

KIC 004472143

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})
004472143-01	OBS	7696.01	472.070936	310.767969	268.0	5.856	7.3	6.9	1.25	6186	2.22	1.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004472143-01	OBS	FP	0.04	1	0	0	0	MOD_NONUNIQ_ALT

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

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

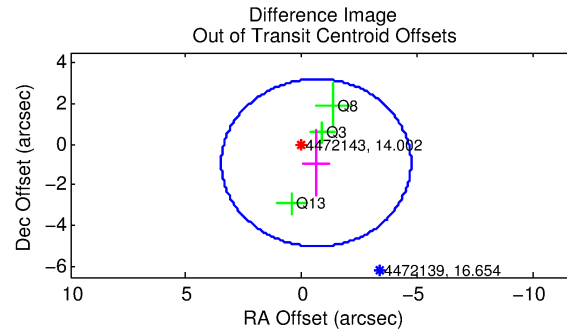
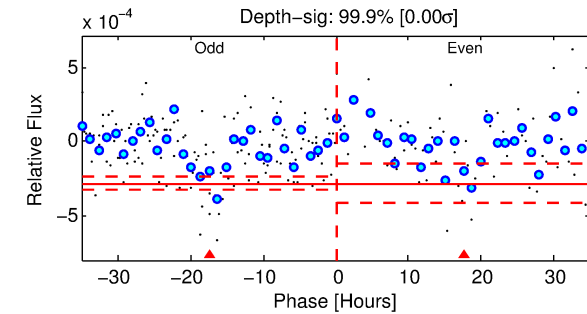
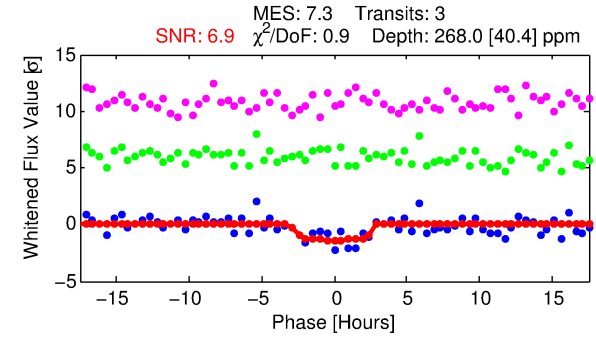
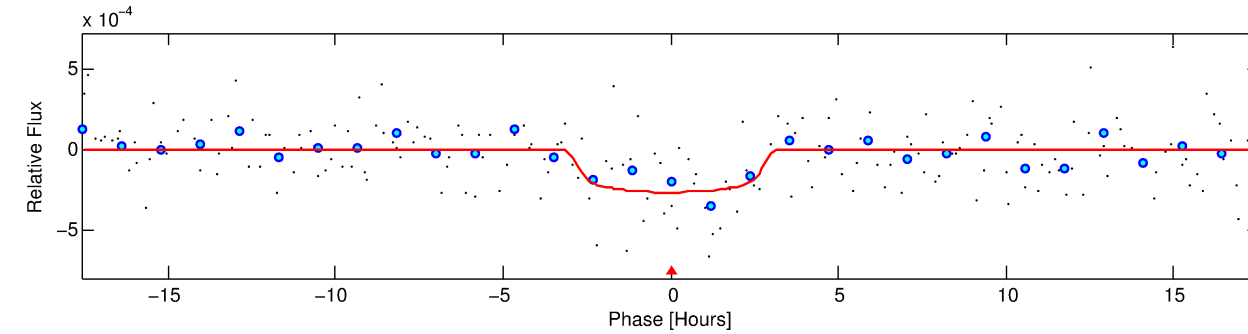
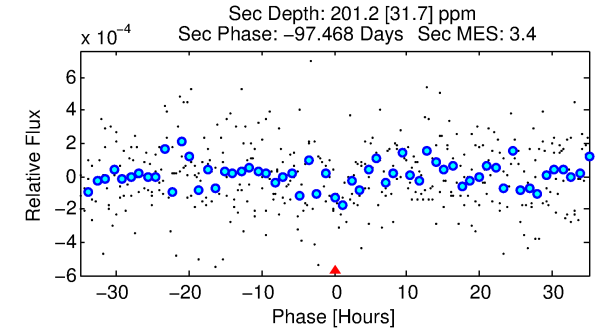
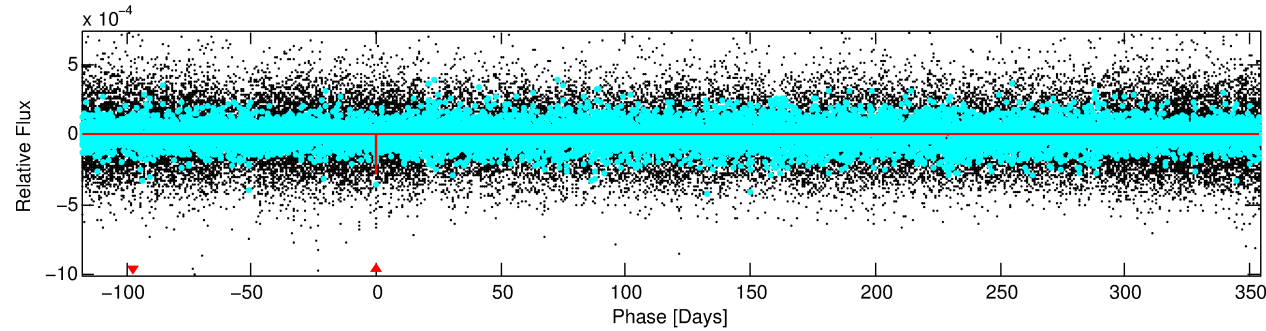
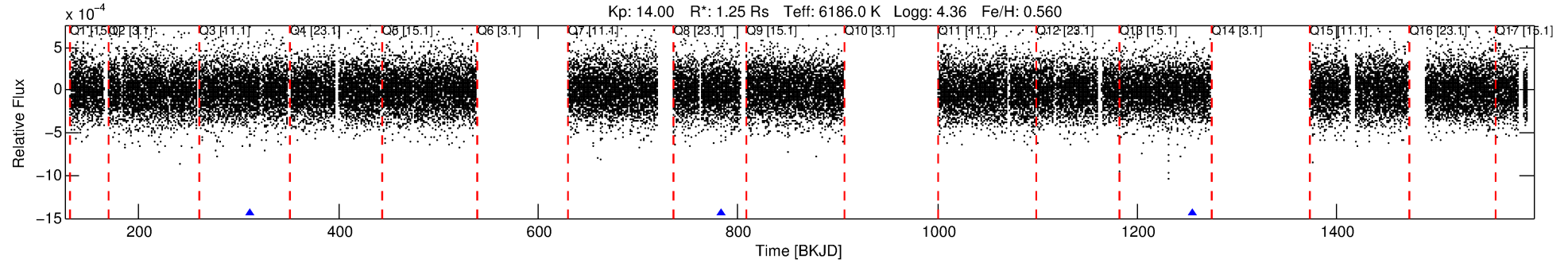
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004472143-01

No Significant Match Found

DV One-Page Summary

KIC: 4472143 Candidate: 1 of 1 Period: 472.071 d



DV Fit Results:

Period = 472.07094 [0.01063] d
Epoch = 310.7680 [0.0147] BKJD
Rp/R* = 0.0163 [0.0319]
a/R* = 425.83 [3904.40]
b = 0.74 [5.53]
Seff = 1.22 [0.15]
Teq = 268 [8] K
Rp = 2.22 [4.37] Re
a = 1.2972 [0.0986] AU
Ag = 37693.88 [148280.47] [0.25σ]
Teffp = 5778 [5681] K [0.97σ]

