

KIC 003117046

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})
003117046-01	OBS	4114.01	359.103197	415.310804	462.5	12.041	9.7	9.4	1.05	6373	2.47	1.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003117046-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_SKYE—CENT_FEW_DIFFS—EPHEM_MATCH

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.

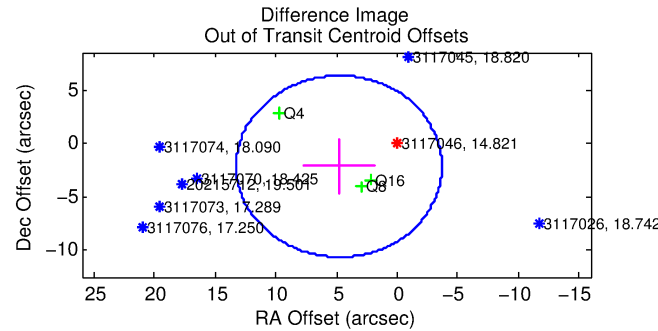
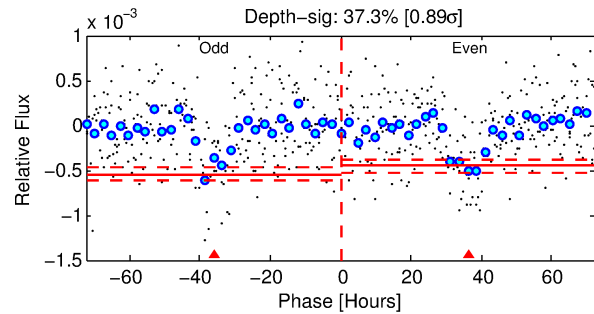
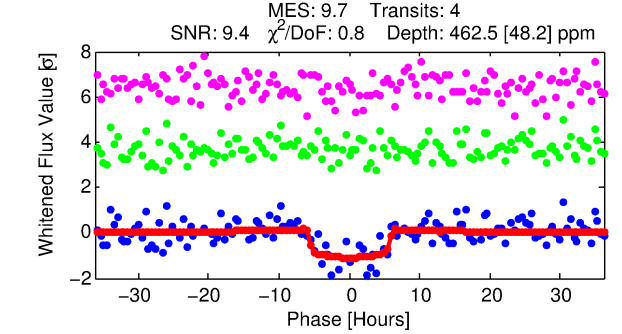
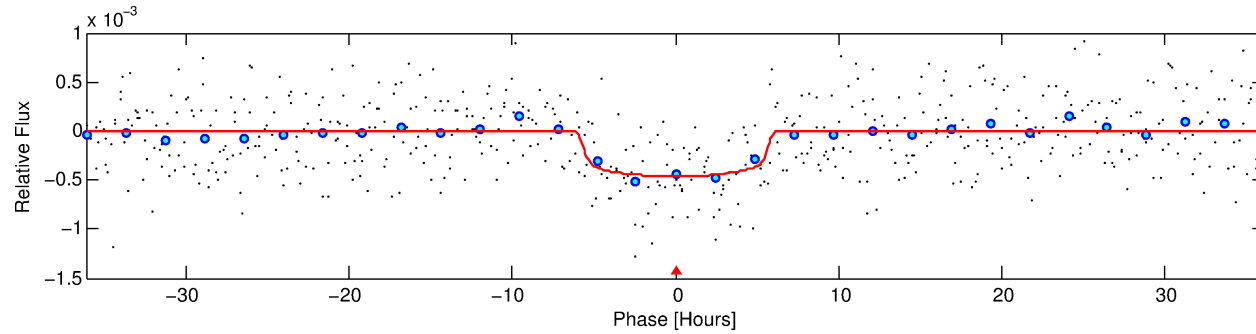
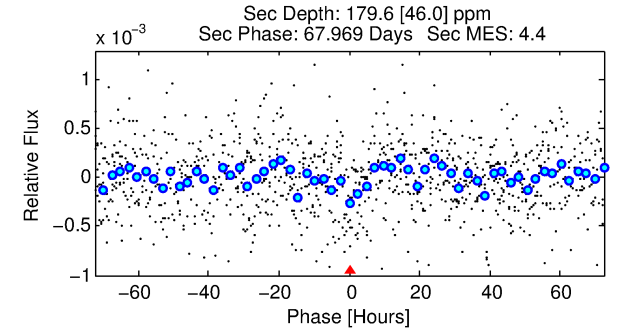
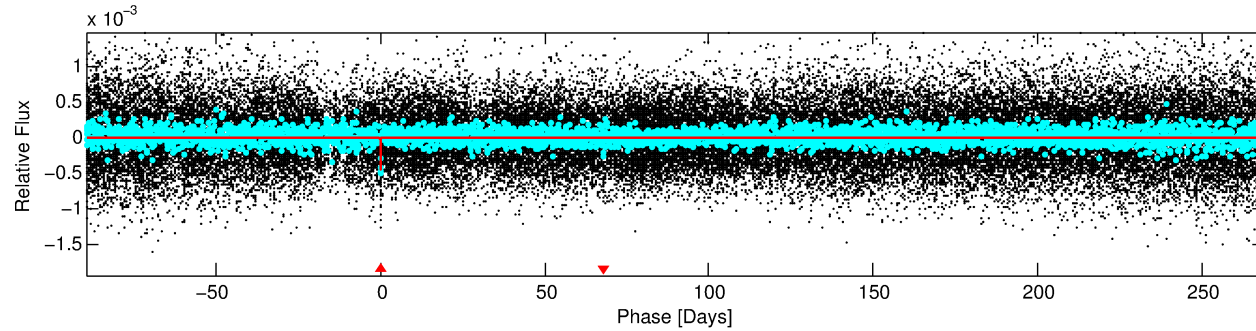
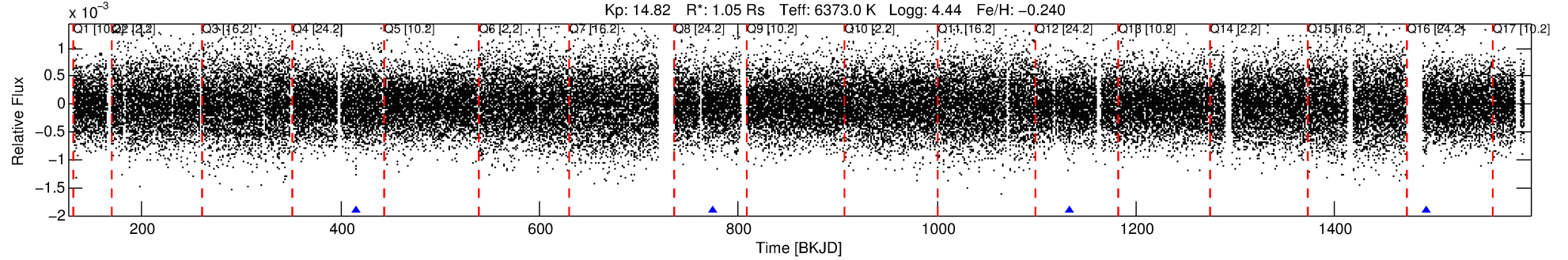
Ephemeris Match Information For 003117046-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
003117046-01	3117046	4479.01	3644602	1:1	1981.8	498	0	15.14	14.82	2.14	Col-Anomaly	1	1.20	0.96

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3117046 Candidate: 1 of 1 Period: 359.103 d
KOI: K04114.01 Corr: 0.999



