

KIC 002450716

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})
002450716-01	OBS	No	301.757633	326.525130	342.9	24.318	7.4	6.8	0.77	5261	1.53	0.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002450716-01	OBS	FP	0.07	1	0	0	0	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.

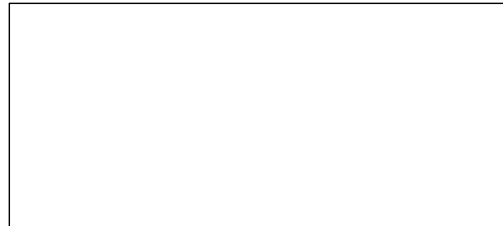
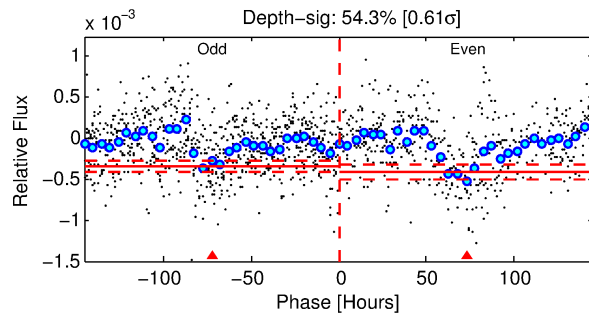
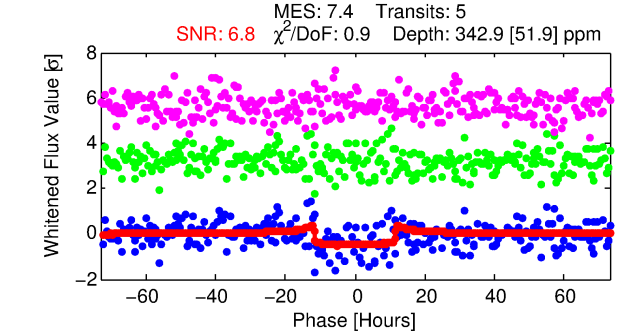
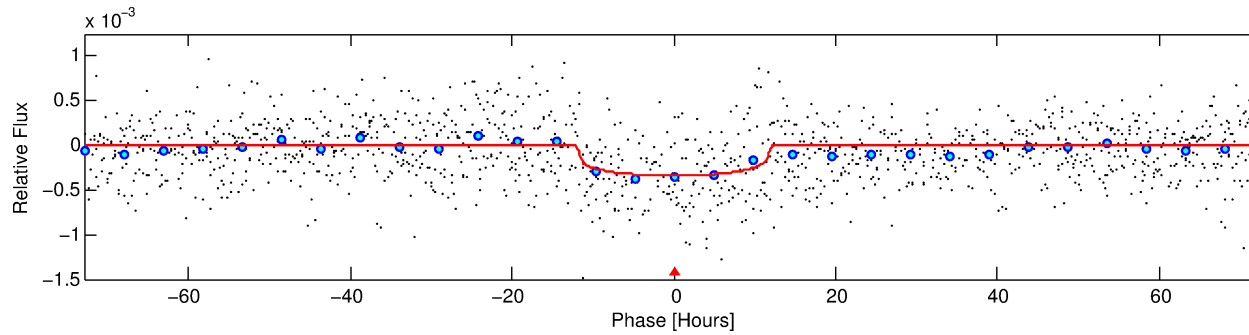
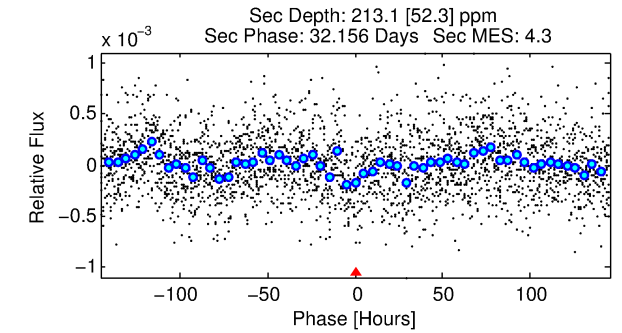
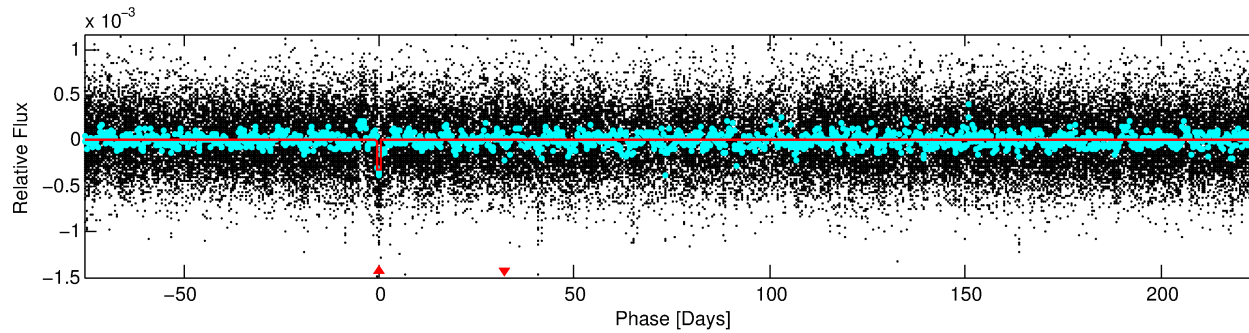
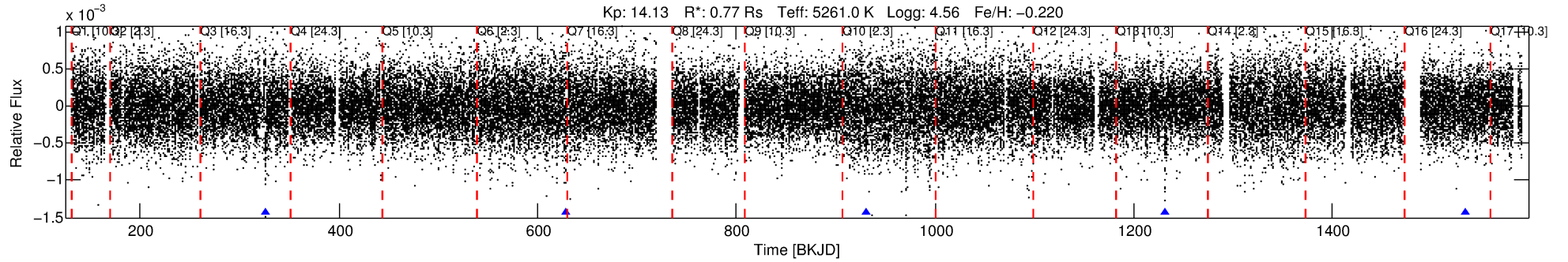
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002450716-01

No Significant Match Found

DV One-Page Summary

KIC: 2450716 Candidate: 1 of 1 Period: 301.758 d
KOI: K06275 Corr: No Ephemeris Match