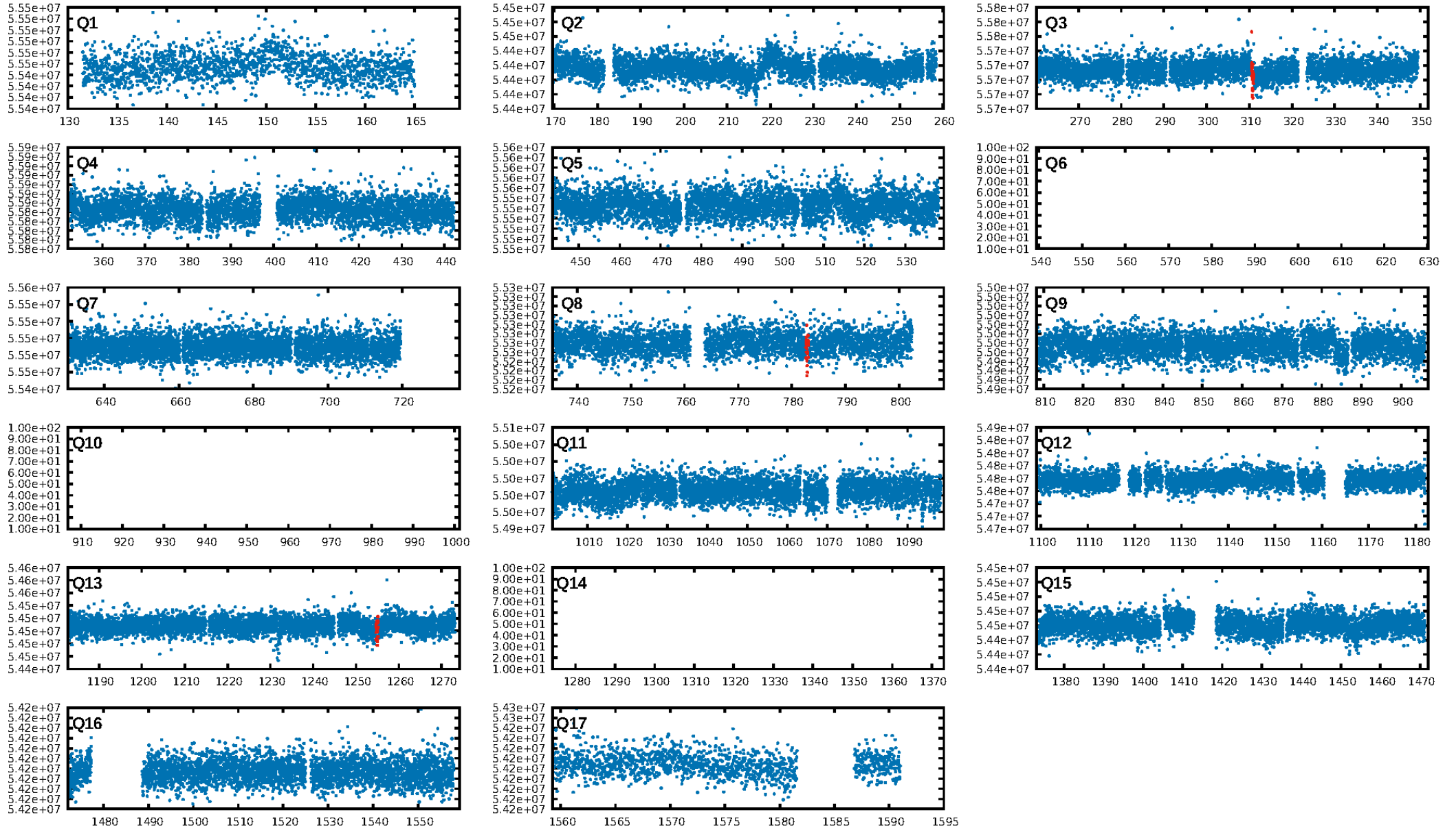
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.7%
ModelChiSquareGof-sig: 95.8%
Bootstrap-pfa: 1.96e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.24
Centroid-sig: 9.8%
Centroid-so: 2.831 arcsec [1.45σ]
OotOffset-rm: 1.112 arcsec [0.81σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 1.256 arcsec [0.87σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

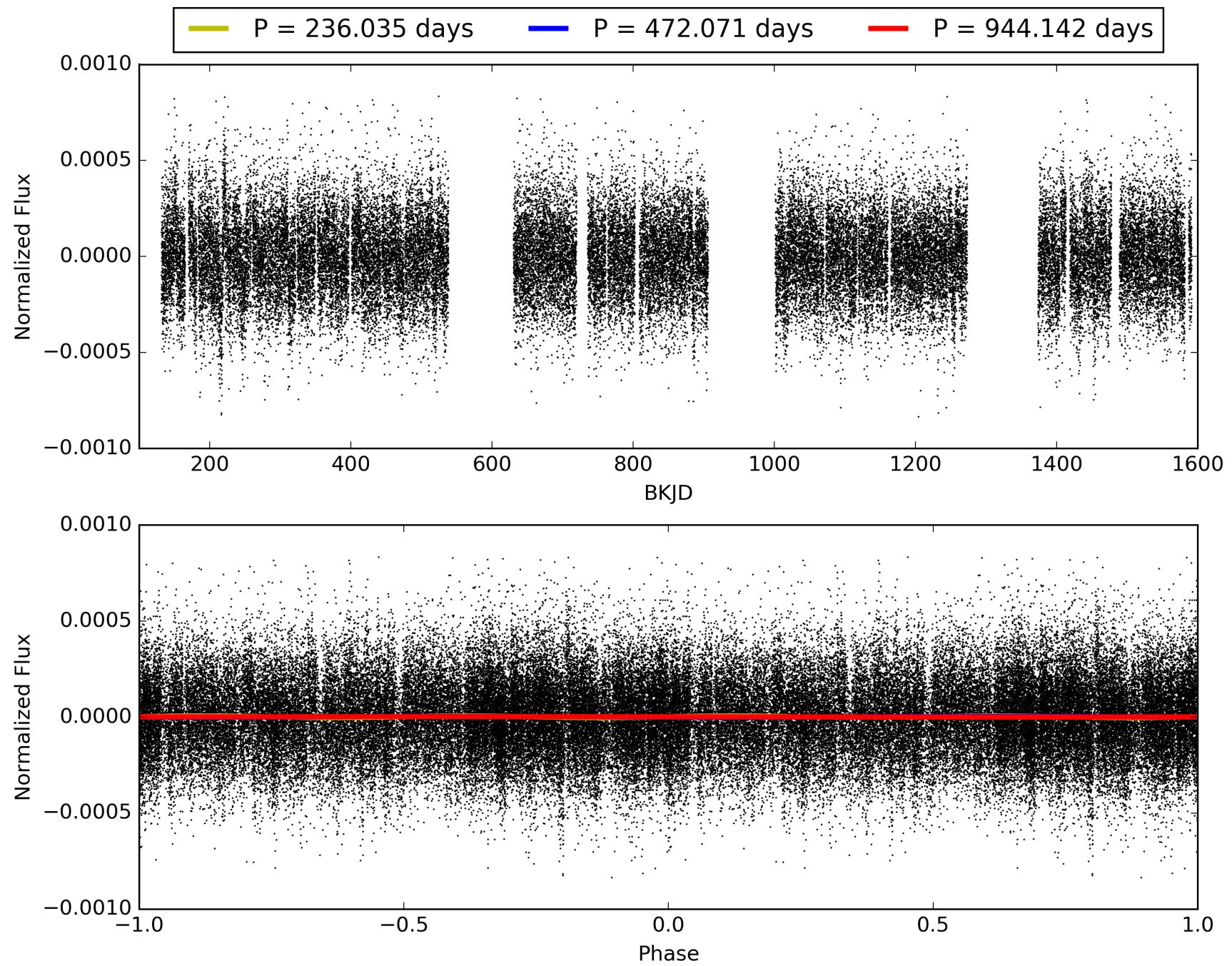
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:27:21 Z