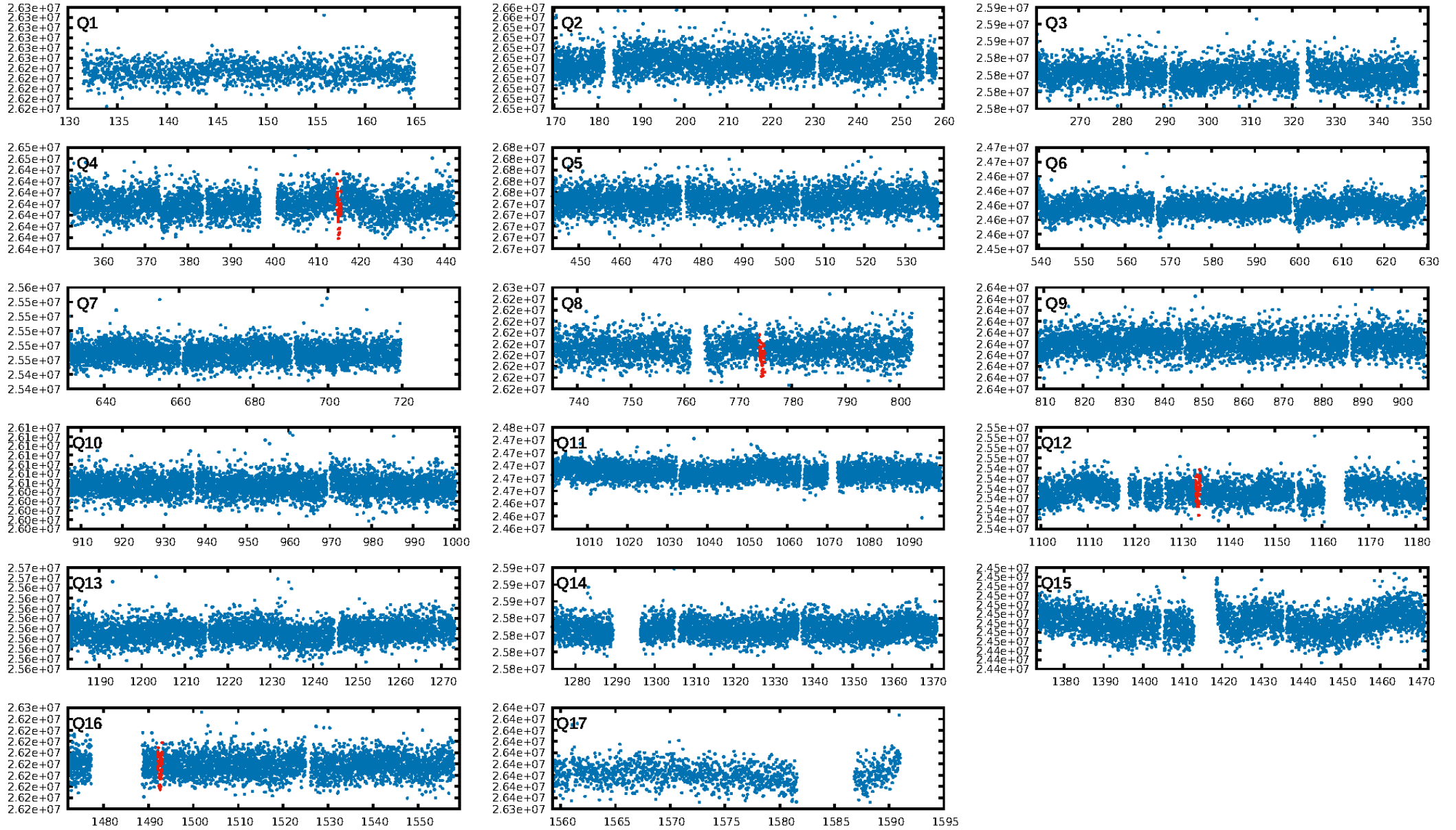
DV Fit Results:

Period = 359.10320 [0.00885] d
Epoch = 415.3108 [0.0172] BKJD
Rp/R* = 0.0216 [0.0048]
a/R* = 149.20 [170.98]
b = 0.78 [0.57]
Seff = 1.56 [0.55]
Teff = 285 [25] K
Rp = 2.47 [0.86] Re
a = 1.0197 [0.2321] AU
Ag = 16814.31 [10224.59] [1.64 σ]
Teffp = 5016 [661] K [7.16 σ]

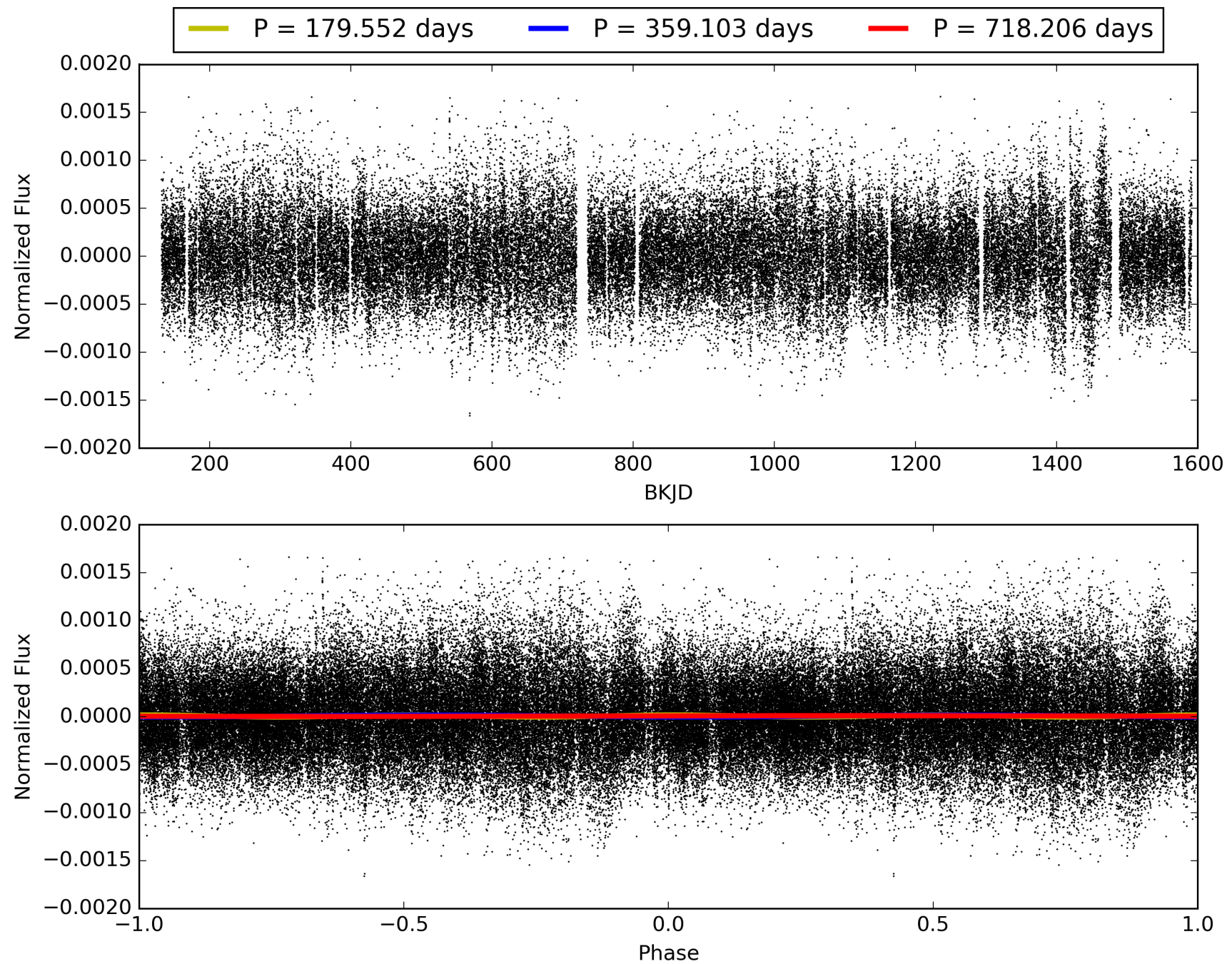
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 57.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.84e-23
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.2
Centroid-sig: 73.8%
Centroid-so: 0.393 arcsec [0.25 σ]
OotOffset-rm: 5.251 arcsec [1.86 σ]
KicOffset-rm: 5.349 arcsec [1.90 σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 003117046-01, PDC Light Curves