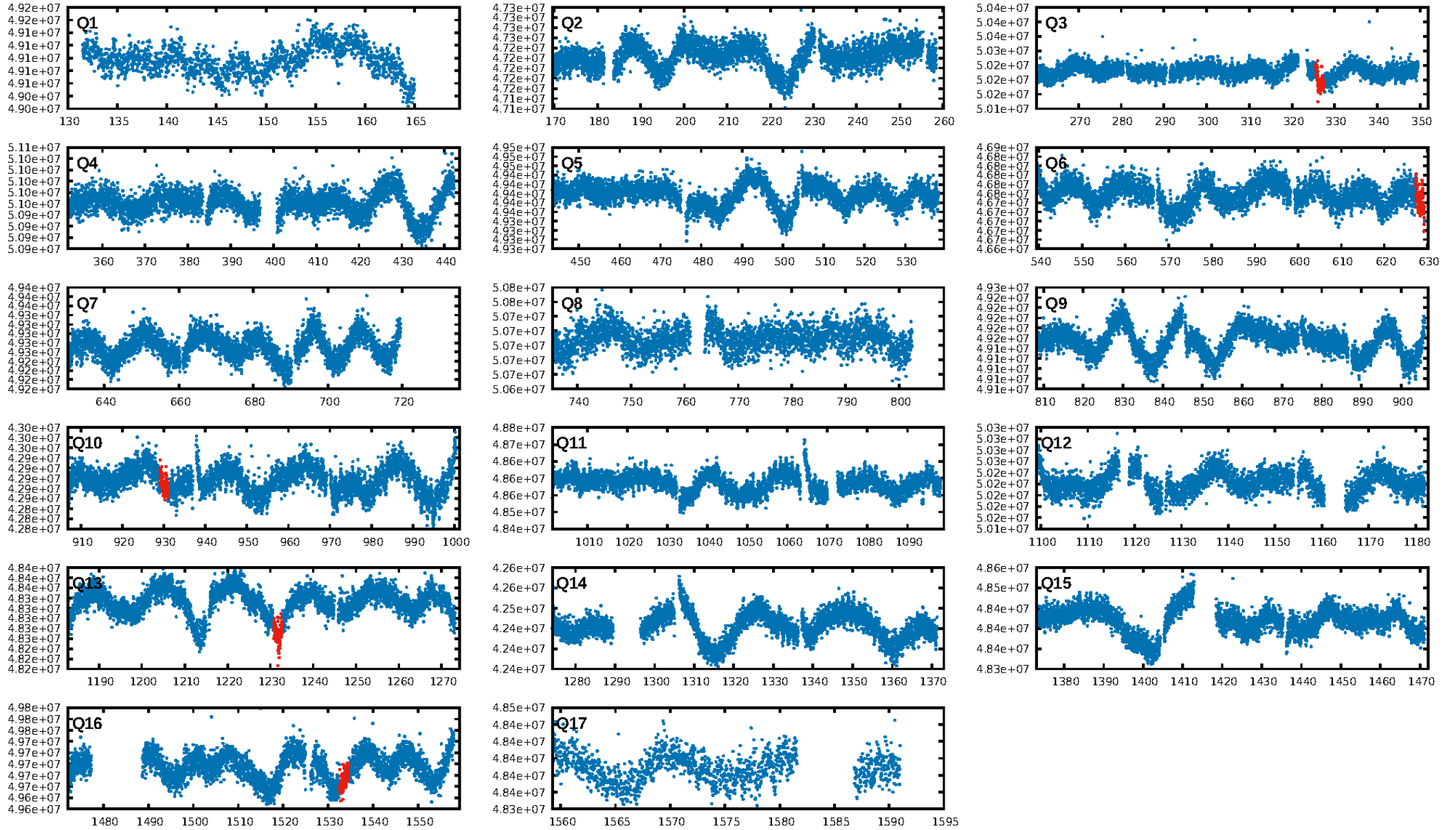
DV Fit Results:

Period = 301.75763 [0.00951] d
Epoch = 326.5251 [0.0253] BKJD
Rp/R* = 0.0182 [0.0044]
a/R* = 68.54 [60.87]
b = 0.72 [0.61]
Seff = 0.61 [0.12]
Teq = 226 [11] K
Rp = 1.53 [0.43] Re
a = 0.8123 [0.0927] AU
Ag = 33224.33 [18770.19] [1.77 σ]
Teffp = 4711 [656] K [6.84 σ]

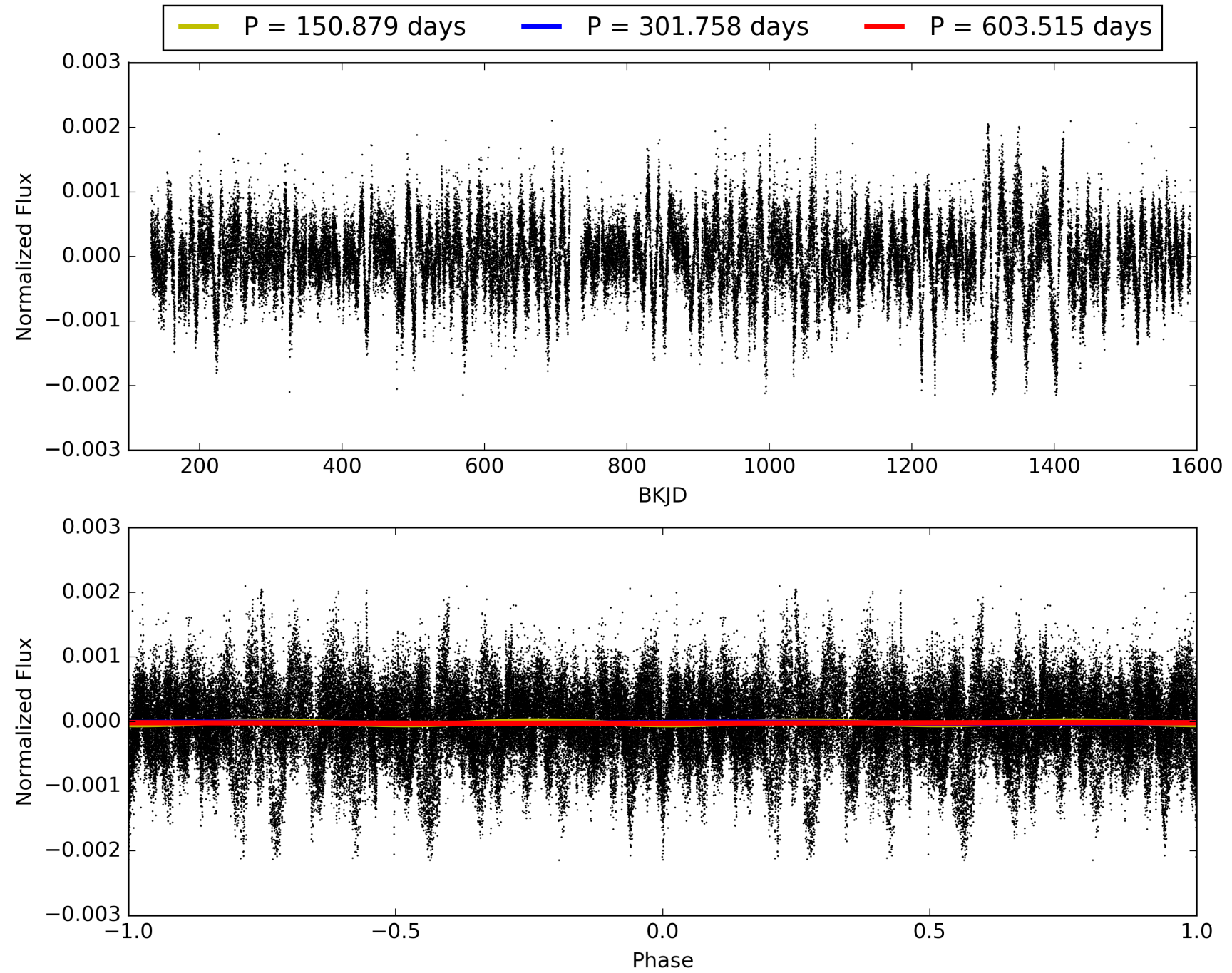
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.03e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.421
Centroid-sig: 23.5%
Centroid-so: 1.426 arcsec [1.01 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