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

TCE 004472143-01, PDC Light Curves

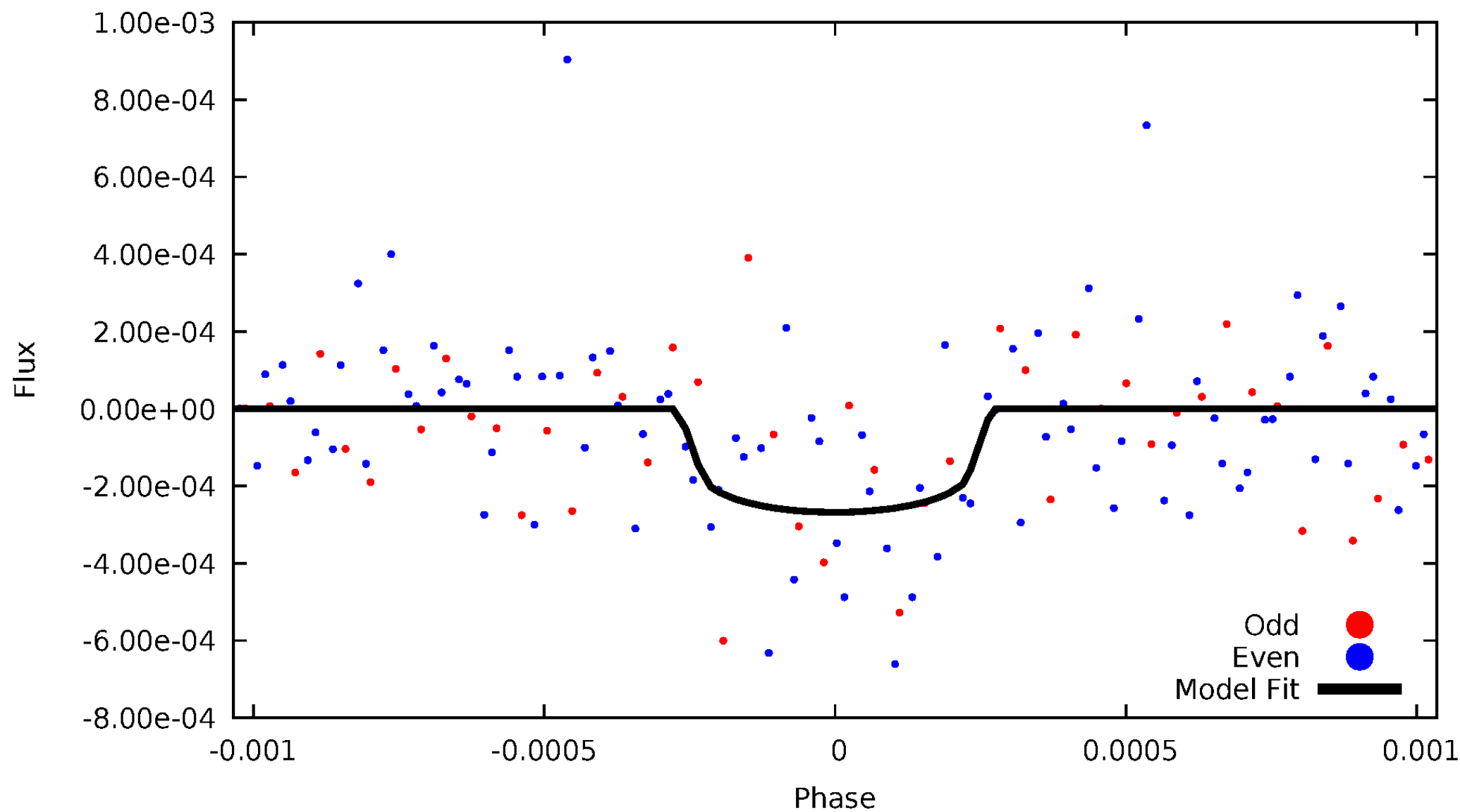


TCE 004472143-01



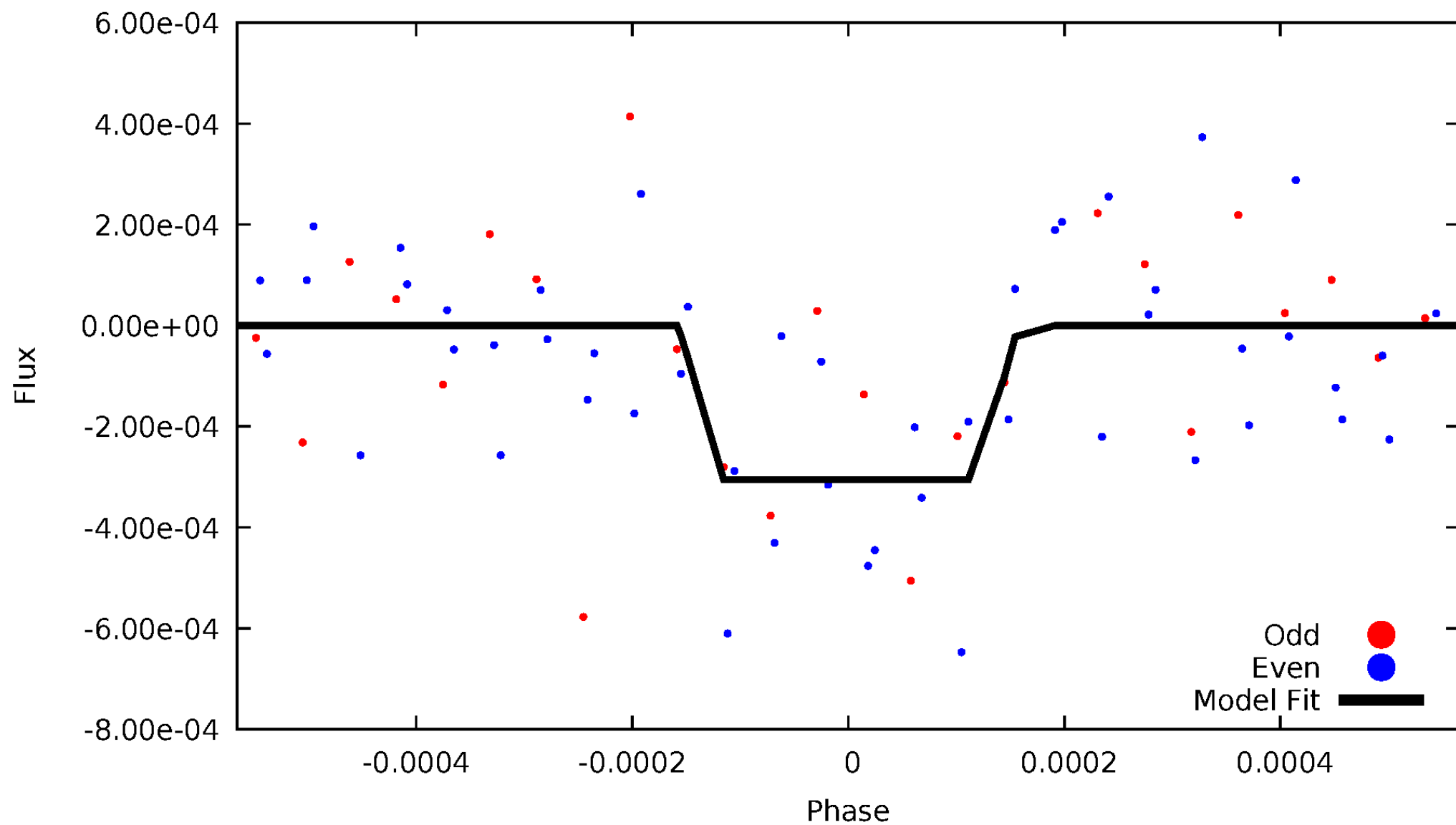
DV Odd/Even

TCE 004472143-01

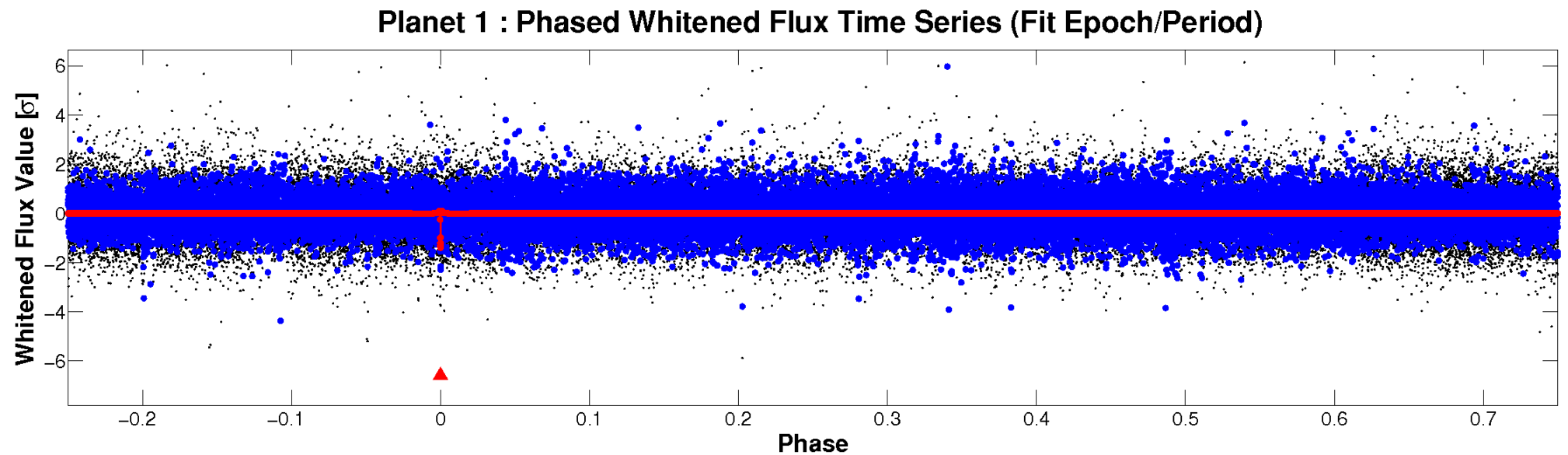
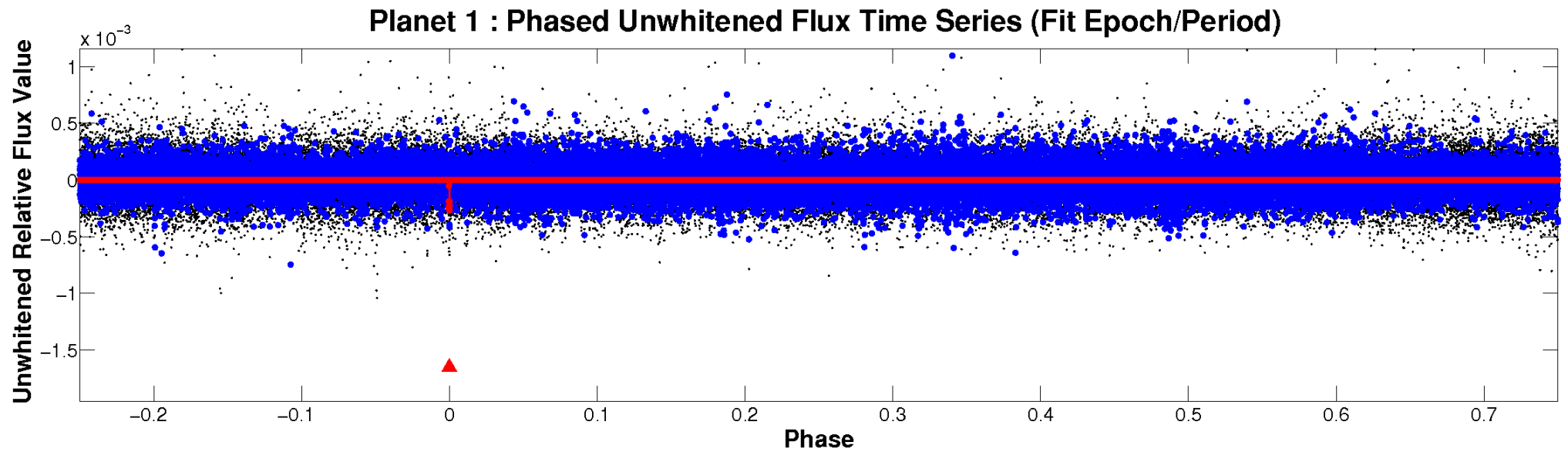