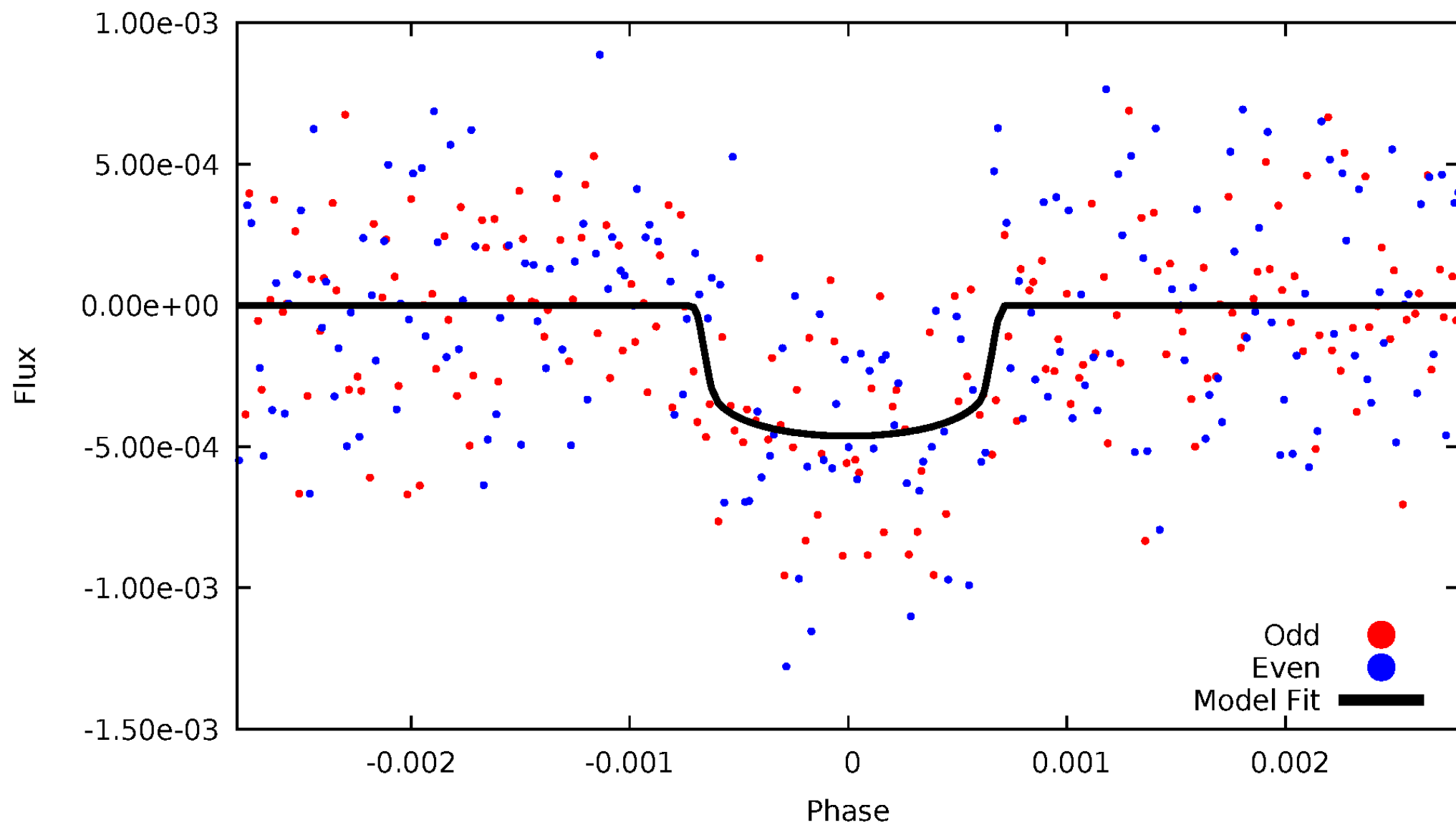


TCE 003117046-01



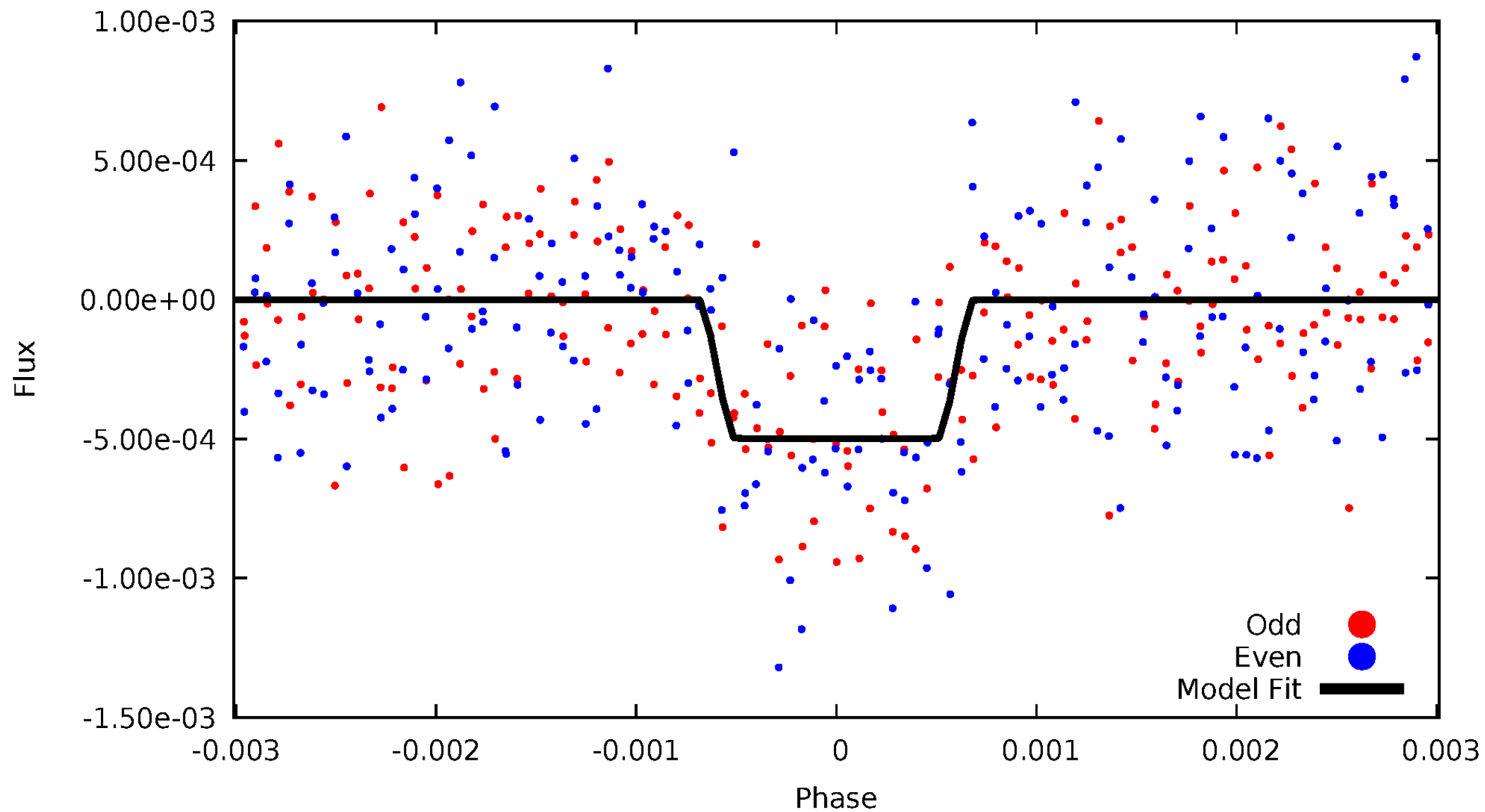
DV Odd/Even

TCE 003117046-01



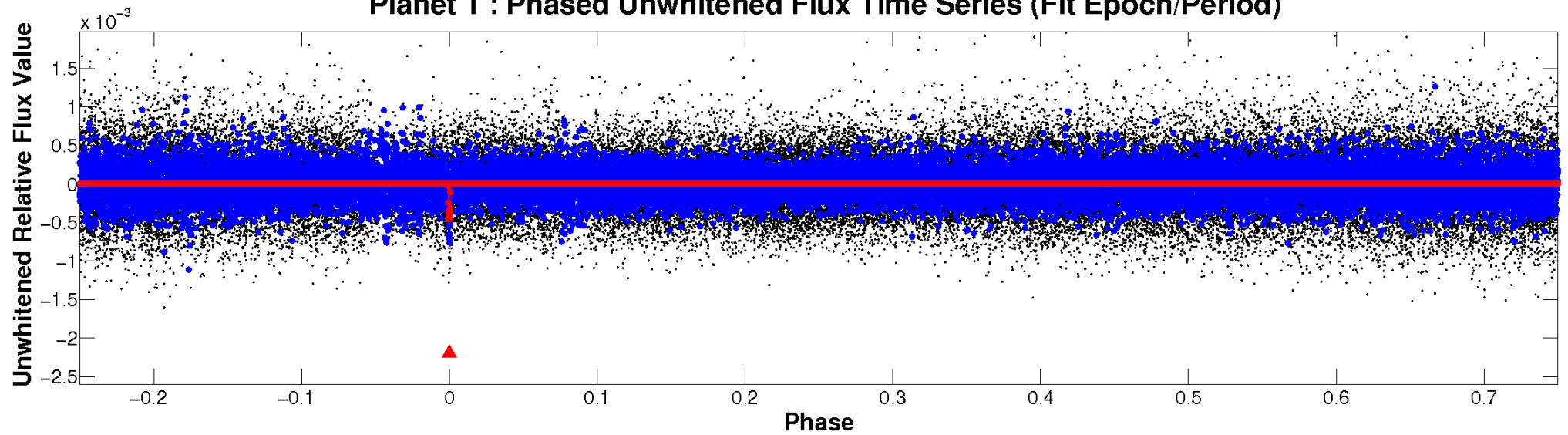
ALT Odd/Even

TCE 003117046-01

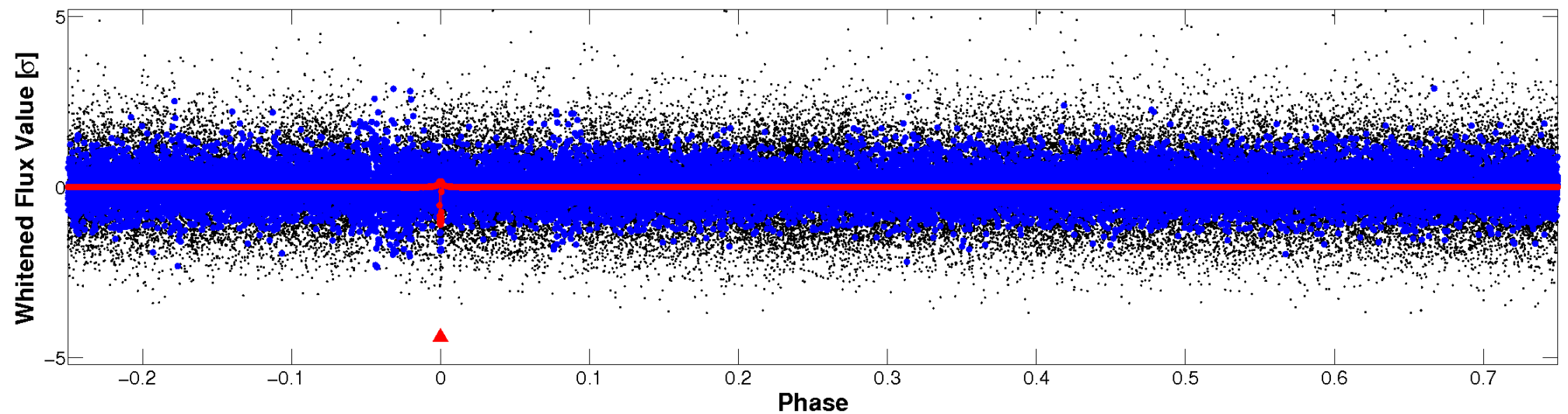


Non-Whitened Vs. Whitened Light Curve

