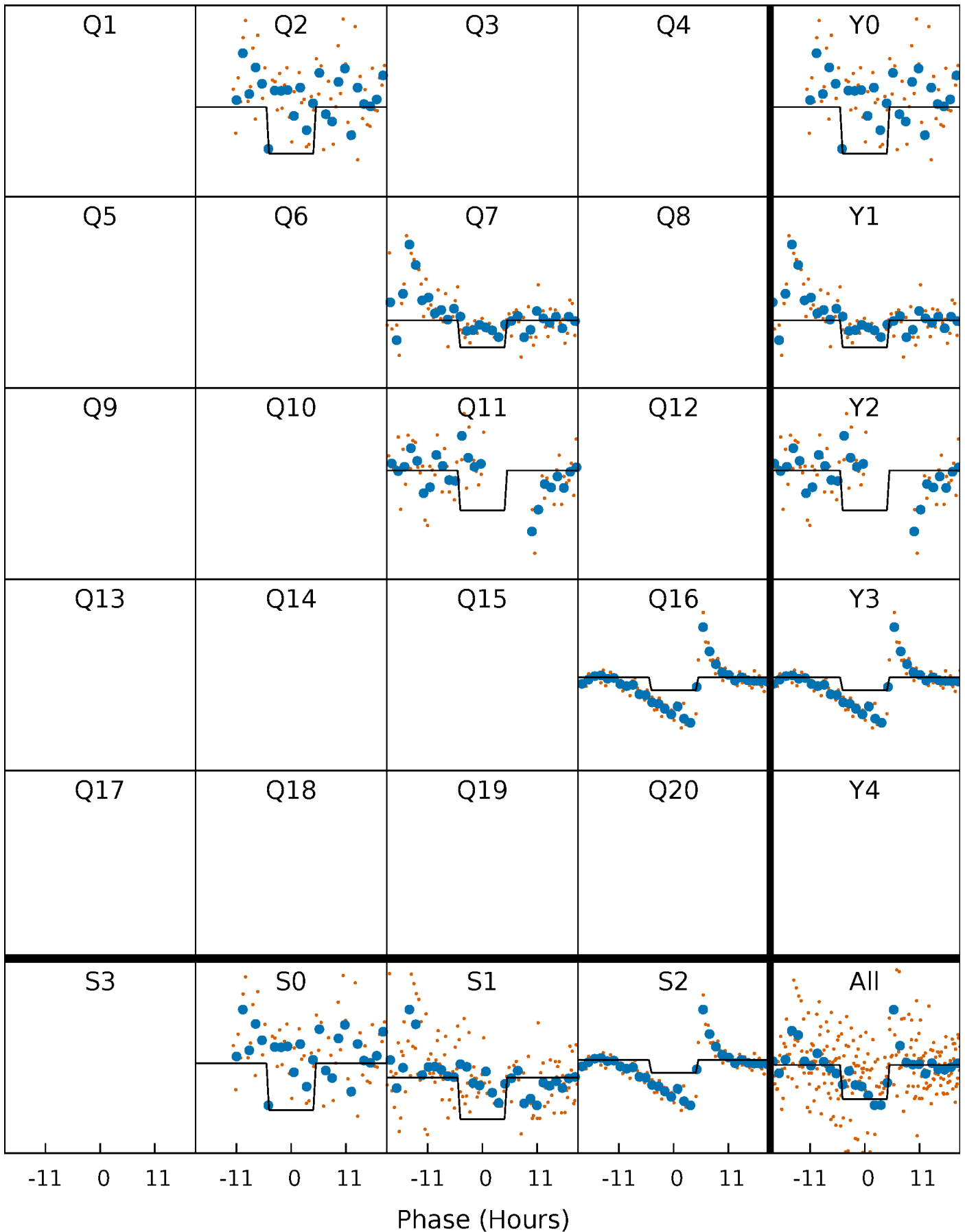
DV Quarter-Phased Transit Curves

TCE 004939472-01 P=418.251399 Days $T_0=256.821613$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