ALT Odd/Even

TCE 004472143-01

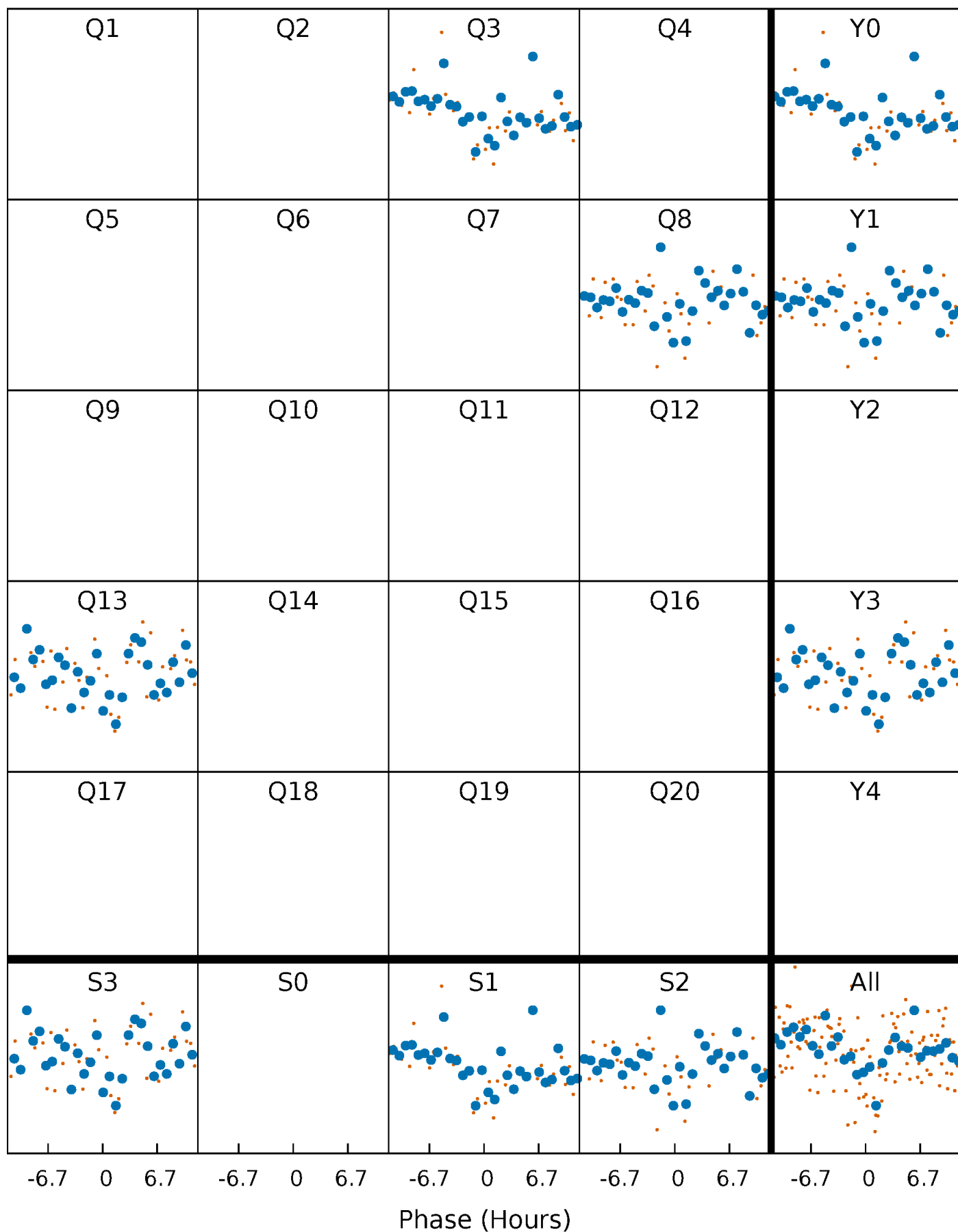


Non-Whitened Vs. Whitened Light Curve



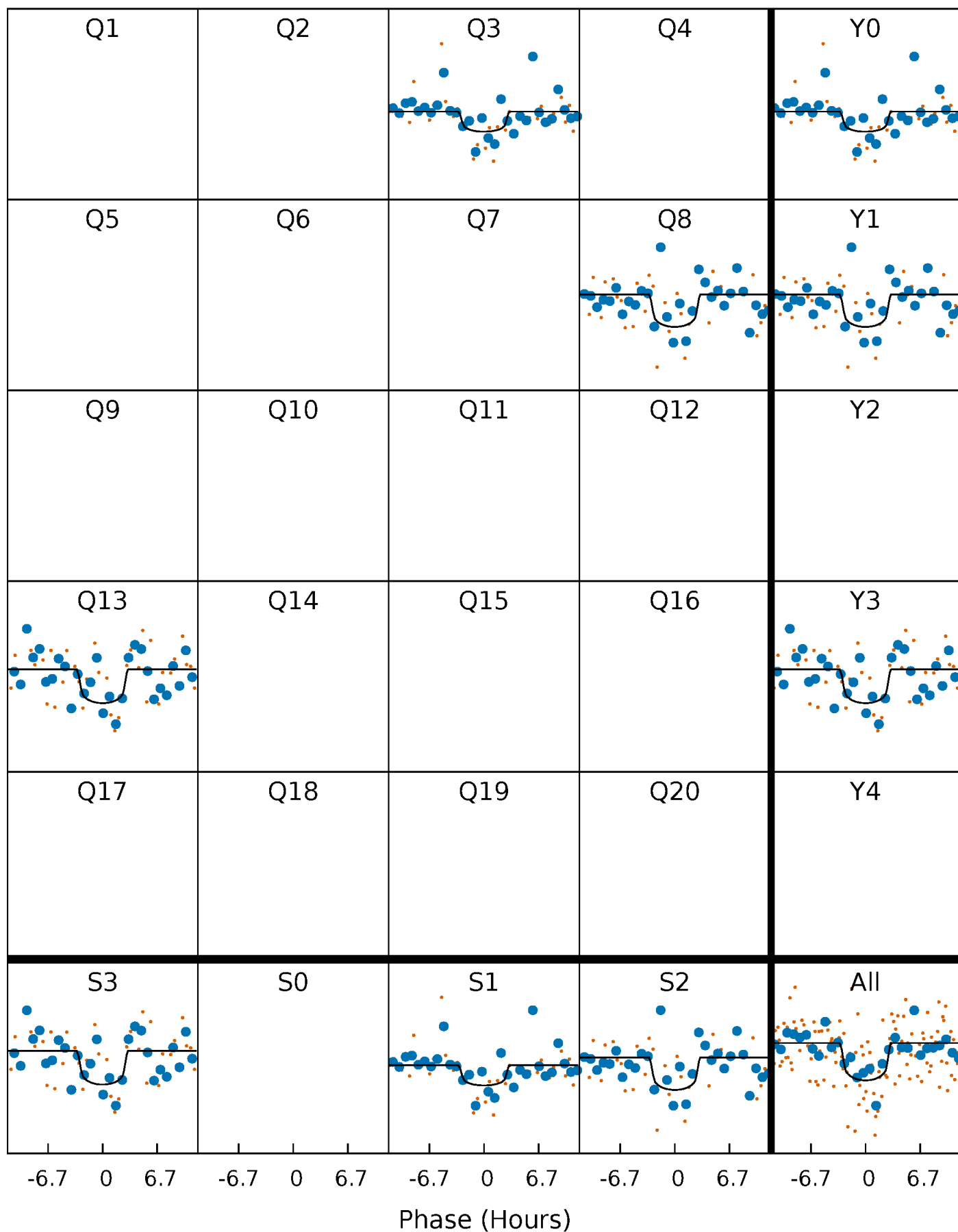
PDC Quarter-Phased Transit Curves

TCE 004472143-01 P=472.070936 Days $T_0=310.767969$ (BKJD)



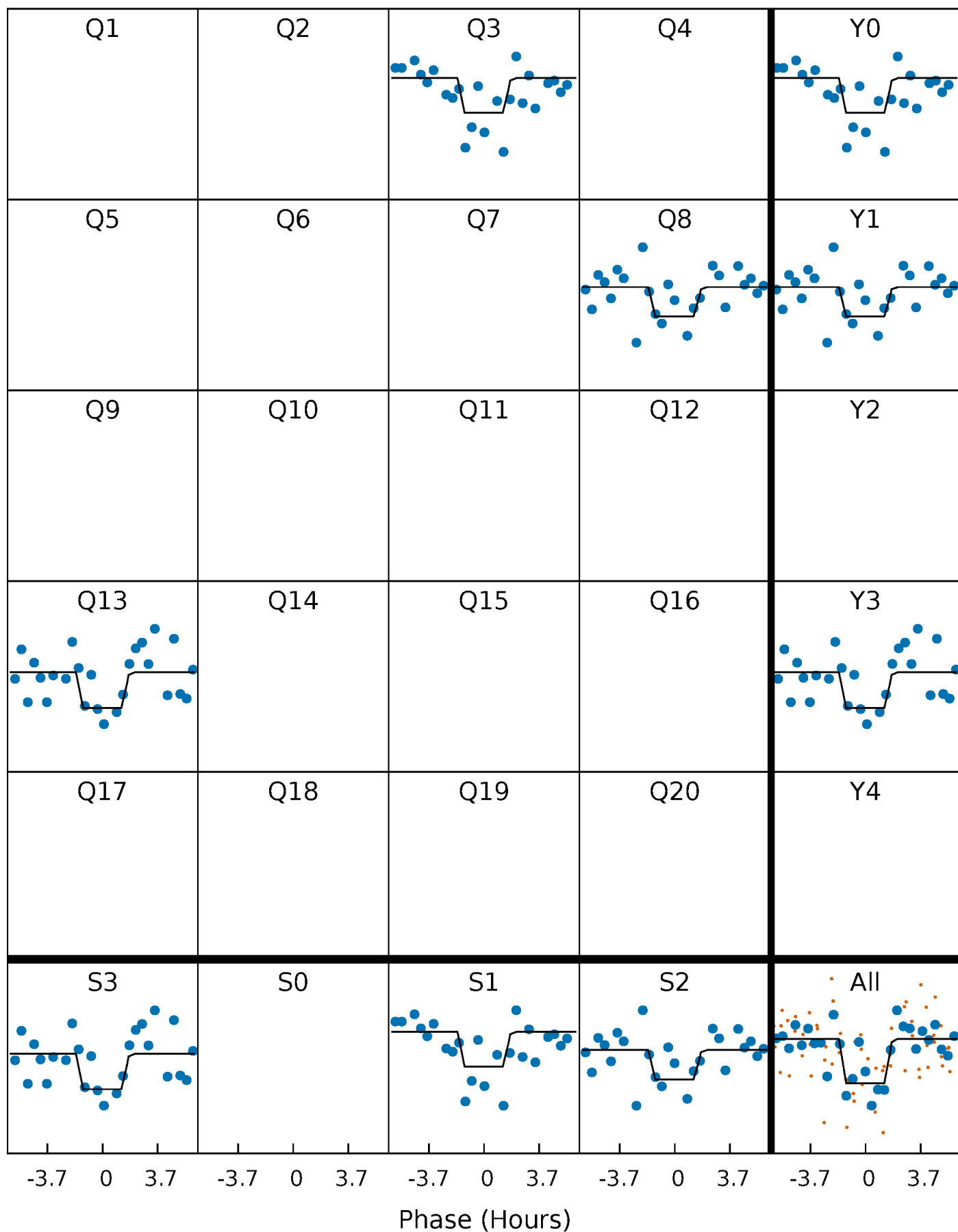
DV Quarter-Phased Transit Curves

TCE 004472143-01 P=472.070936 Days $T_0=310.767969$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