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

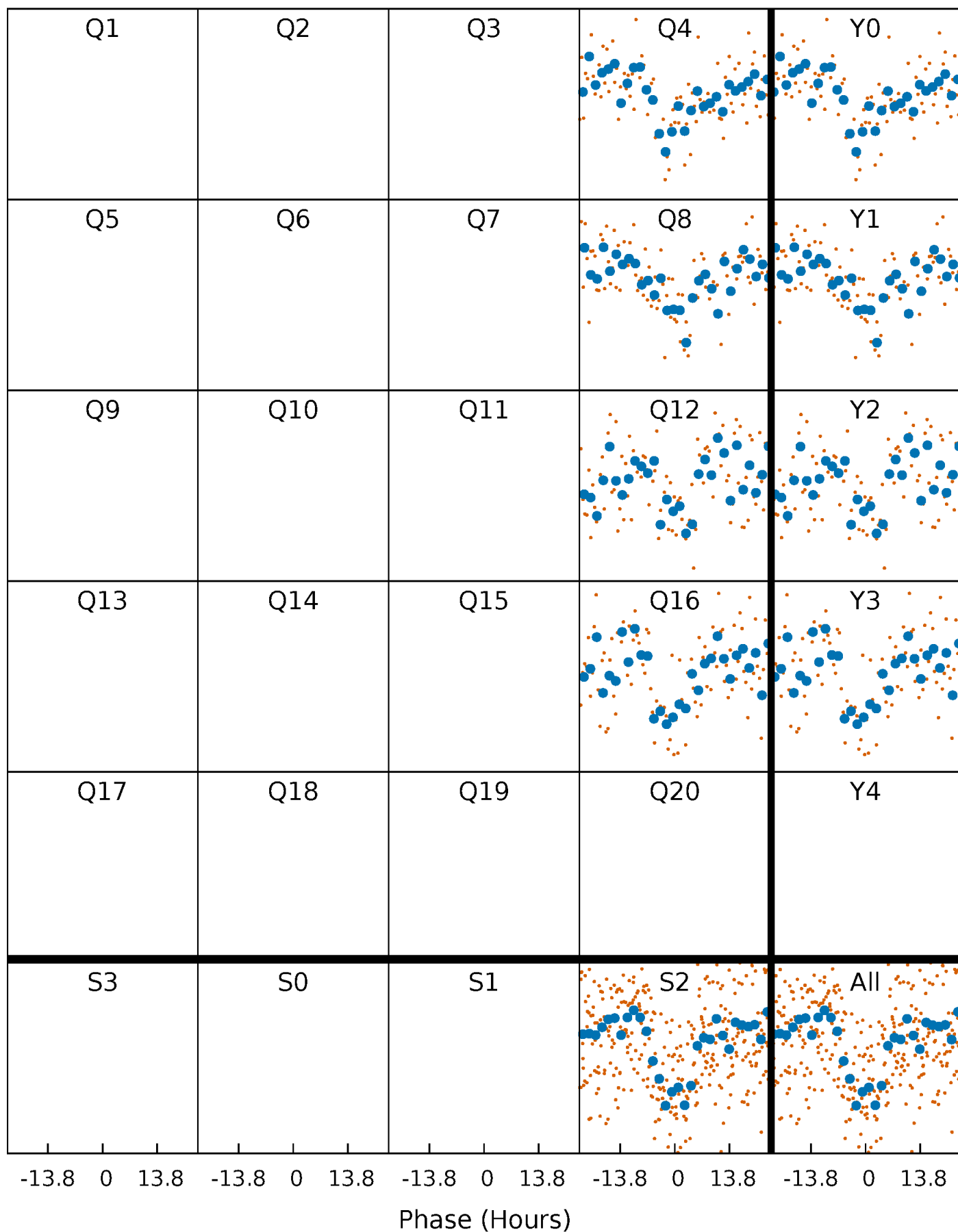


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



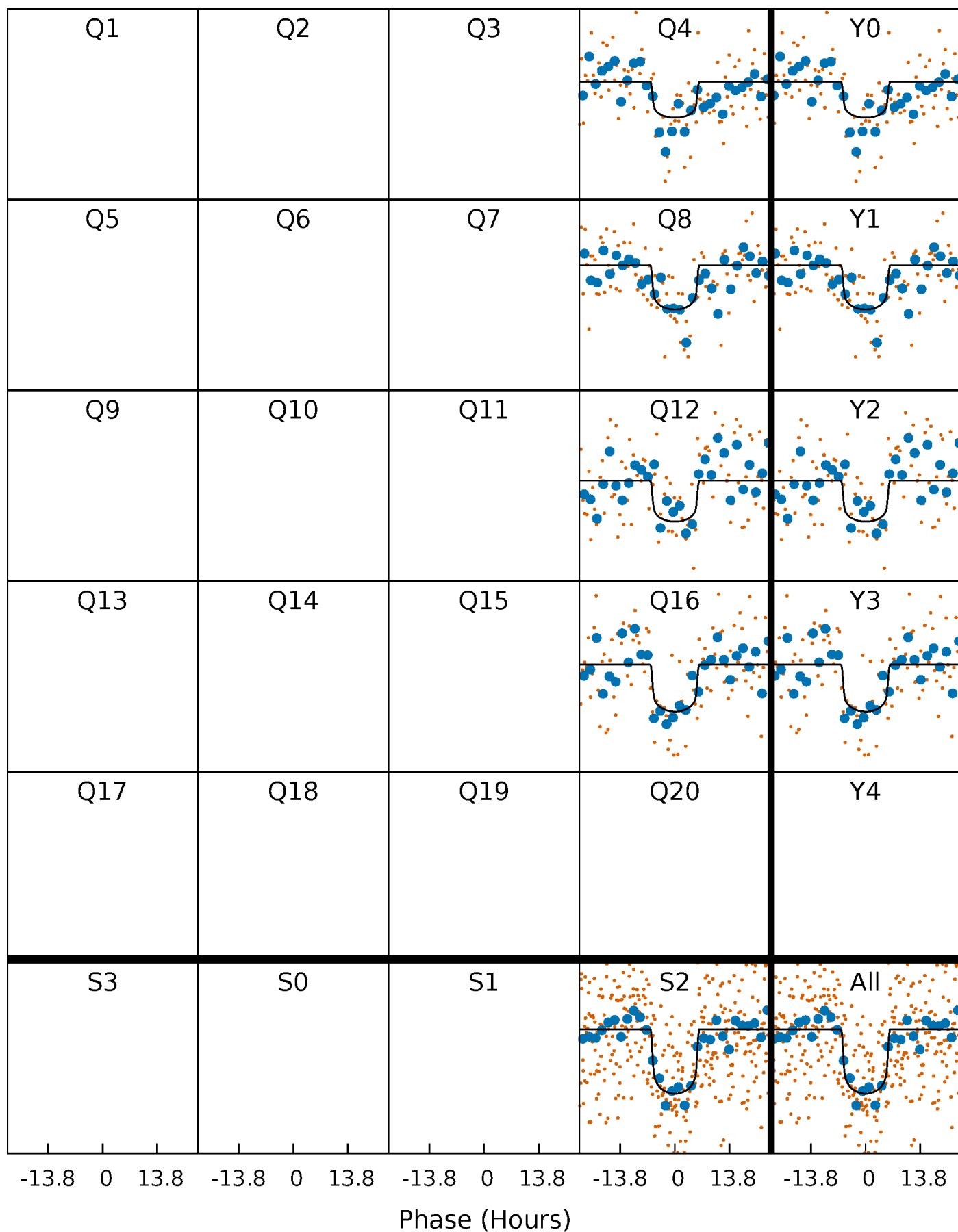
PDC Quarter-Phased Transit Curves

TCE 003117046-01 P=359.103197 Days $T_0=415.310804$ (BKJD)