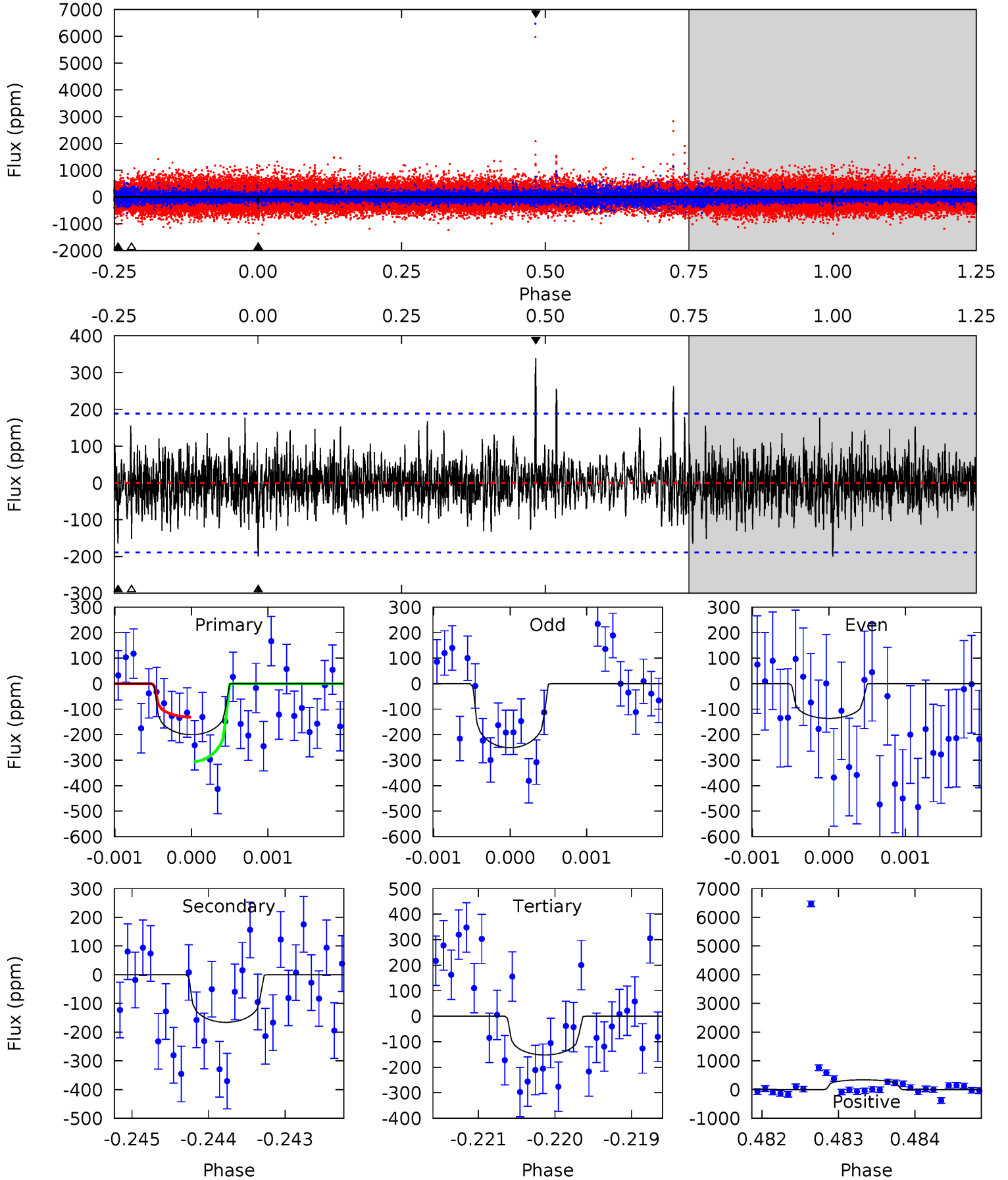
TCE 004939472-01 P=418.240917 Days $T_0=256.827715$ (BKJD)