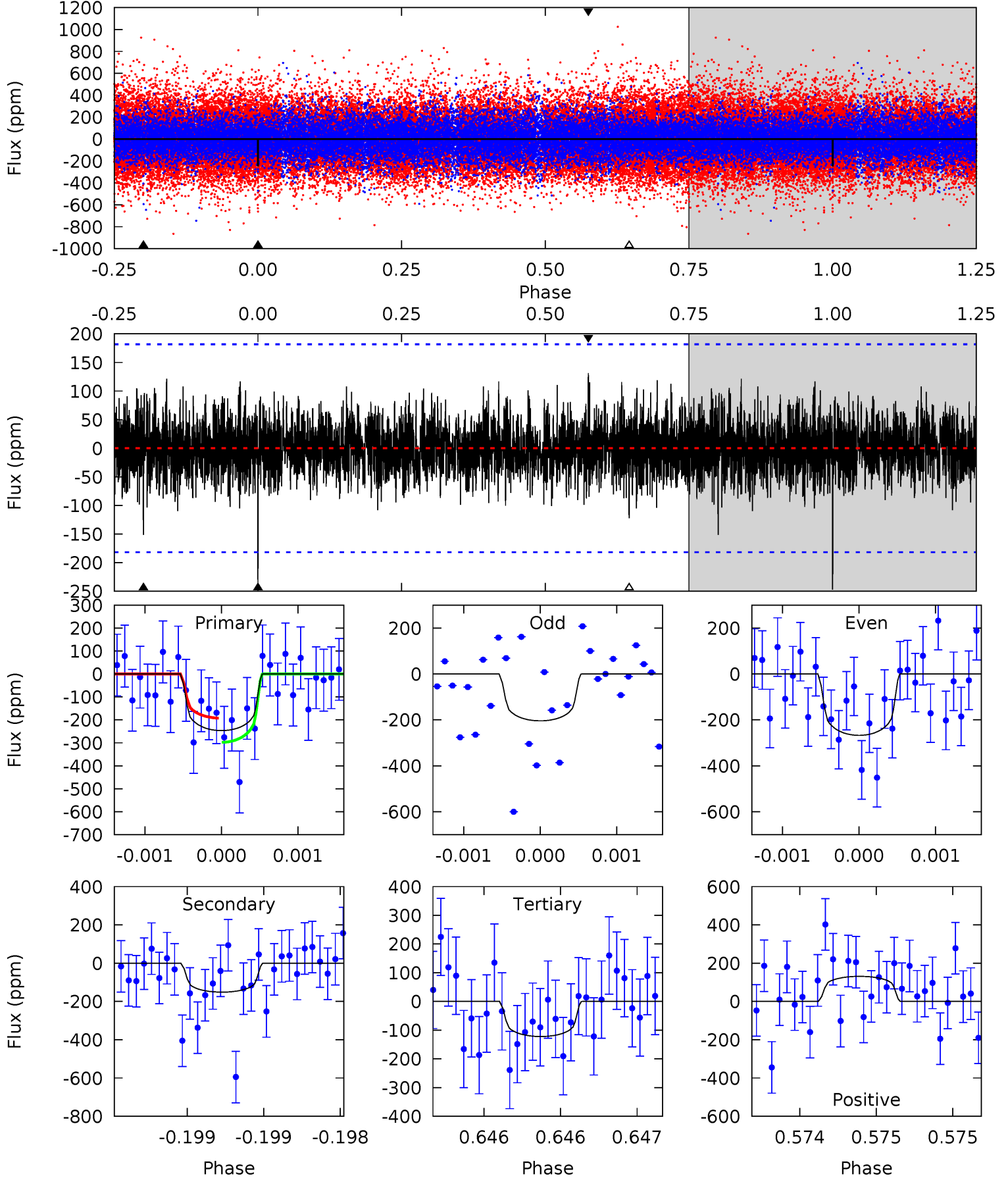
TCE 004472143-01 P=472.096970 Days $T_0=310.766970$ (BKJD)



DV Model-Shift Uniqueness Test

004472143-01, P = 472.070936 Days, E = 310.767969 Days

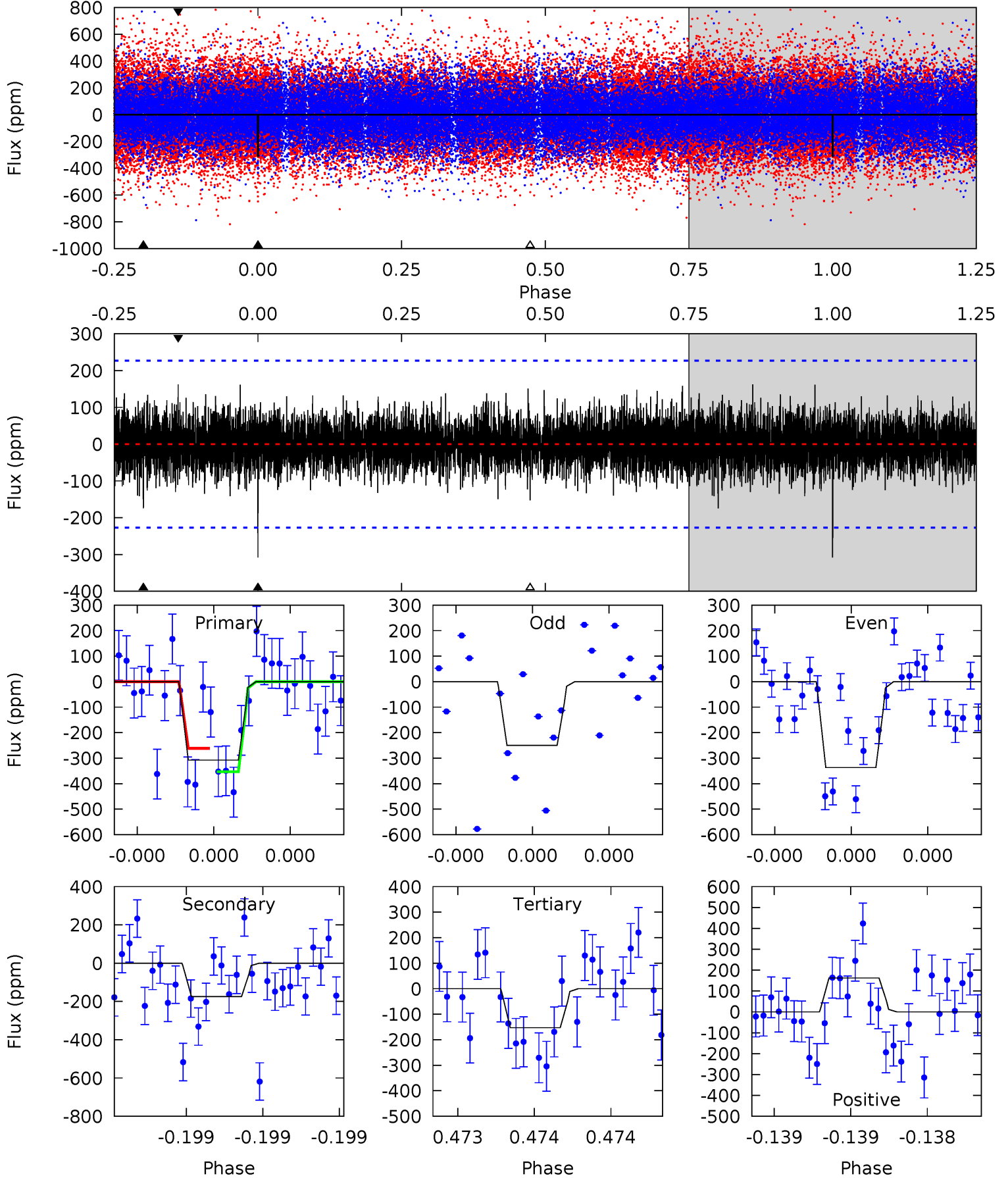
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.56	4.64	3.74	4.02	5.57	3.47	1.06	3.82	3.54	0.90	0.62	0.91	1.17	0.35	1.61



Alt Model-Shift Uniqueness Test

004472143-01, P = 472.096970 Days, E = 310.766970 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.64	4.33	3.79	4.04	5.64	3.58	1.06	3.85	3.61	0.54	0.30	1.01	1.17	0.35	1.14



Stellar Parameters For KIC 004472143

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6186^{+83}_{-74}	$4.358^{+0.020}_{-0.064}$	$0.560^{+0.050}_{-0.150}$	$1.253^{+0.109}_{-0.047}$	$1.305^{+0.041}_{-0.046}$	$0.934^{+0.079}_{-0.190}$
	+1%/-1%	+0%/-1%	+9%/-27%	+9%/-4%	+3%/-4%	+8%/-20%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004472143-01 / KOI 7696.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-151 ± 33	$4.10^{+3.63}_{-2.70}$	377^{+9}_{-7}	4220^{+2705}_{-830}	8237^{+68050}_{-5996}
Alt.	-174 ± 40	$4.03^{+4.02}_{-2.68}$	377^{+9}_{-7}	4365^{+2766}_{-904}	9617^{+72582}_{-7068}