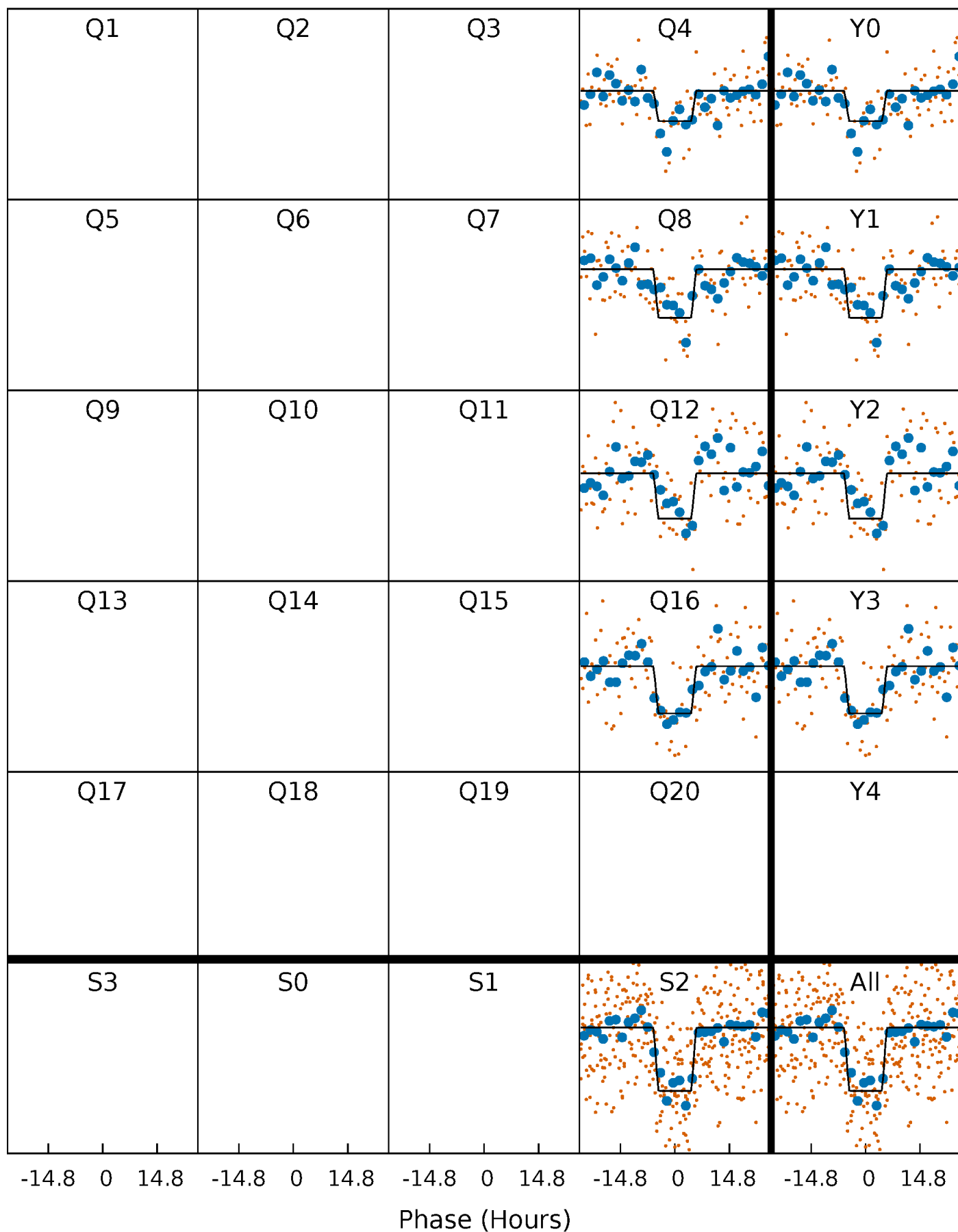
DV Quarter-Phased Transit Curves

TCE 003117046-01 P=359.103197 Days $T_0=415.310804$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

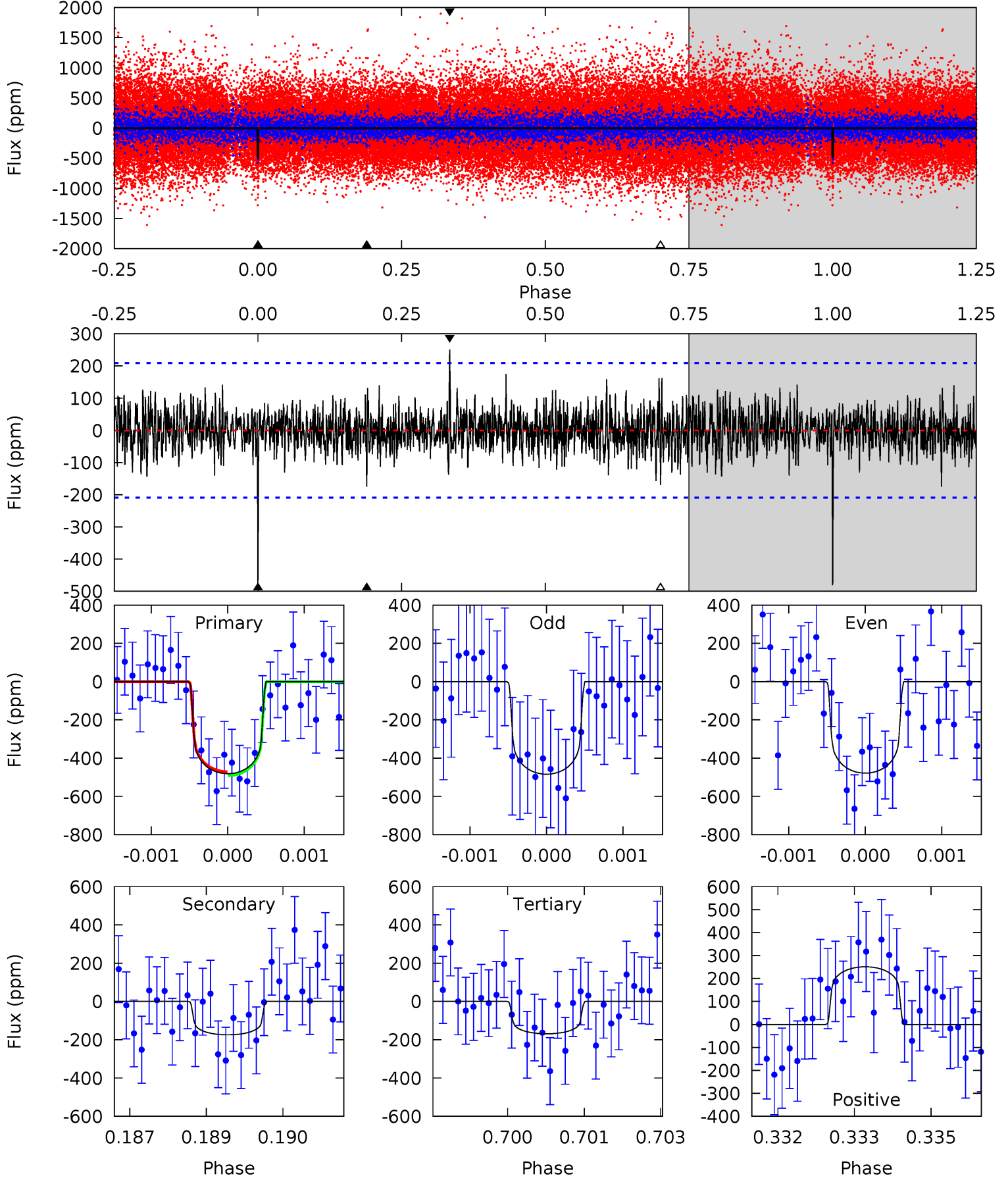
TCE 003117046-01 P=359.099383 Days $T_0=415.312626$ (BKJD)



