

KIC 003347516

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})
003347516-01	OBS	No	421.829103	299.771076	172.4	6.312	7.4	7.2	0.90	5727	1.39	0.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003347516-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

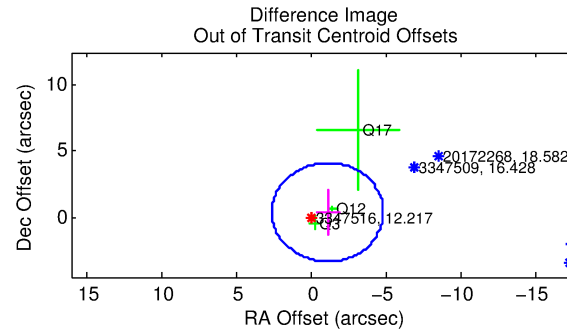
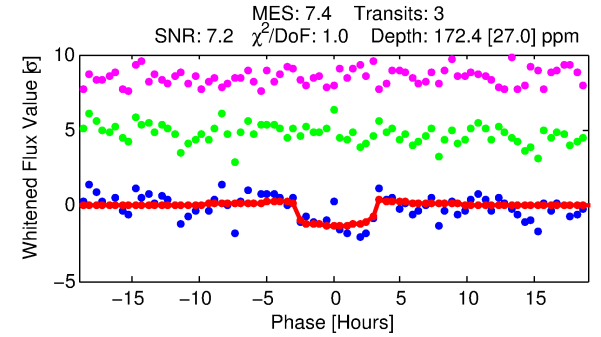
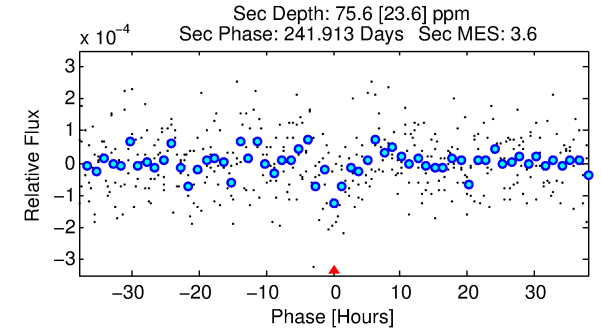
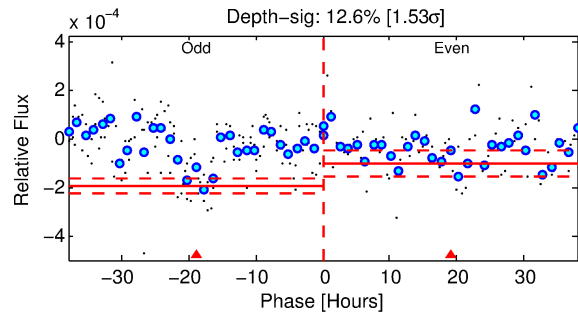
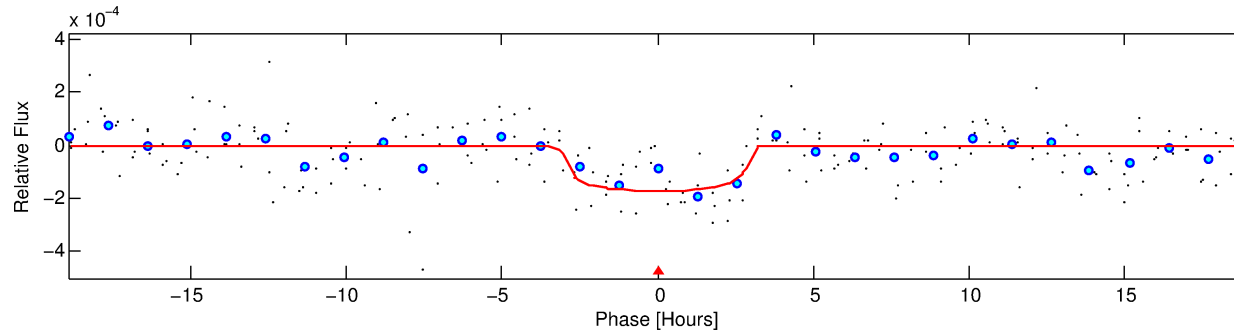
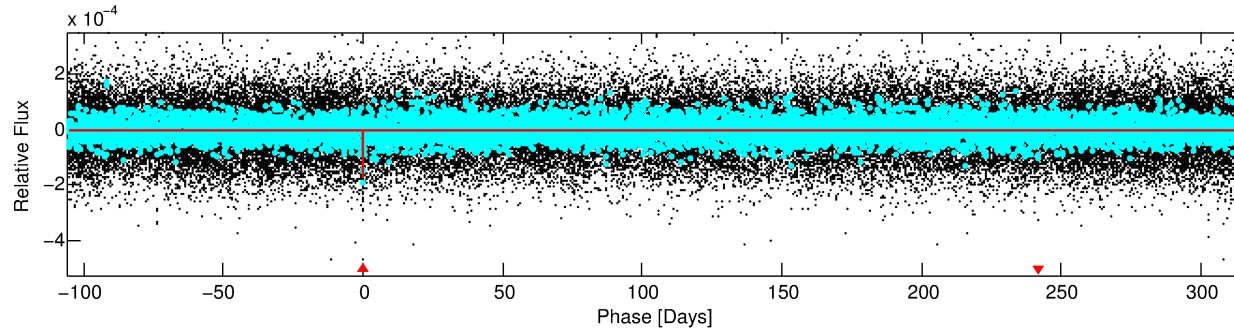
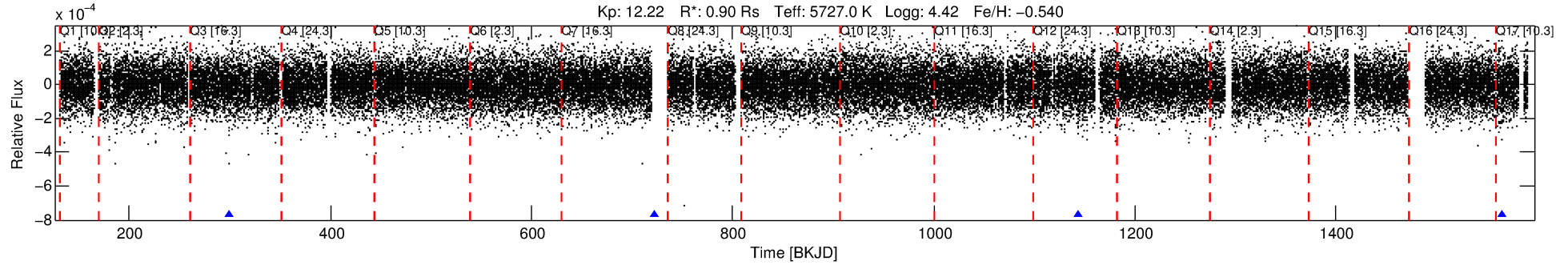
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003347516-01