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

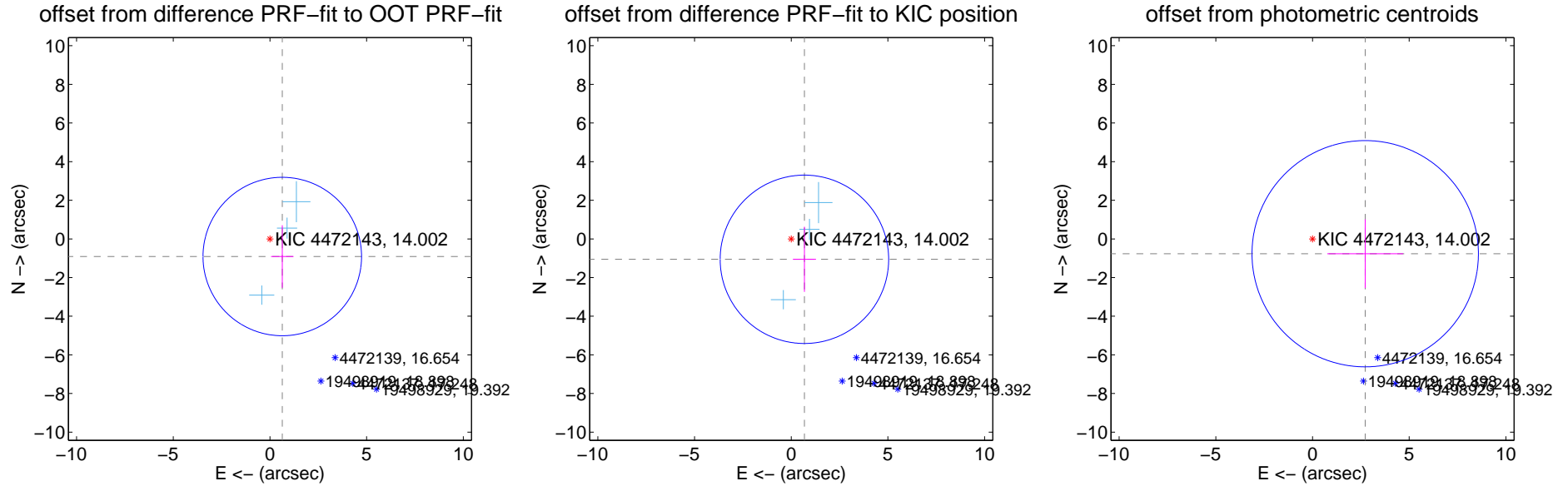
DV Centroid Data

Supplemental centroid analysis for 004472143-01. Kepler magnitude: 14.00. Transit SNR 6.86

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.112 ± 1.367	0.81	-0.638 ± 0.583	-0.910 ± 1.618
PRF-fit source offset from KIC position	1.256 ± 1.452	0.87	-0.682 ± 0.598	-1.055 ± 1.686
photometric centroid source offset	2.83 ± 1.95	1.45	-2.73 ± 1.96	-0.77 ± 1.78



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.