DV Model-Shift Uniqueness Test

004939472-01, P = 418.251399 Days, E = 256.821613 Days

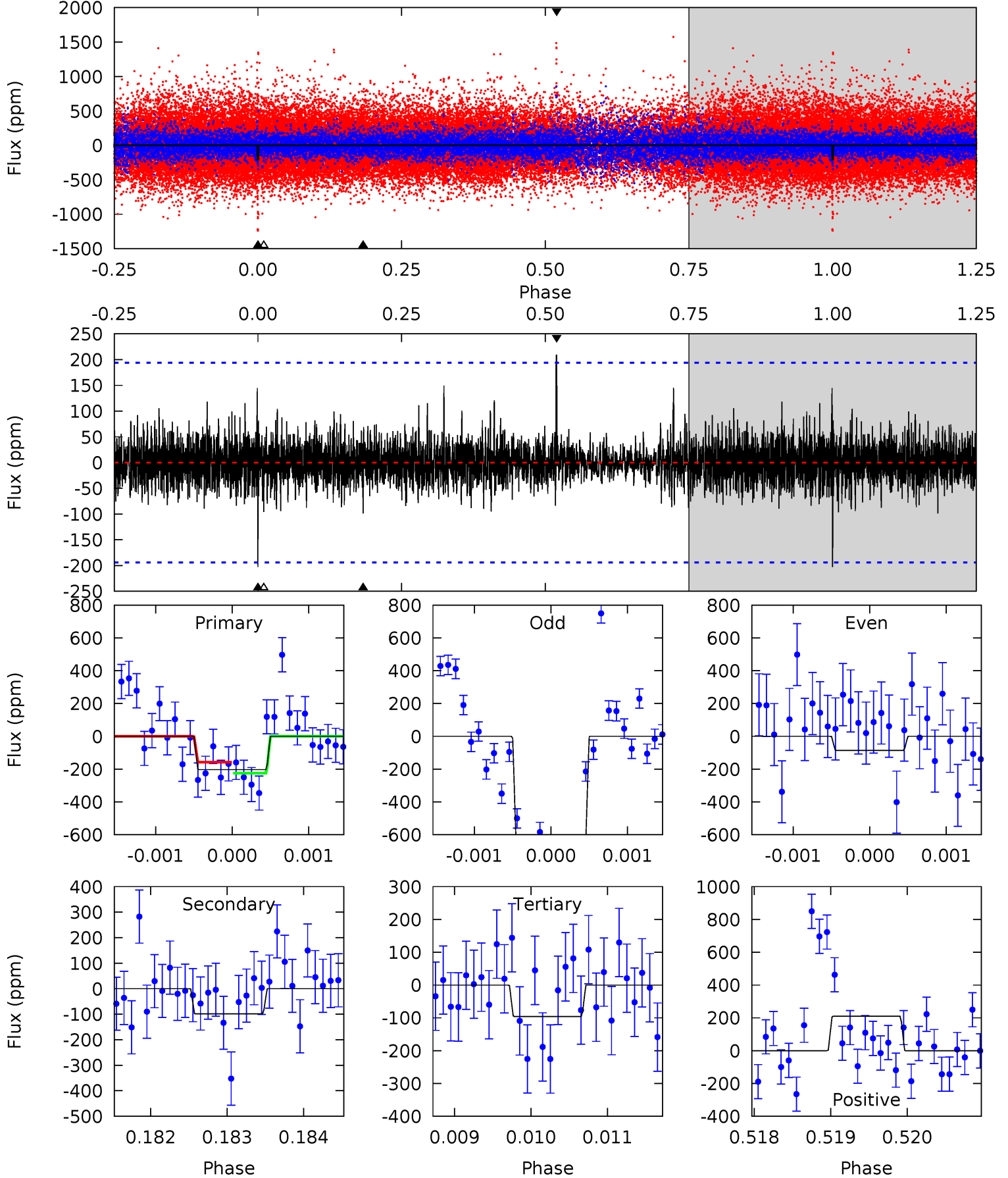
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.78	4.79	4.38	9.78	5.44	3.28	1.37	1.40	-4.00	0.40	-4.99	1.58	-0.37	0.63	2.49