No Significant Match Found

DV One-Page Summary

KIC: 3347516 Candidate: 1 of 1 Period: 421.829 d



DV Fit Results:

Period = 421.82910 [0.00655] d
Epoch = 299.7711 [0.0144] BKJD
Rp/R* = 0.0142 [0.0036]
a/R* = 238.35 [287.03]
b = 0.90 [0.26]
Seff = 0.76 [0.27]
Teq = 238 [21] K
Rp = 1.39 [0.49] Re
a/R* = 1.0084 [0.2200] AU
Ag = 21860.56 [14995.96] [1.46 σ]
Teff = 4480 [689] K [6.15 σ]

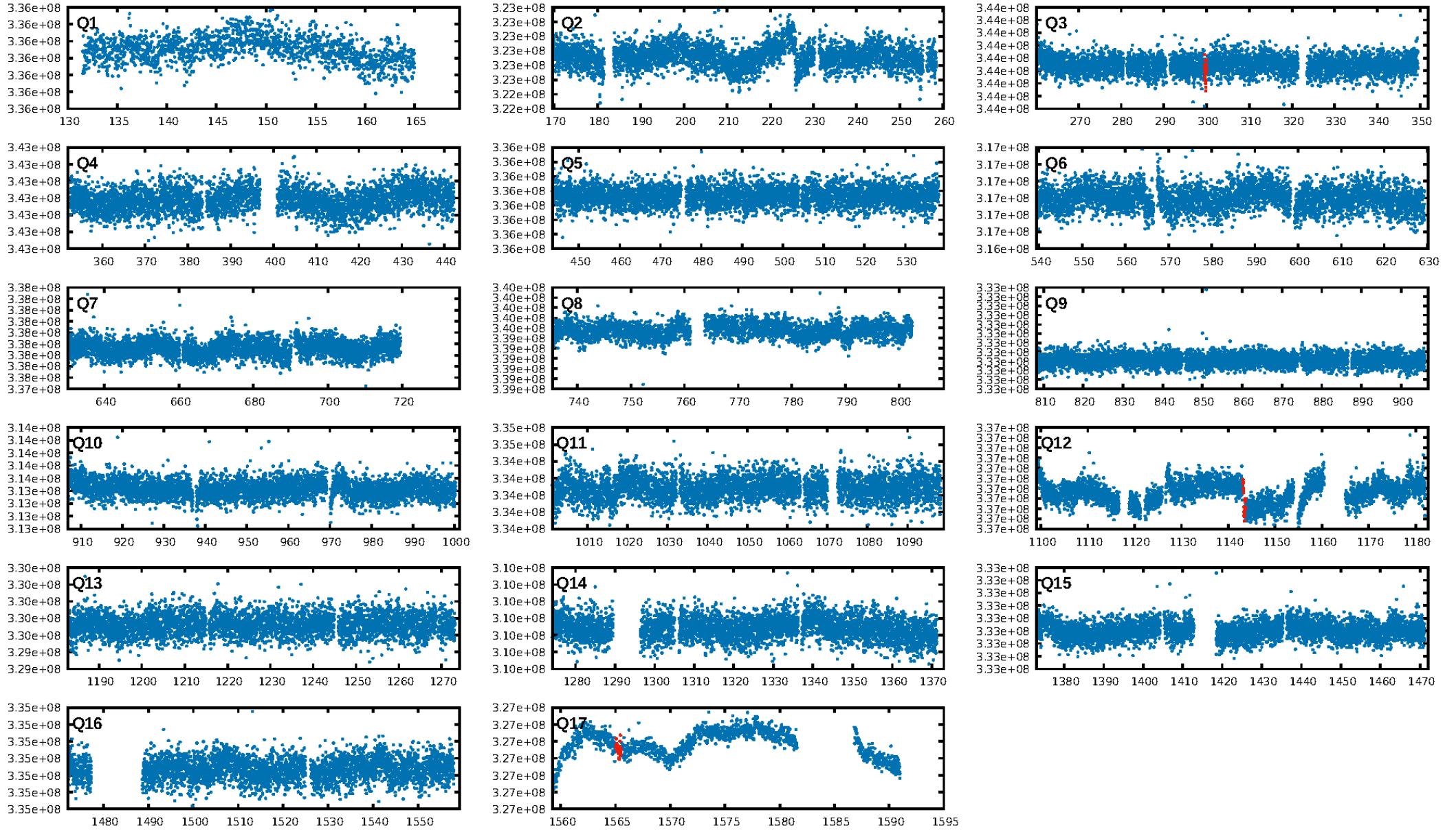
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.0%
ModelChiSquareGof-sig: 90.4%
Bootstrap-pfa: 2.38e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -4.583
Centroid-sig: 85.2%
Centroid-so: 0.503 arcsec [0.35 σ]
OotOffset-rm: 1.203 arcsec [0.97 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 1.138 arcsec [0.95 σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