TCE 002450716-01, PDC Light Curves

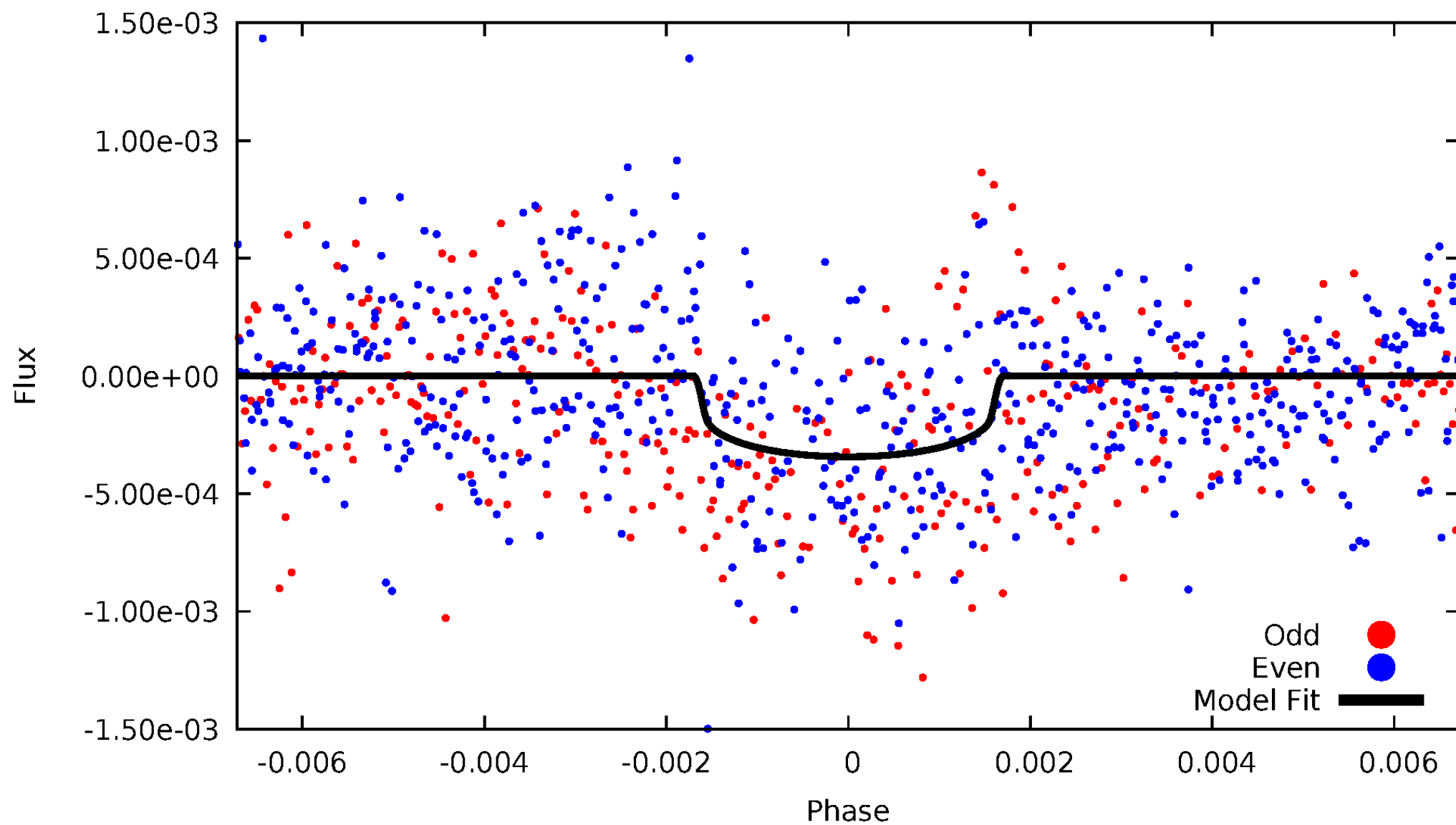


TCE 002450716-01



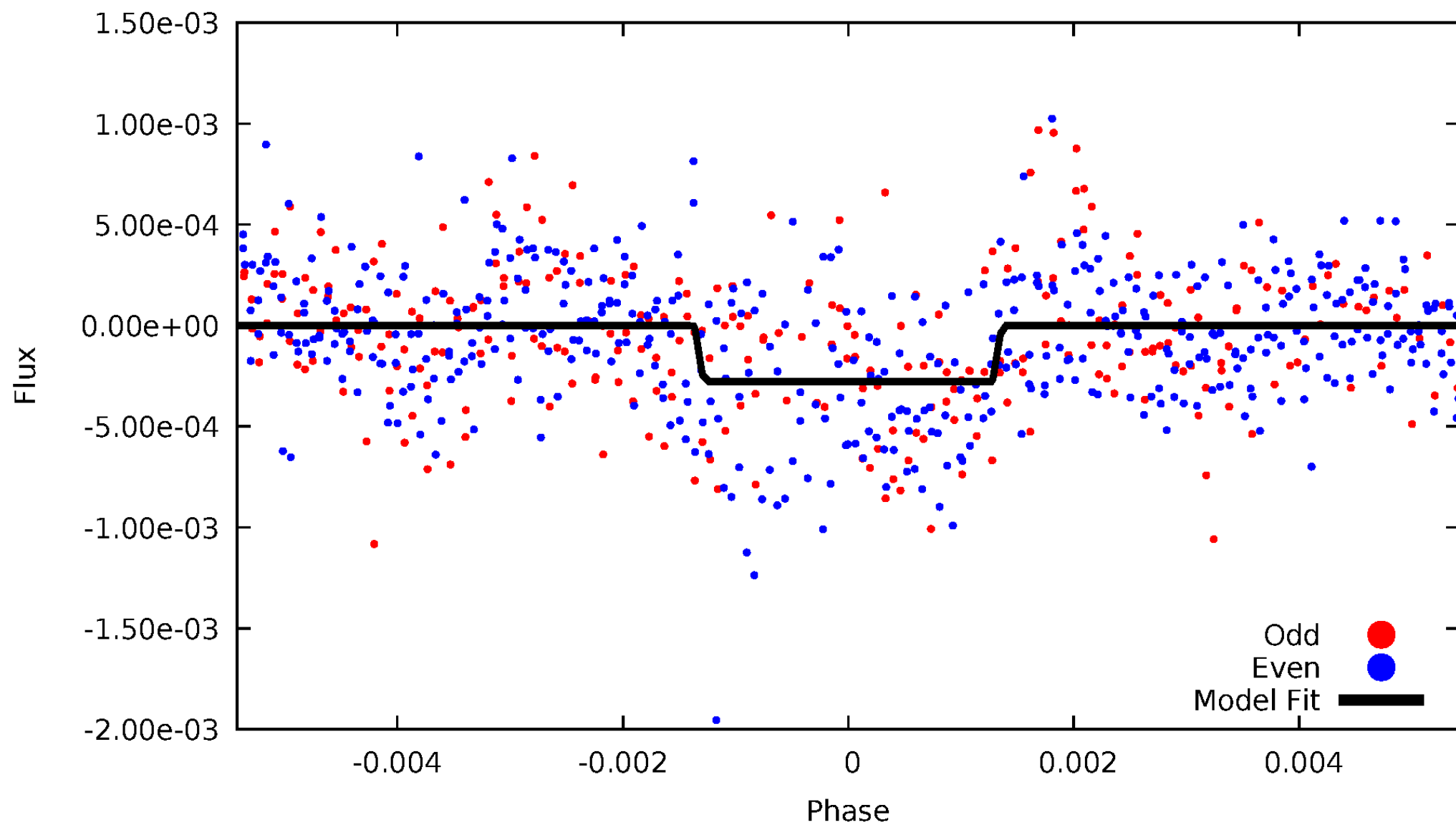