Alt Model-Shift Uniqueness Test

004939472-01, P = 418.240917 Days, E = 256.827715 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.71	2.78	2.70	5.88	5.45	3.29	0.85	3.01	-0.17	0.08	-3.10	9.75	4.67	0.51	0.92



Stellar Parameters For KIC 004939472

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5278^{+158}_{-158}	$4.593^{+0.035}_{-0.105}$	$-0.080^{+0.300}_{-0.300}$	$0.775^{+0.122}_{-0.066}$	$0.866^{+0.069}_{-0.095}$	$2.619^{+0.474}_{-0.844}$
	+3%/-3%	+1%/-2%	+375%/-375%	+16%/-9%	+8%/-11%	+18%/-32%
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 004939472-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-166 ± 35	$1.72^{+1.13}_{-1.03}$	285^{+12}_{-11}	4411^{+2351}_{-753}	$32459^{+173984}_{-20876}$
Alt.	-99 ± 36	$2.07^{+1.19}_{-1.11}$	285^{+13}_{-11}	3743^{+1342}_{-527}	12801^{+53490}_{-7796}

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

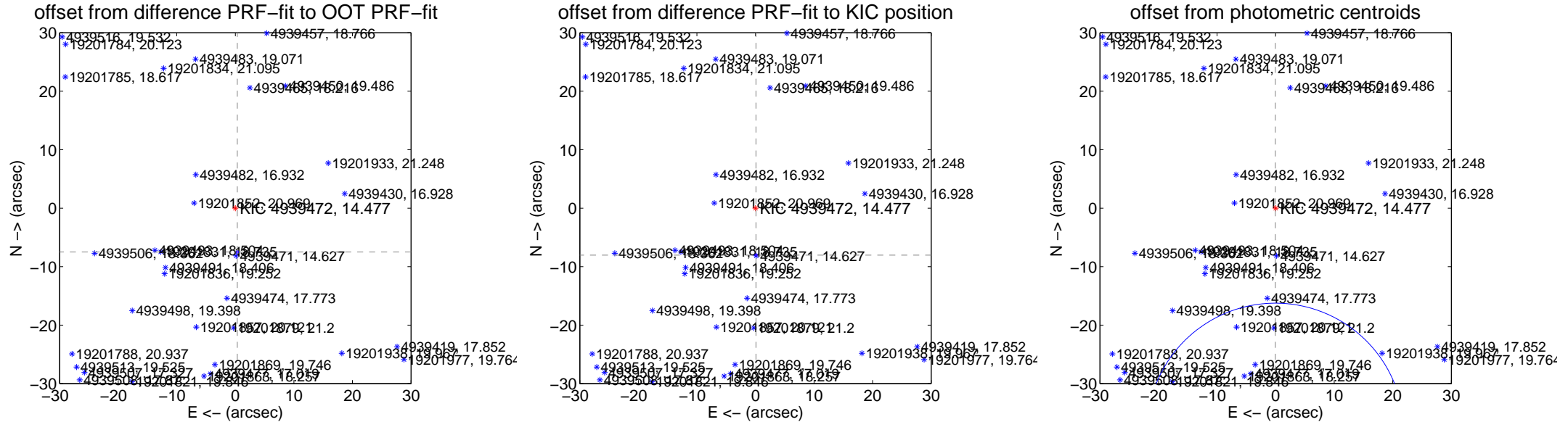
DV Centroid Data

Supplemental centroid analysis for 004939472-01. Kepler magnitude: 14.48. Transit SNR 5.44

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.60 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.497 ± 0.068	109.55	-0.341 ± 0.069	-7.489 ± 0.068
PRF-fit source offset from KIC position	8.032 ± 0.068	117.37	-0.073 ± 0.069	-8.031 ± 0.068
photometric centroid source offset	38.17 ± 7.31	5.22	0.04 ± 2.02	-38.17 ± 7.31