DV Model-Shift Uniqueness Test

003117046-01, P = 359.103197 Days, E = 56.207607 Days

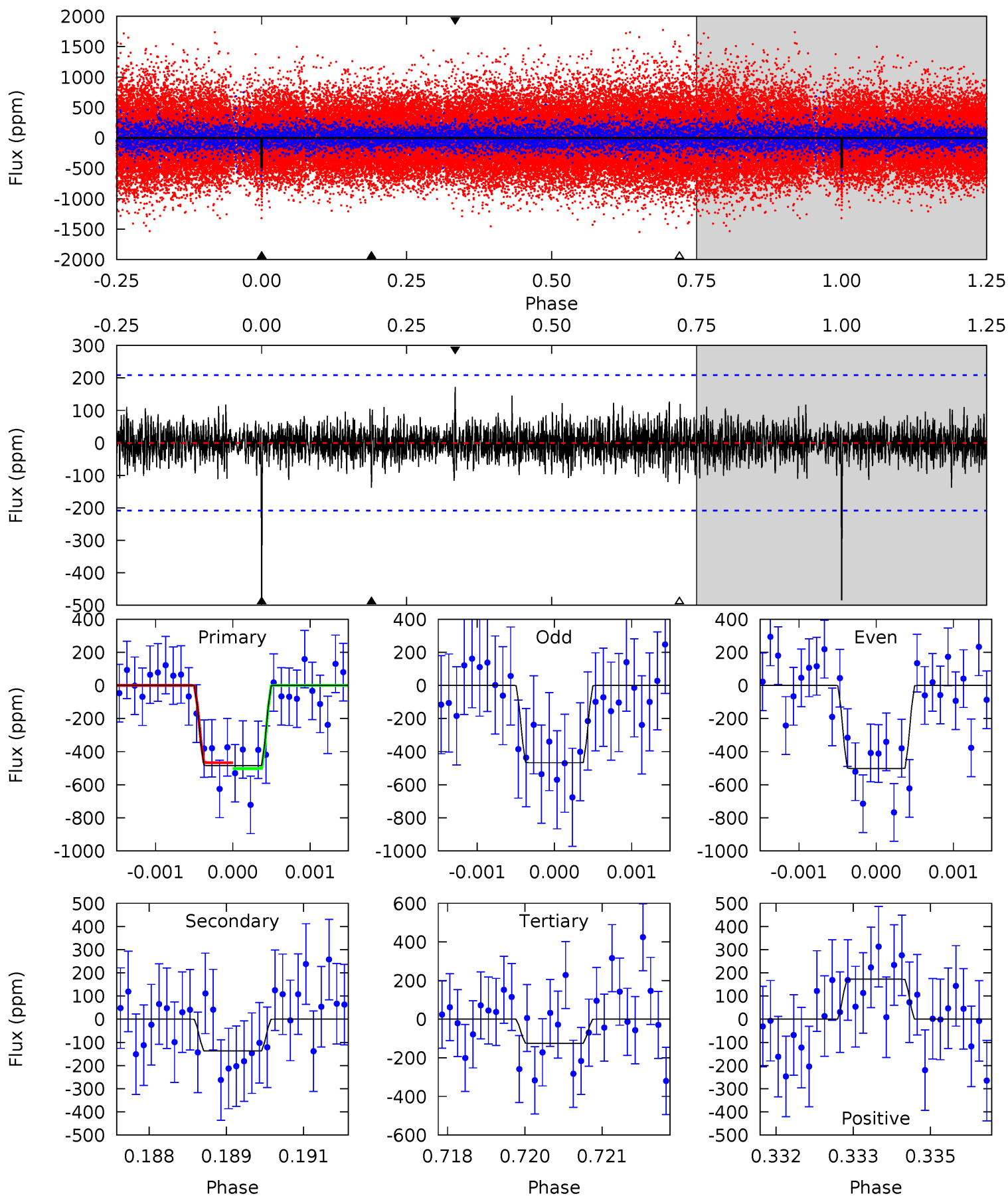
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	4.50	4.36	6.47	5.39	3.19	1.22	8.04	5.93	0.14	-1.97	0.07	1.00	0.34	0.26



Alt Model-Shift Uniqueness Test

003117046-01, $P = 359.099383$ Days, $E = 56.213243$ 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	3.55	3.24	4.46	5.39	3.20	0.92	9.30	8.08	0.31	-0.91	0.45	1.04	0.26	0.46



Stellar Parameters For KIC 003117046

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6373^{+151}_{-207}	$4.438^{+0.060}_{-0.180}$	$-0.240^{+0.250}_{-0.350}$	$1.047^{+0.284}_{-0.122}$	$1.094^{+0.143}_{-0.143}$	$1.343^{+0.431}_{-0.644}$
	+2%/-3%	+1%/-4%	+104%/-146%	+27%/-12%	+13%/-13%	+32%/-48%
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 003117046-01 / KOI 4114.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-174 ± 39	$2.59^{+0.59}_{-0.62}$	405^{+26}_{-18}	5033^{+699}_{-462}	14958^{+11120}_{-6412}
Alt.	-137 ± 39	$2.63^{+0.70}_{-0.60}$	404^{+26}_{-18}	4714^{+597}_{-448}	10905^{+8243}_{-4742}

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

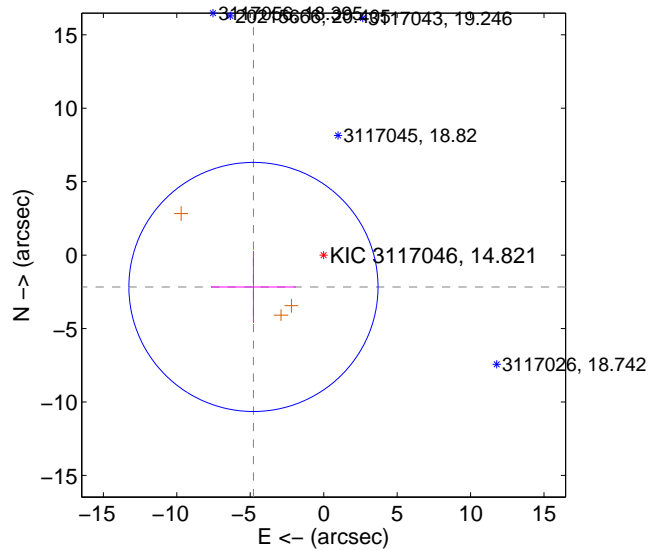
Supplemental centroid analysis for 003117046-01. Kepler magnitude: 14.82. Transit SNR 9.39

There are 0 quarters with good PRF difference image offsets

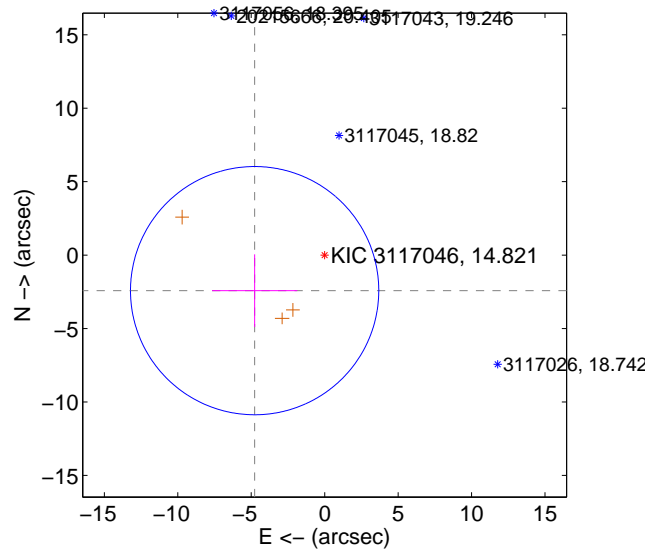
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.251 ± 2.827	1.86	4.782 ± 2.897	-2.169 ± 2.457
PRF-fit source offset from KIC position	5.349 ± 2.817	1.90	4.770 ± 2.899	-2.421 ± 2.473
photometric centroid source offset	0.39 ± 1.58	0.25	-0.06 ± 1.53	0.39 ± 1.58

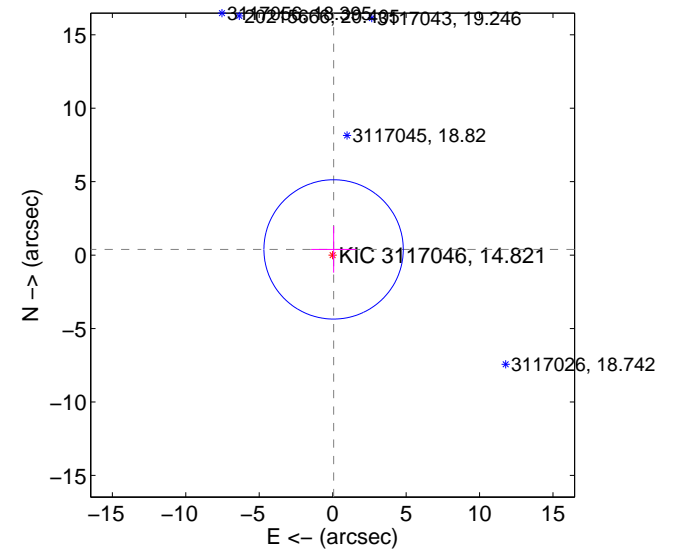
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