Q1 no difference image



Q1 no OOT image



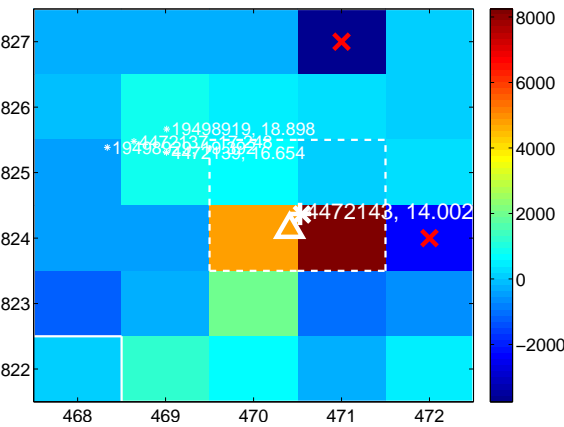
Q2 no difference image



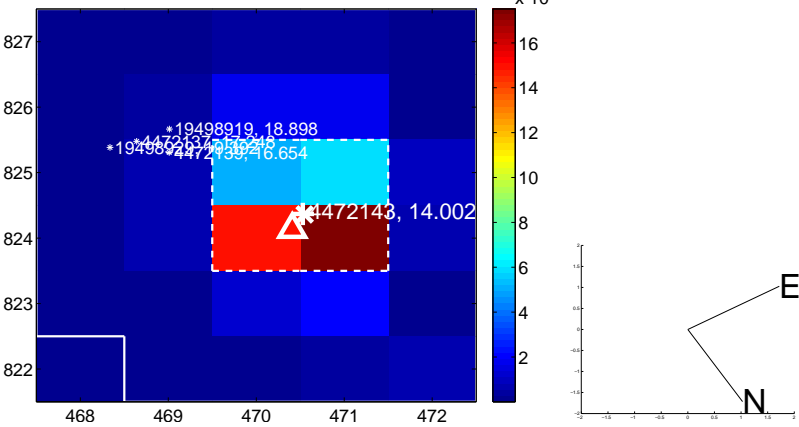
Q2 no OOT image



Q3 difference image



Q3 OOT image



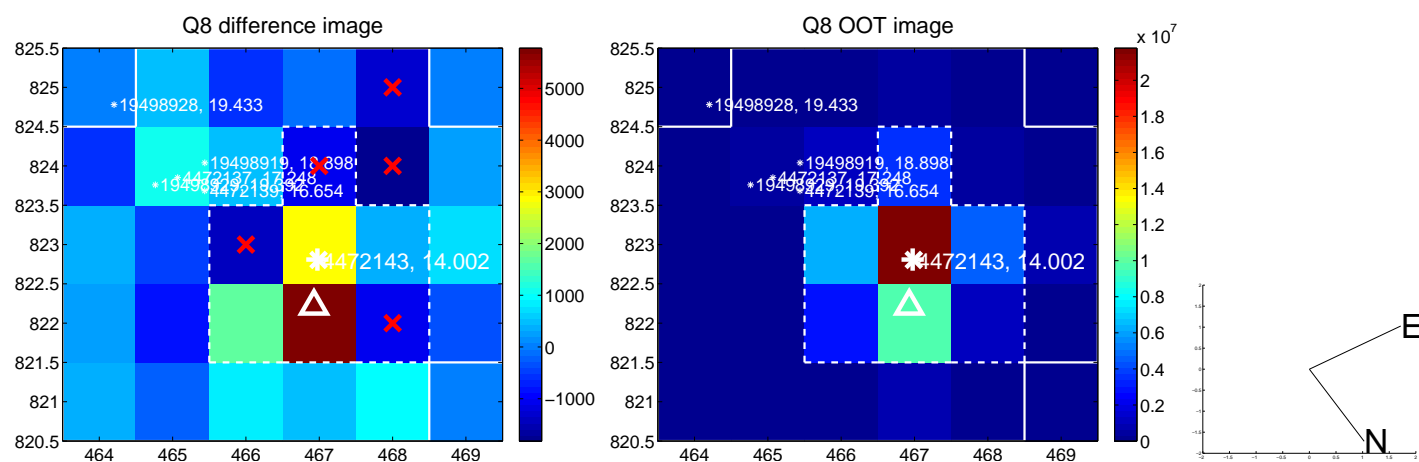
Q4 no difference image