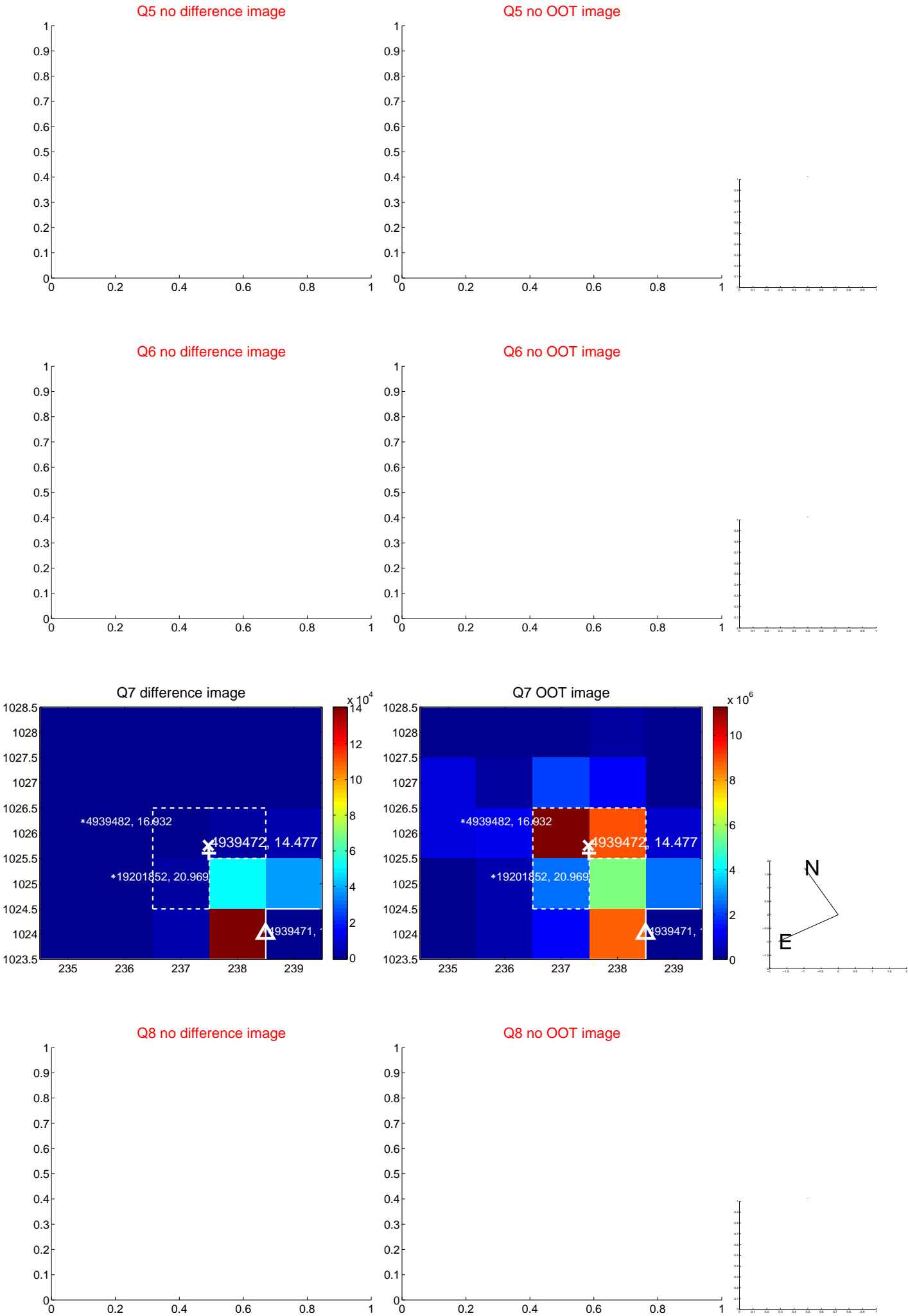


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