DV Odd/Even

TCE 002450716-01

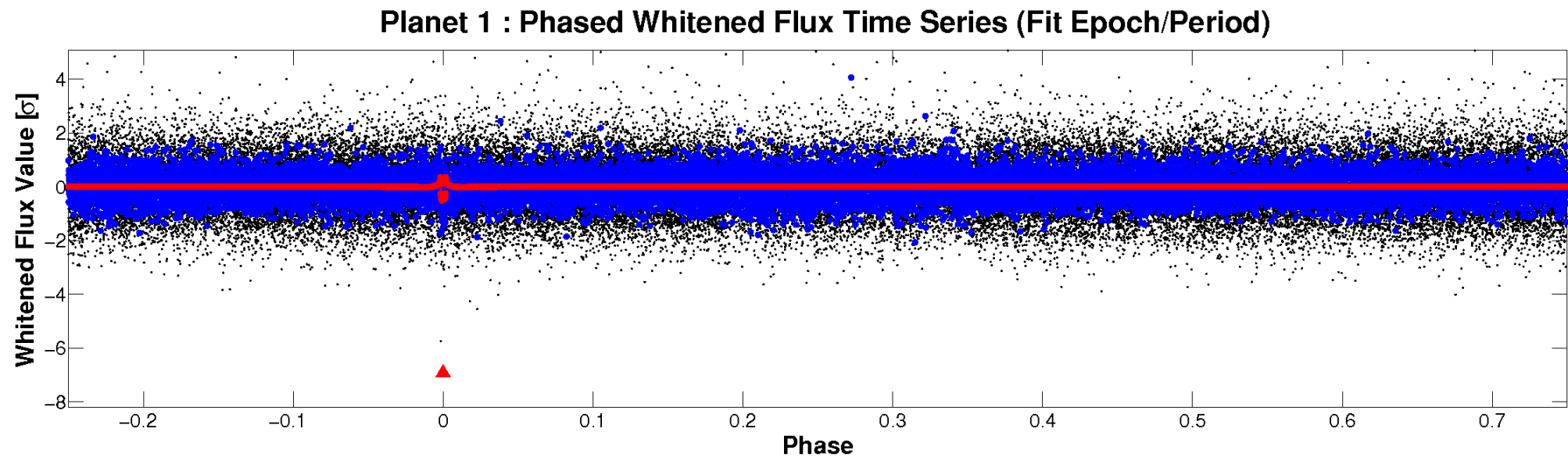
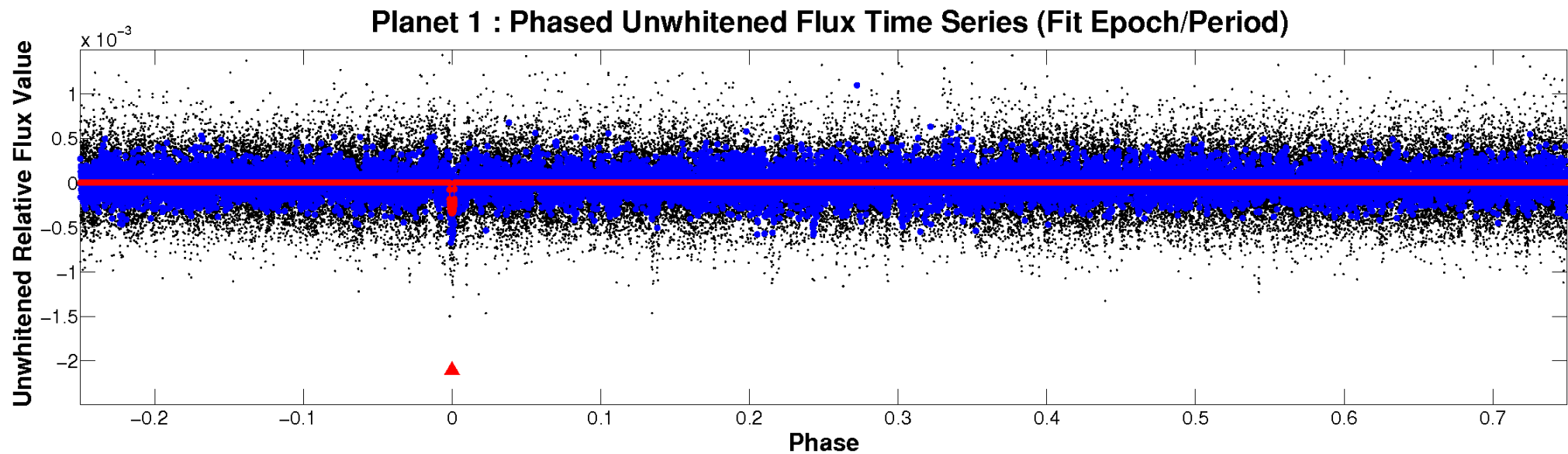