Q4 no OOT image



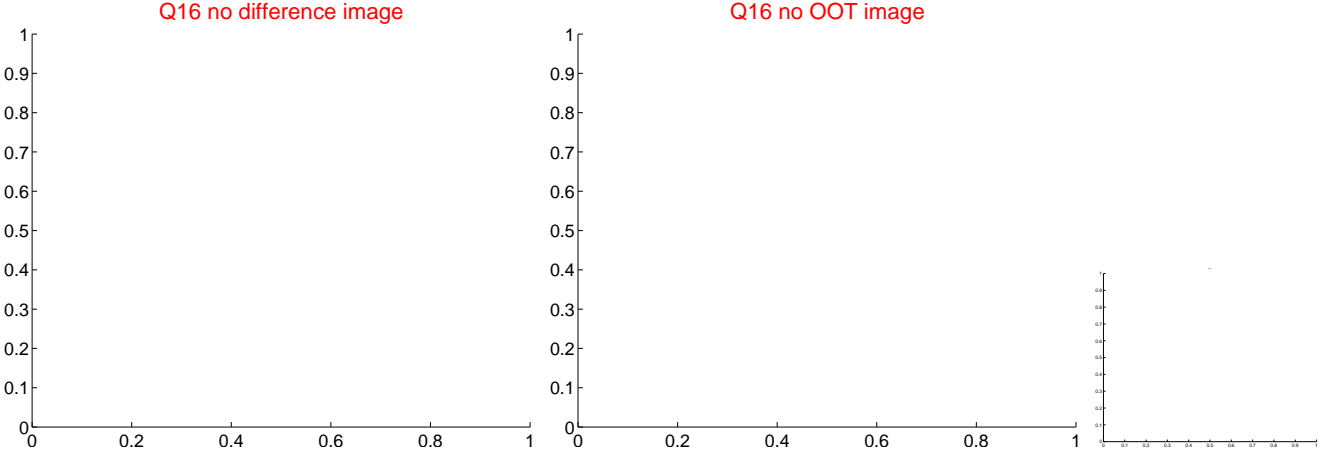
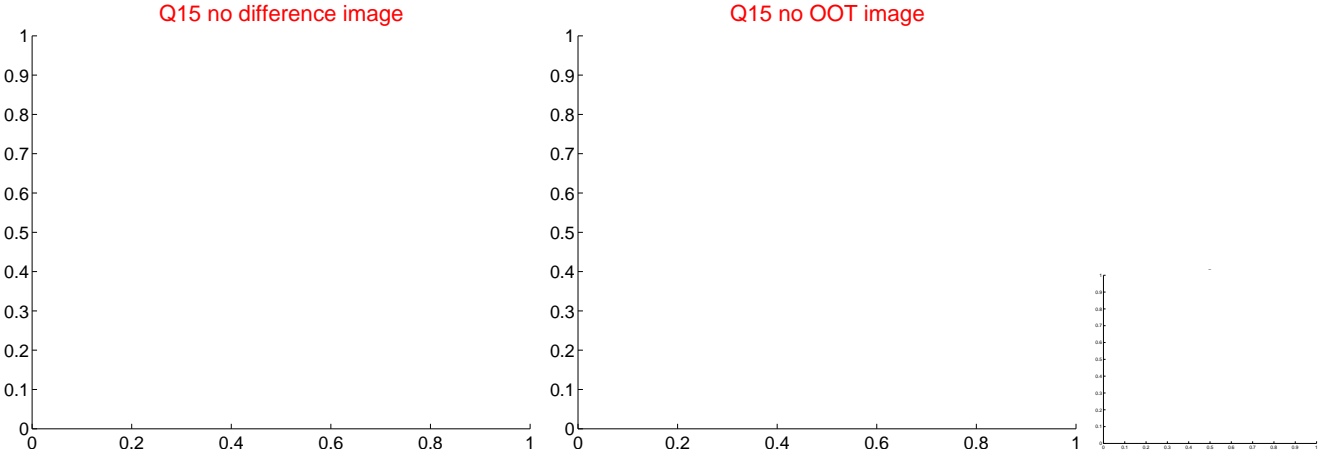
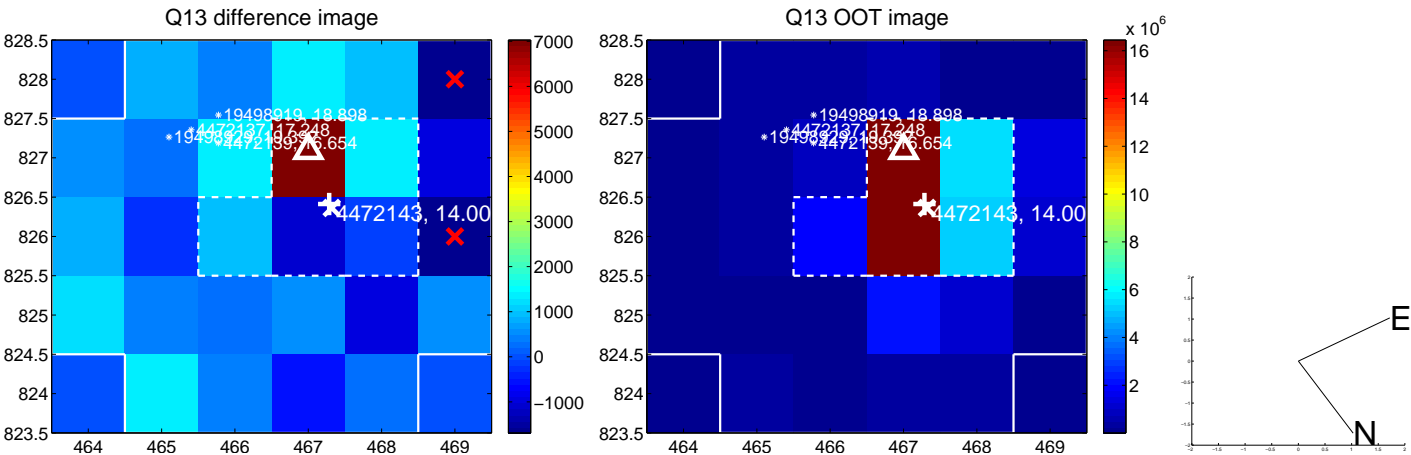
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



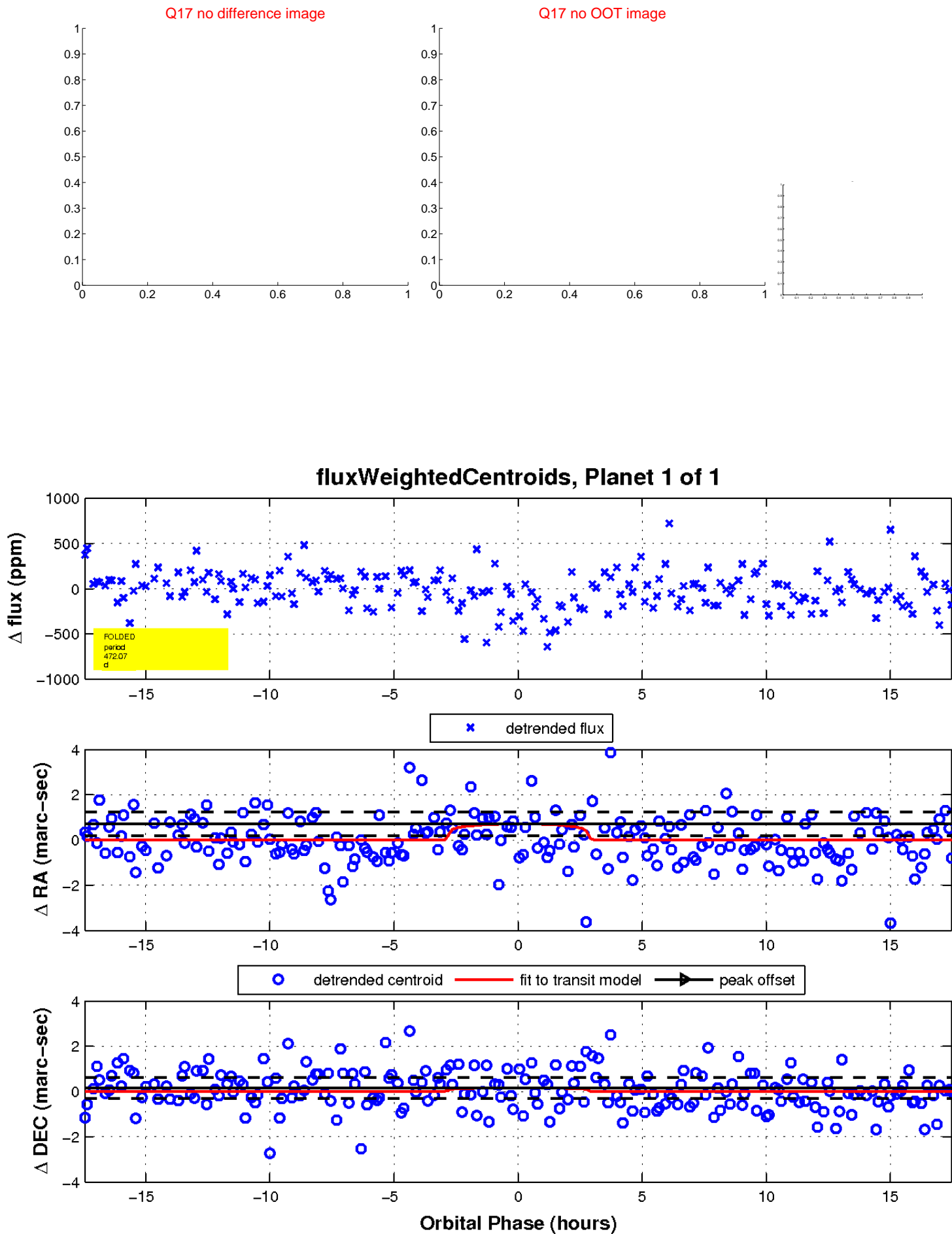
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