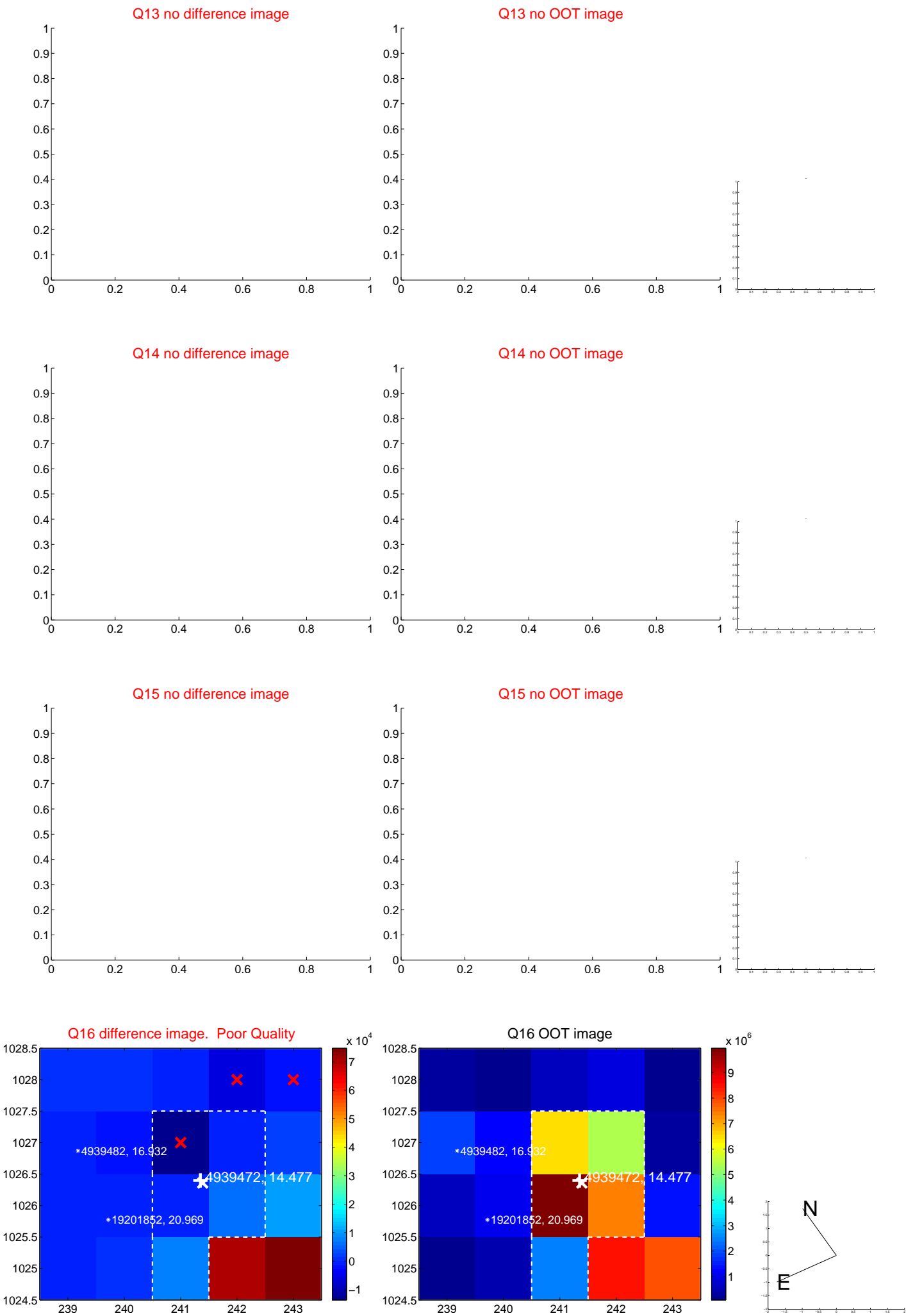
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