ALT Odd/Even

TCE 002450716-01

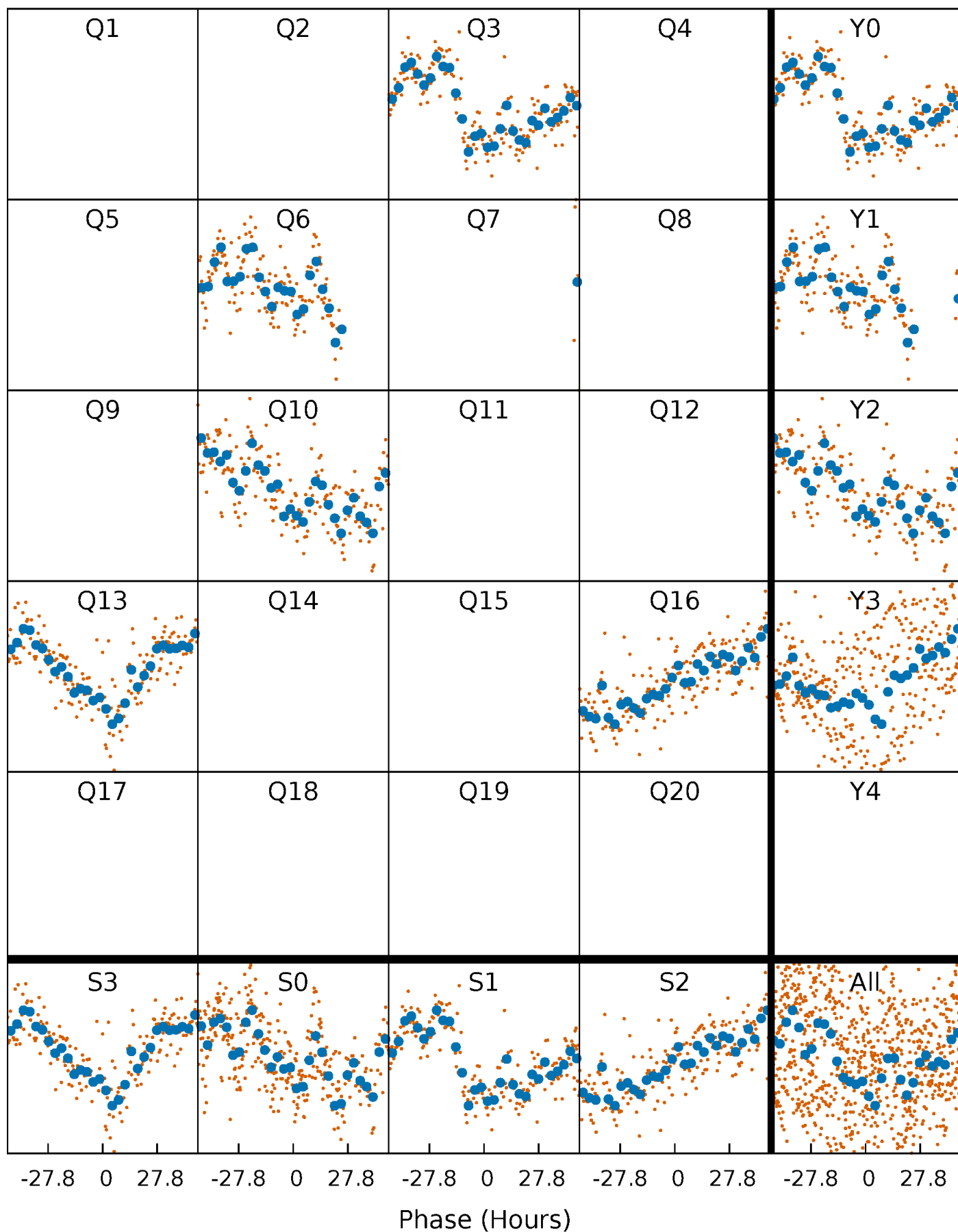


Non-Whitened Vs. Whitened Light Curve



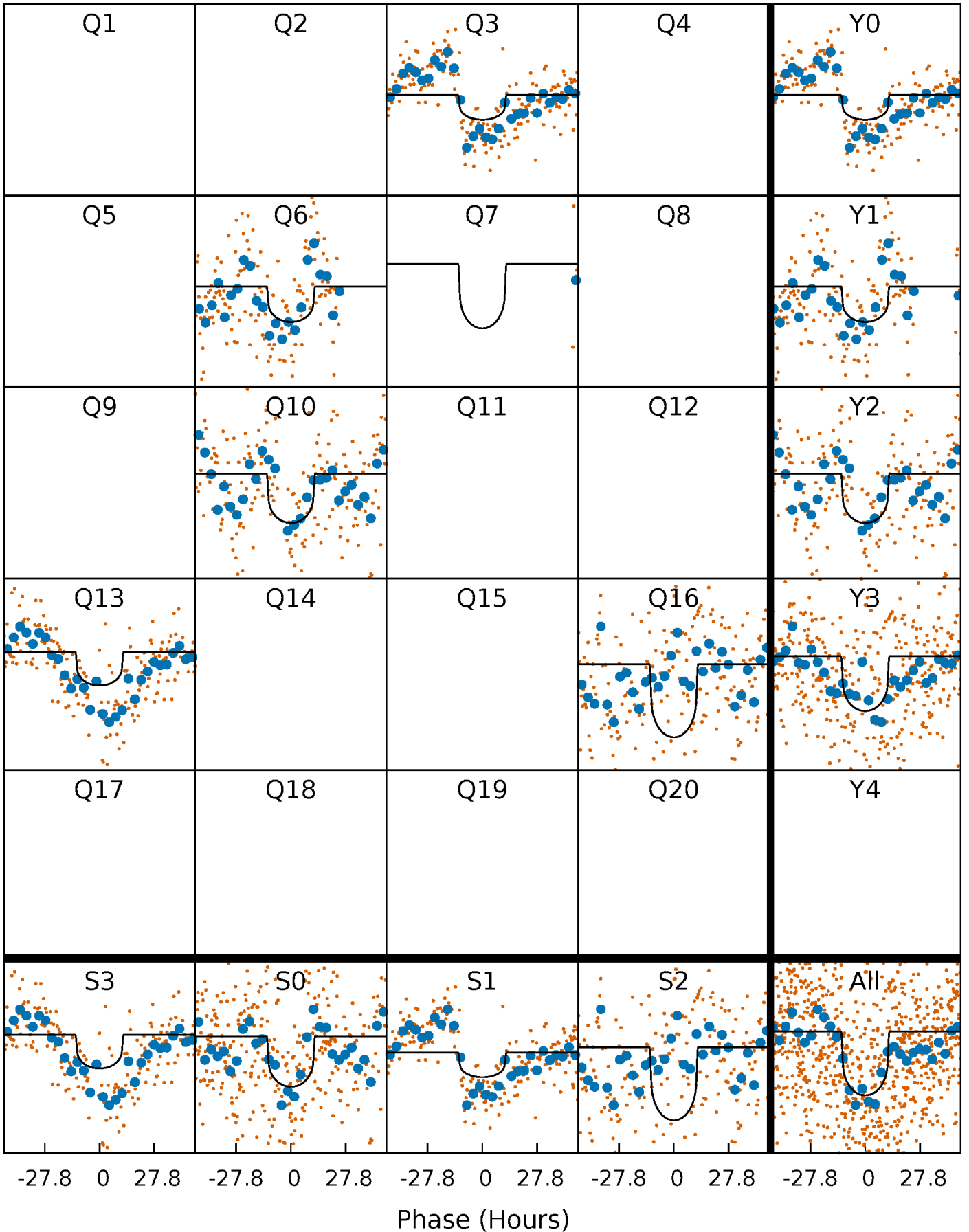
PDC Quarter-Phased Transit Curves

TCE 002450716-01 P=301.757633 Days $T_0=326.525130$ (BKJD)