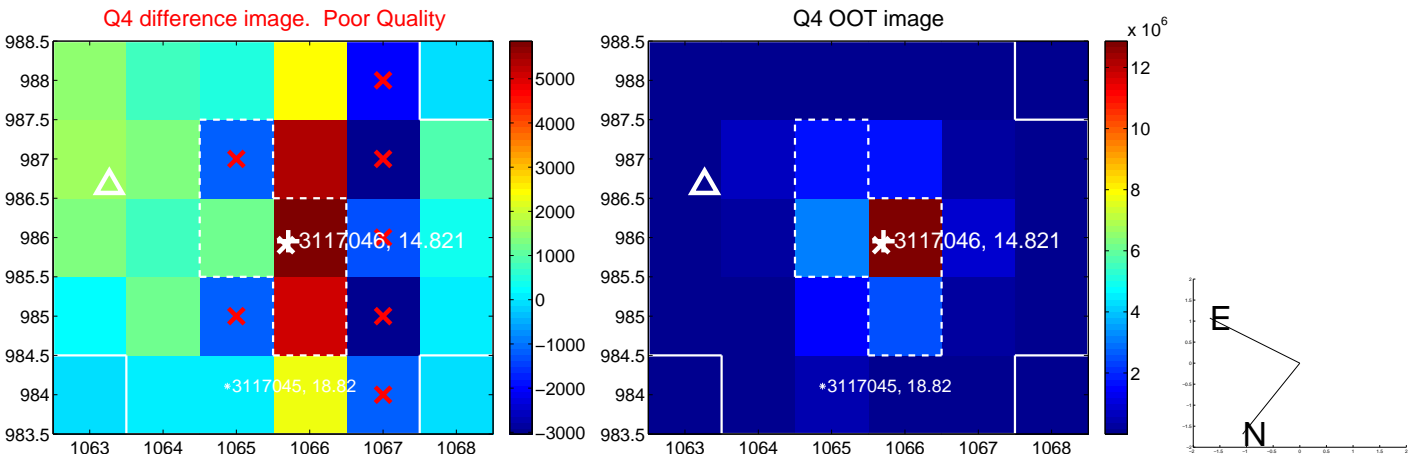
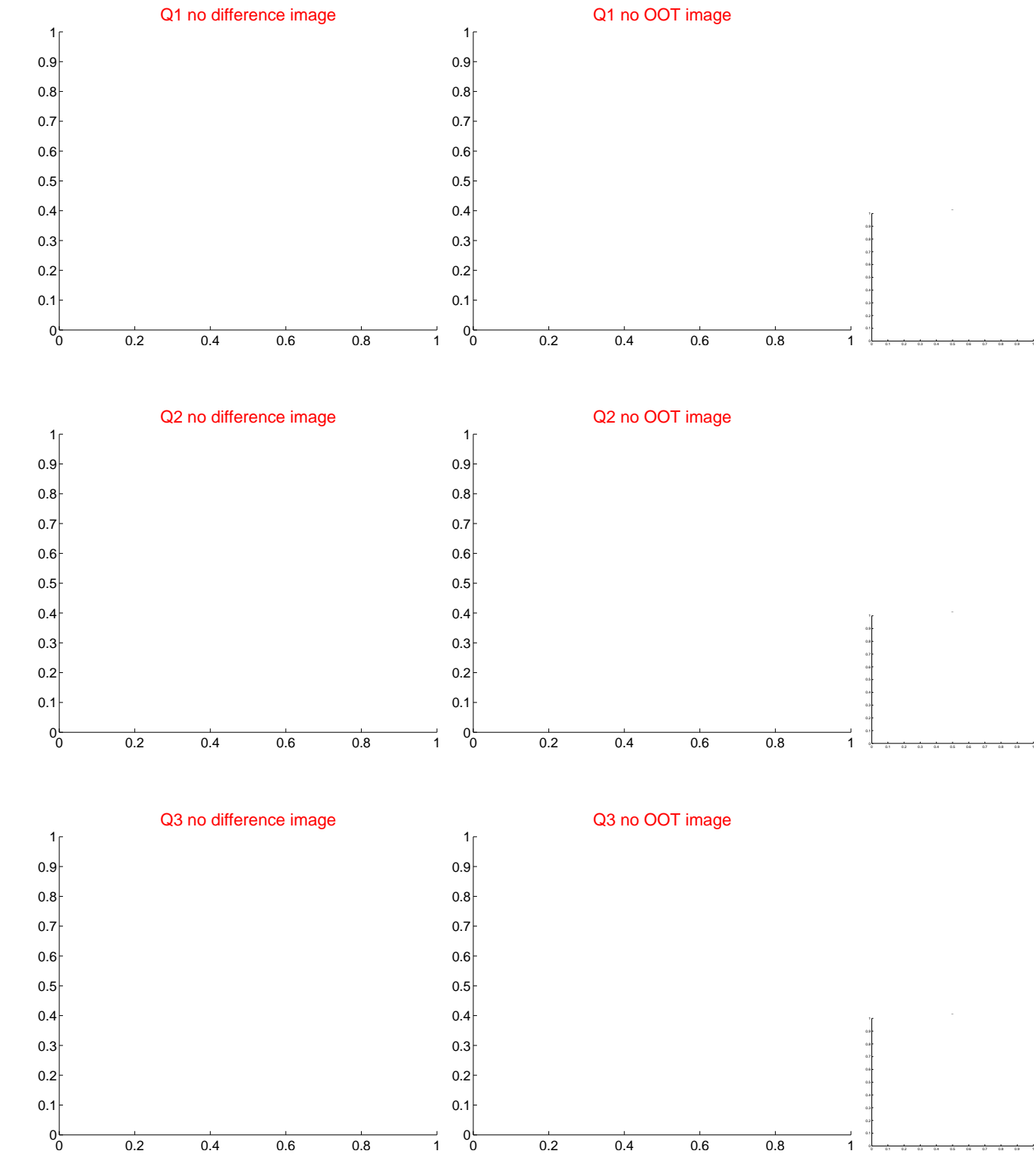


offset from photometric centroids

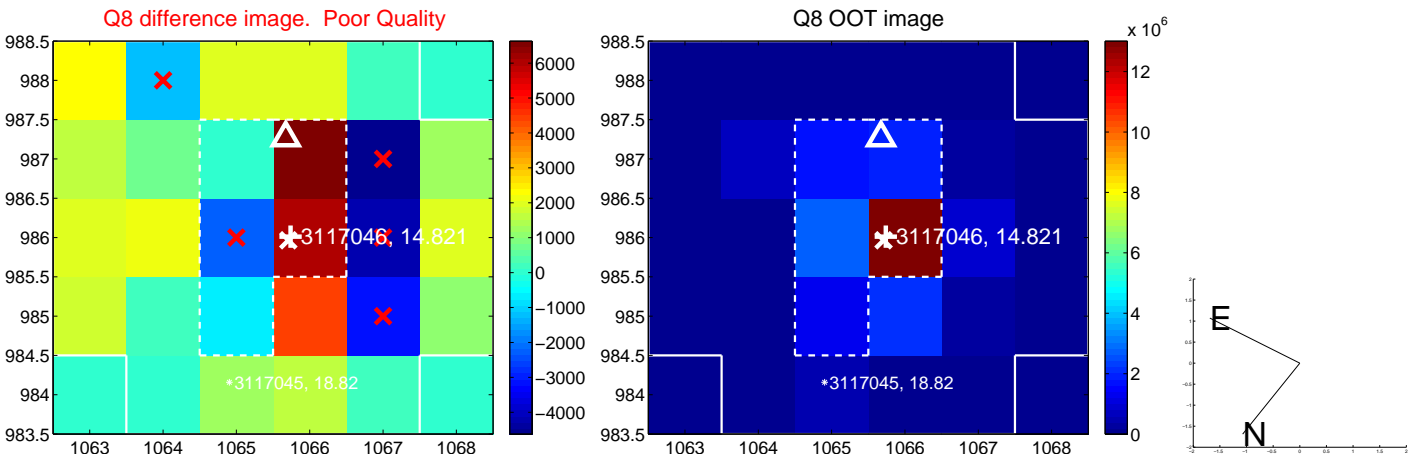
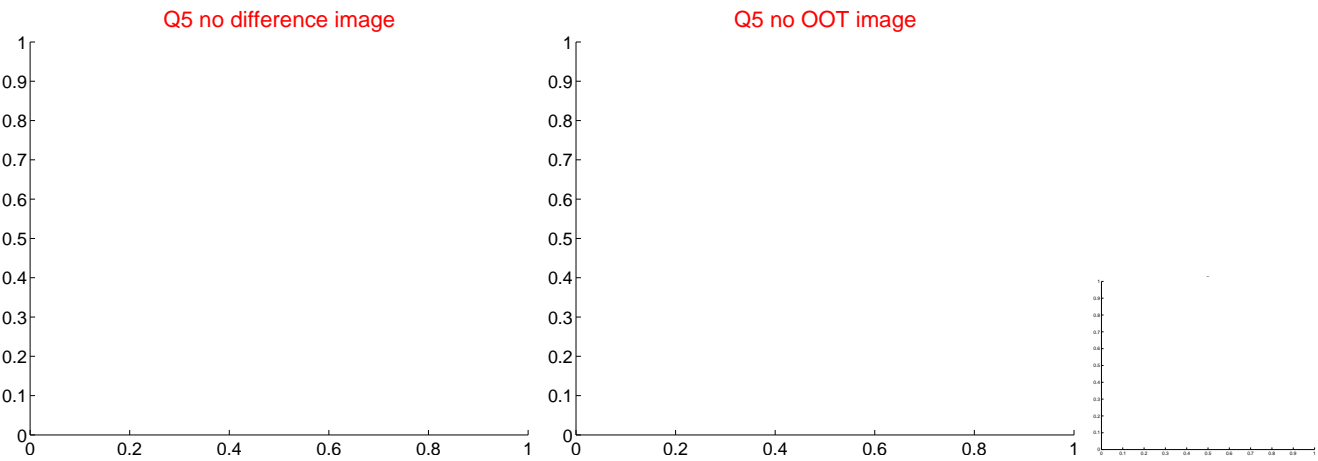