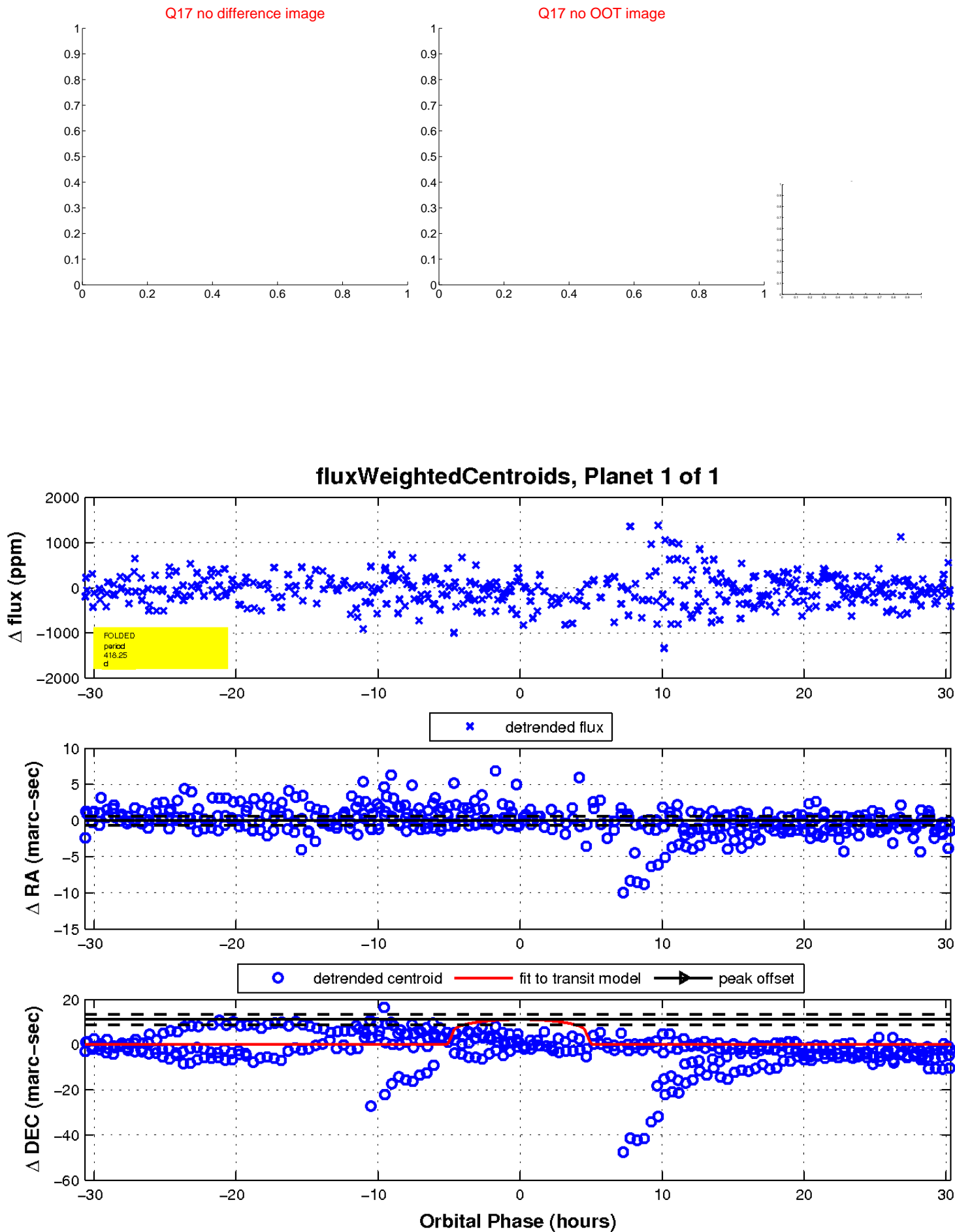
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