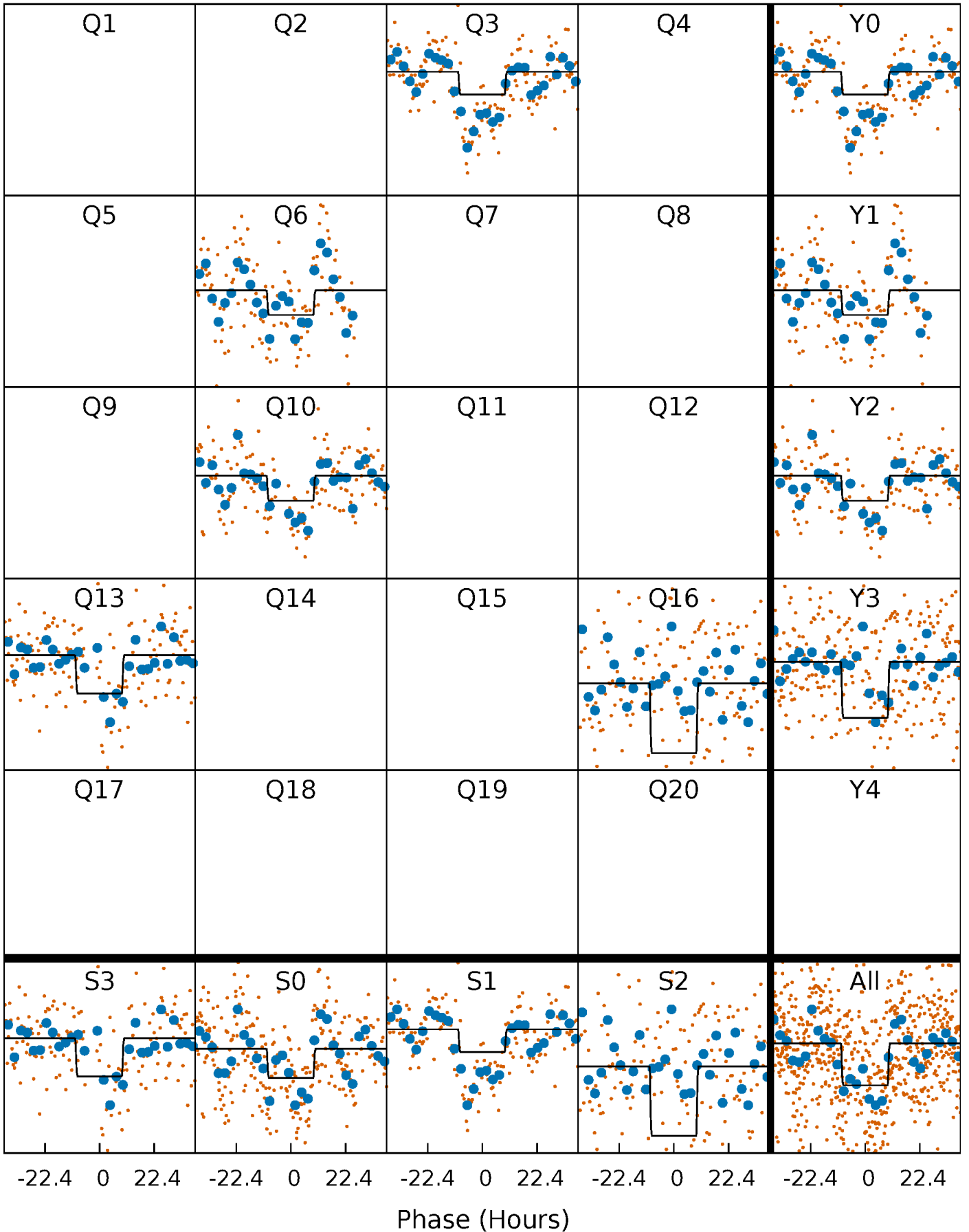
DV Quarter-Phased Transit Curves

TCE 002450716-01 P=301.757633 Days $T_0=326.525130$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

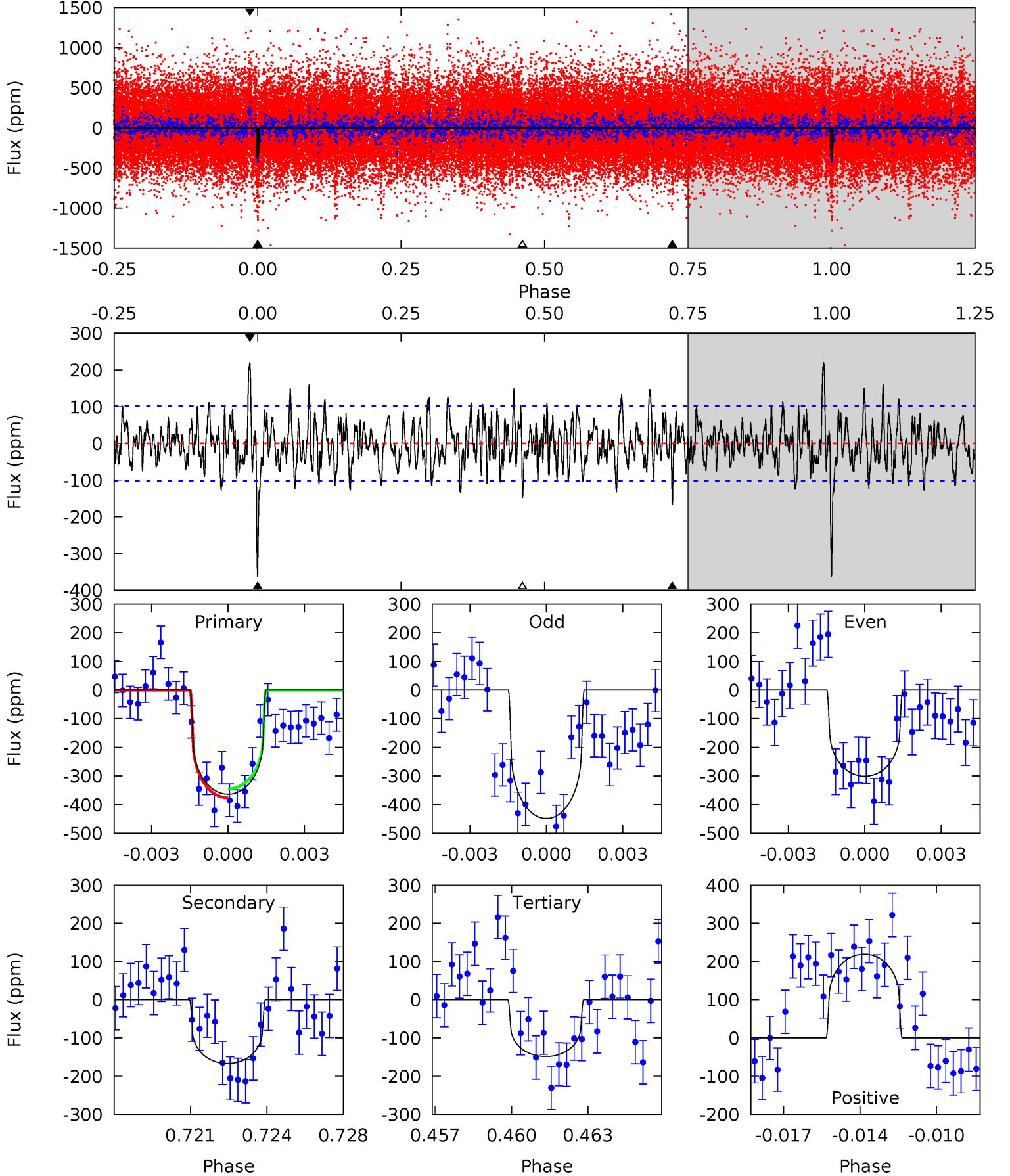
TCE 002450716-01 P=301.803681 Days $T_0=326.412576$ (BKJD)