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



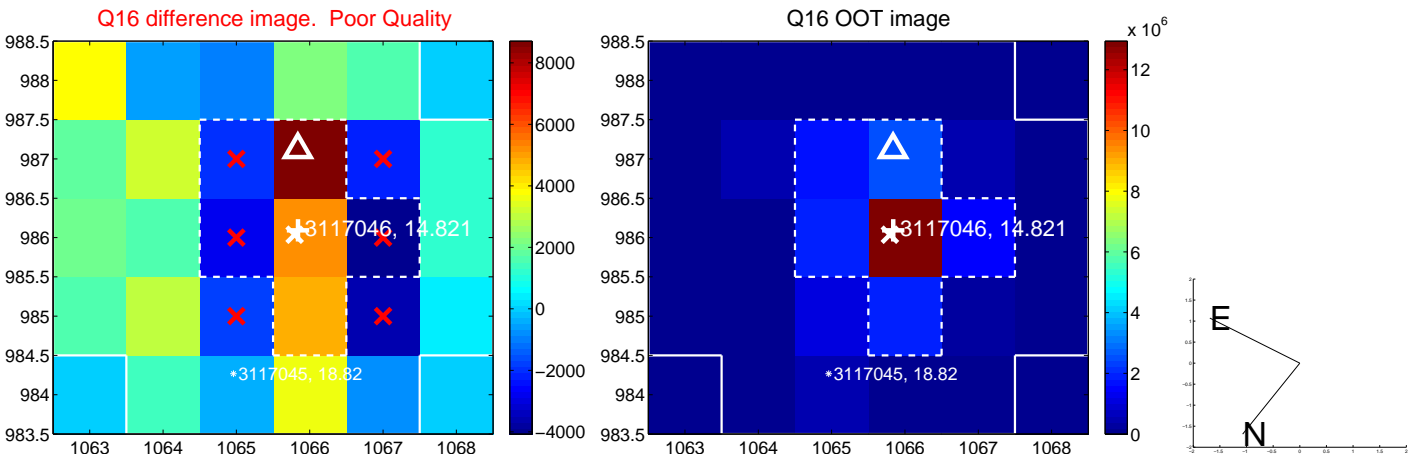
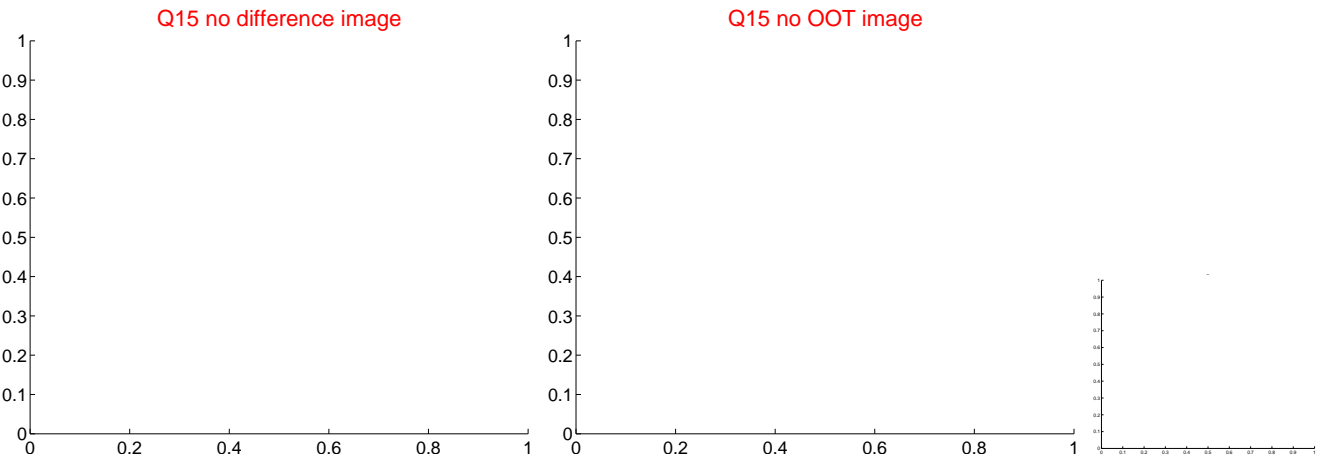
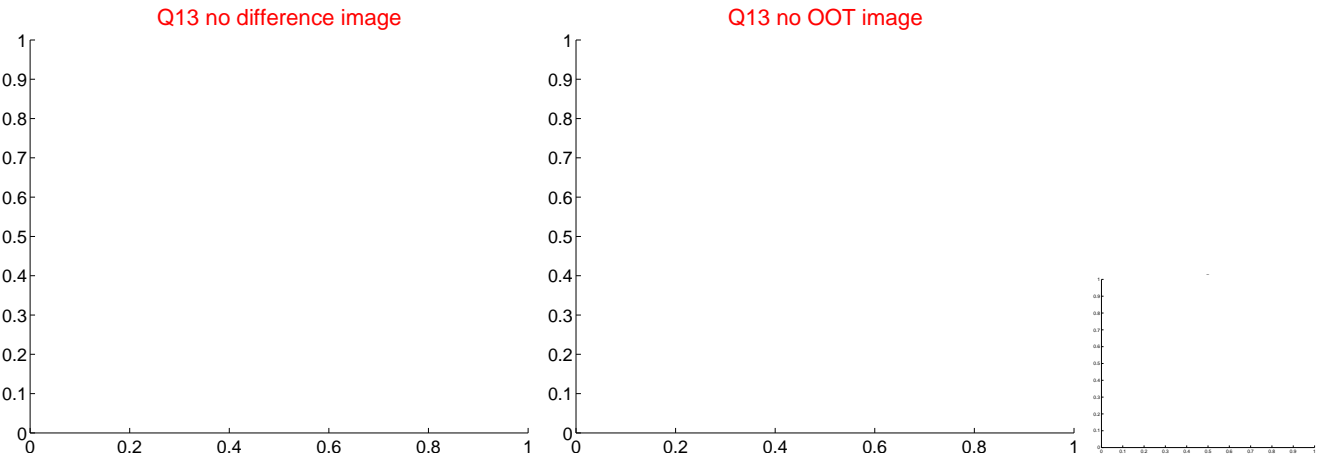
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



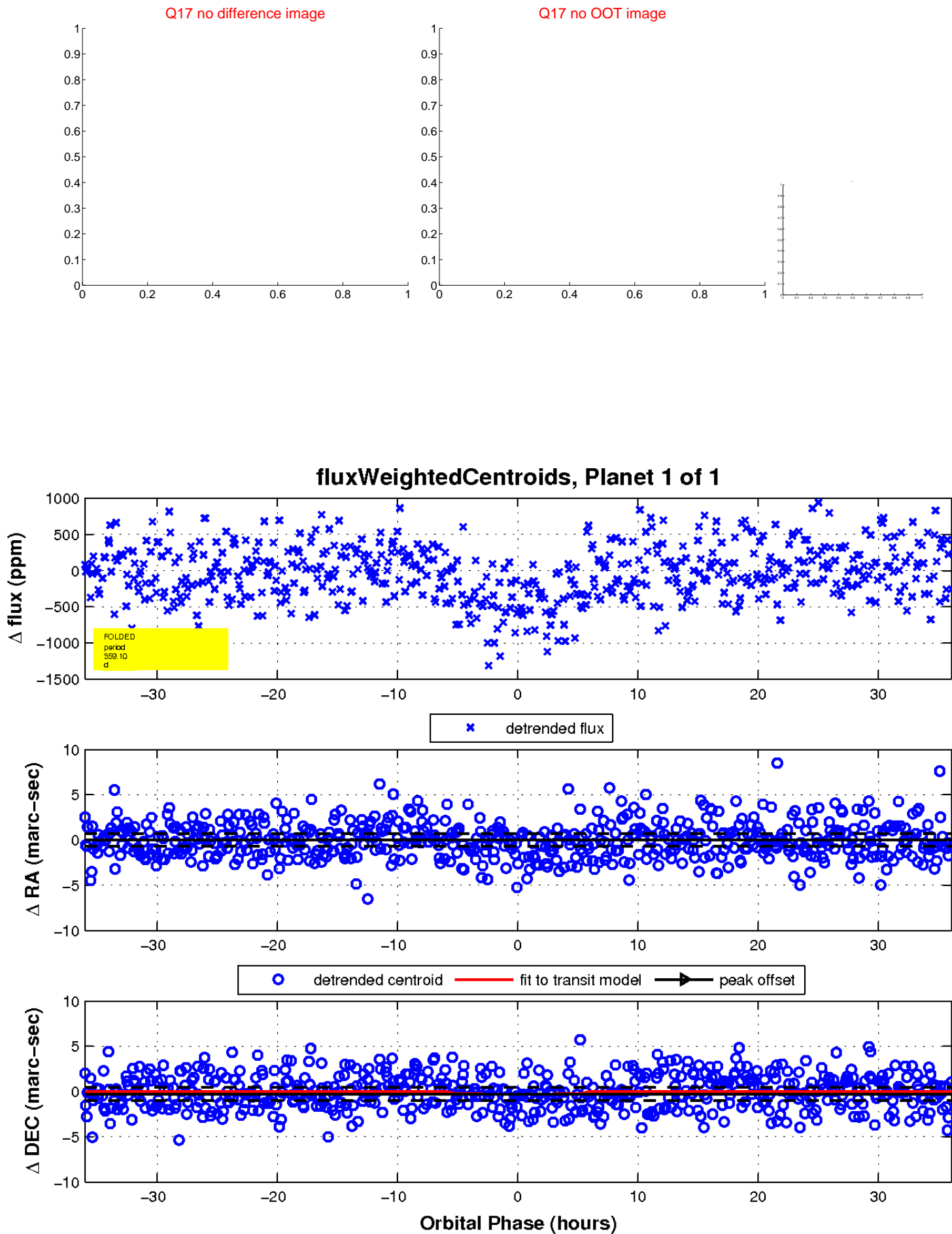
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