DV Model-Shift Uniqueness Test

002450716-01, P = 301.757633 Days, E = 24.767497 Days

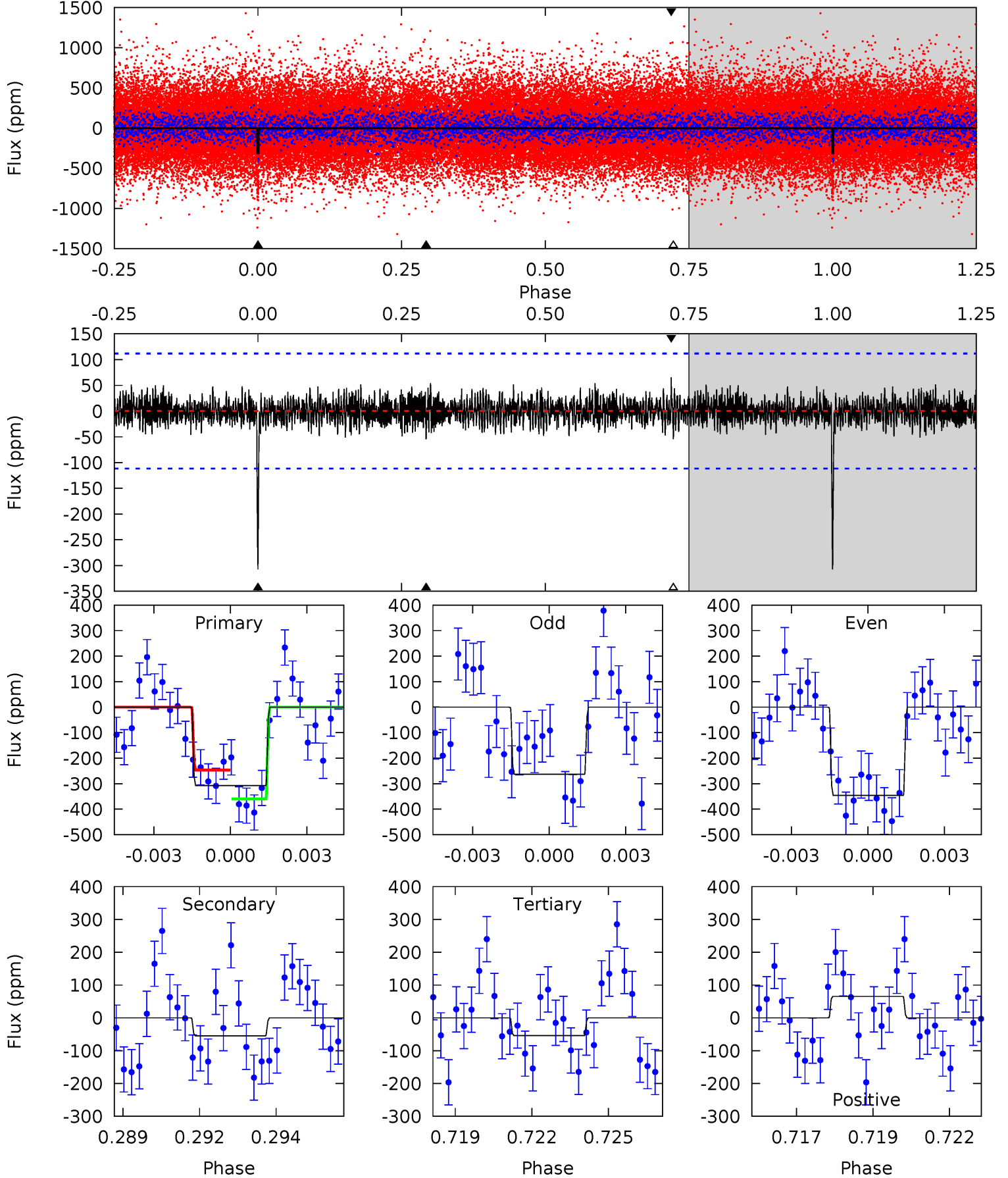
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	8.52	7.58	11.2	5.23	2.93	2.67	11.0	7.36	0.94	-2.67	3.68	1.23	0.38	0.80



Alt Model-Shift Uniqueness Test

002450716-01, P = 301.803681 Days, E = 24.608895 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	2.58	2.57	3.08	5.27	3.00	0.81	11.9	11.4	0.01	-0.50	1.90	1.12	0.18	2.68



Stellar Parameters For KIC 002450716

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5261^{+158}_{-142}	$4.562^{+0.052}_{-0.078}$	$-0.220^{+0.300}_{-0.300}$	$0.768^{+0.112}_{-0.066}$	$0.784^{+0.093}_{-0.070}$	$2.441^{+0.619}_{-0.634}$
	+3%/-3%	+1%/-2%	+136%/-136%	+15%/-9%	+12%/-9%	+25%/-26%
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 002450716-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-167 ± 20	$1.55^{+0.42}_{-0.37}$	317^{+13}_{-11}	4552^{+591}_{-393}	25170^{+19244}_{-9715}
Alt.	-55 ± 21	$1.40^{+0.40}_{-0.39}$	317^{+14}_{-11}	3825^{+577}_{-408}	9647^{+11982}_{-4877}

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

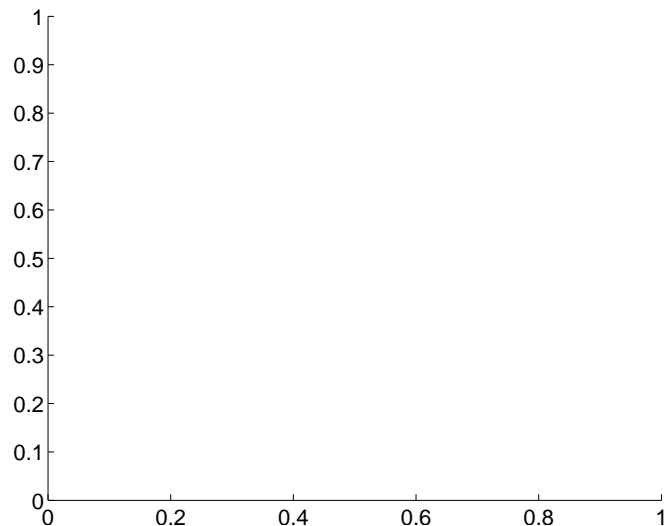
Supplemental centroid analysis for 002450716-01. Kepler magnitude: 14.13. Transit SNR 6.82

There are 0 quarters with good PRF difference image offsets

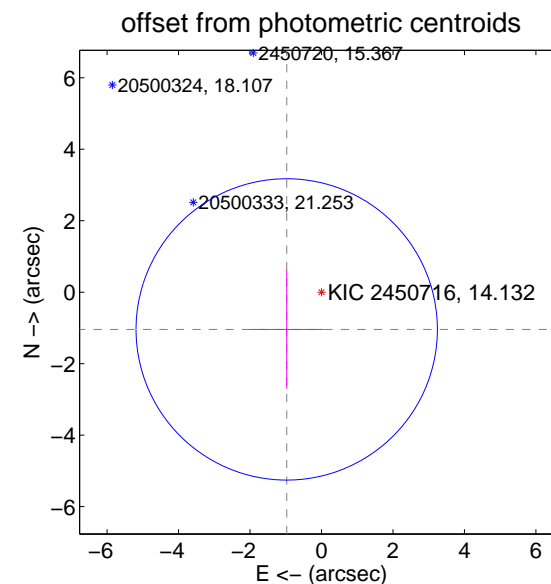
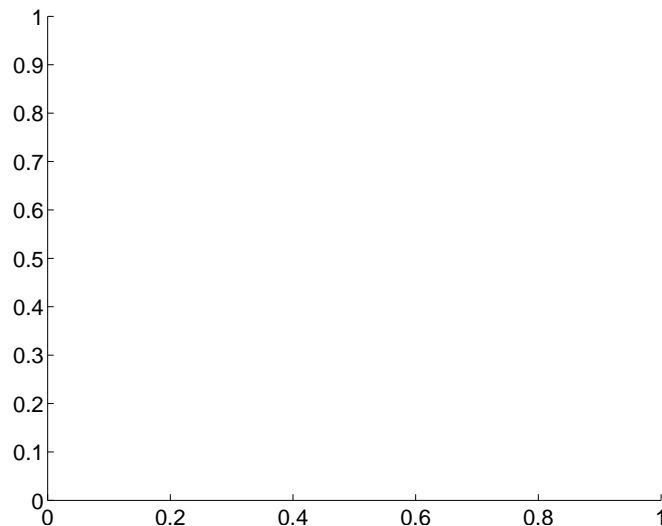
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.43 ± 1.41	1.01	0.97 ± 1.04	-1.04 ± 1.66

There is no PRF-fit offset from OOT-fit

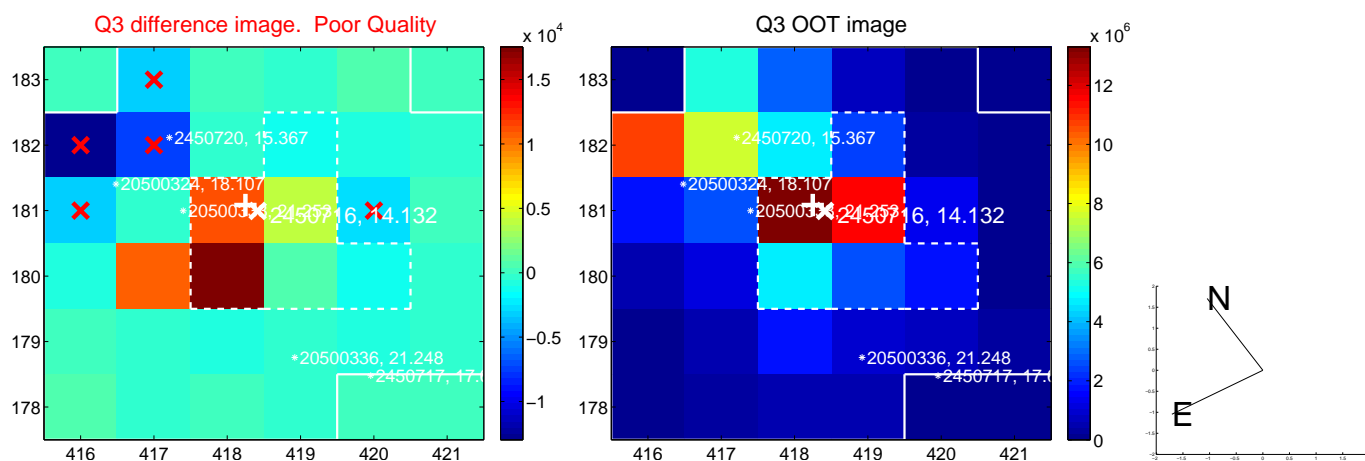


There is no PRF-fit offset from KIC



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.



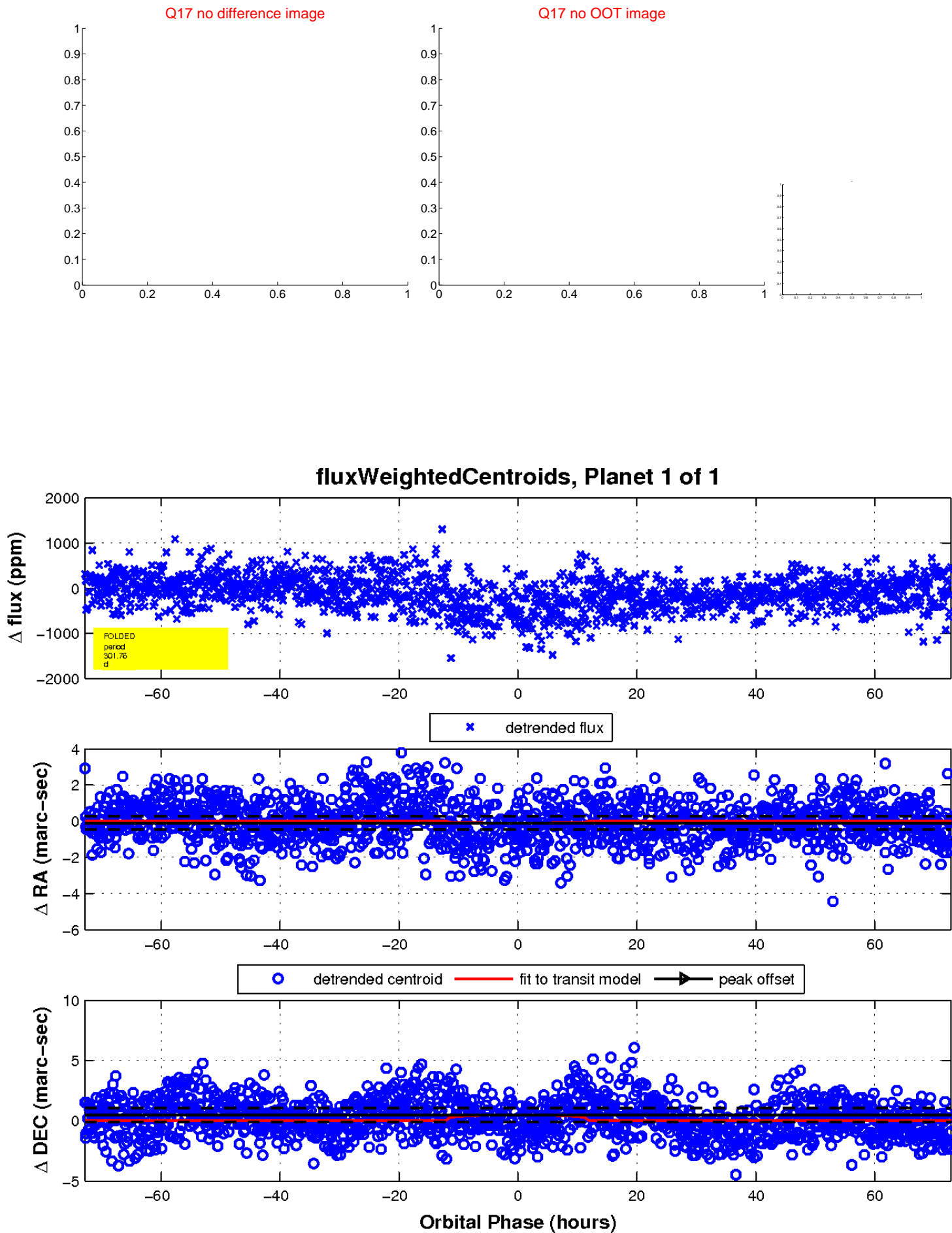
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