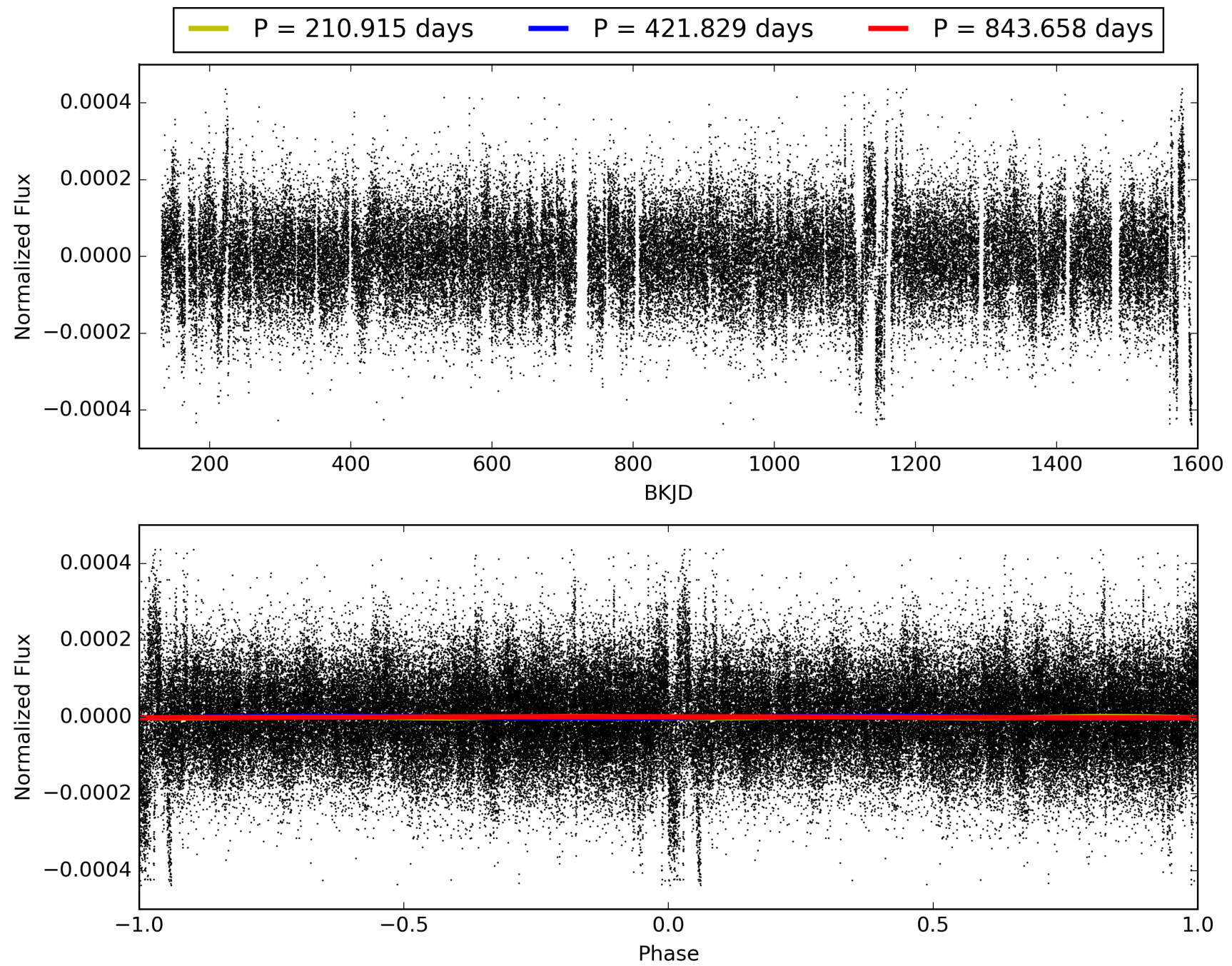
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:45:10 Z

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

TCE 003347516-01, PDC Light Curves

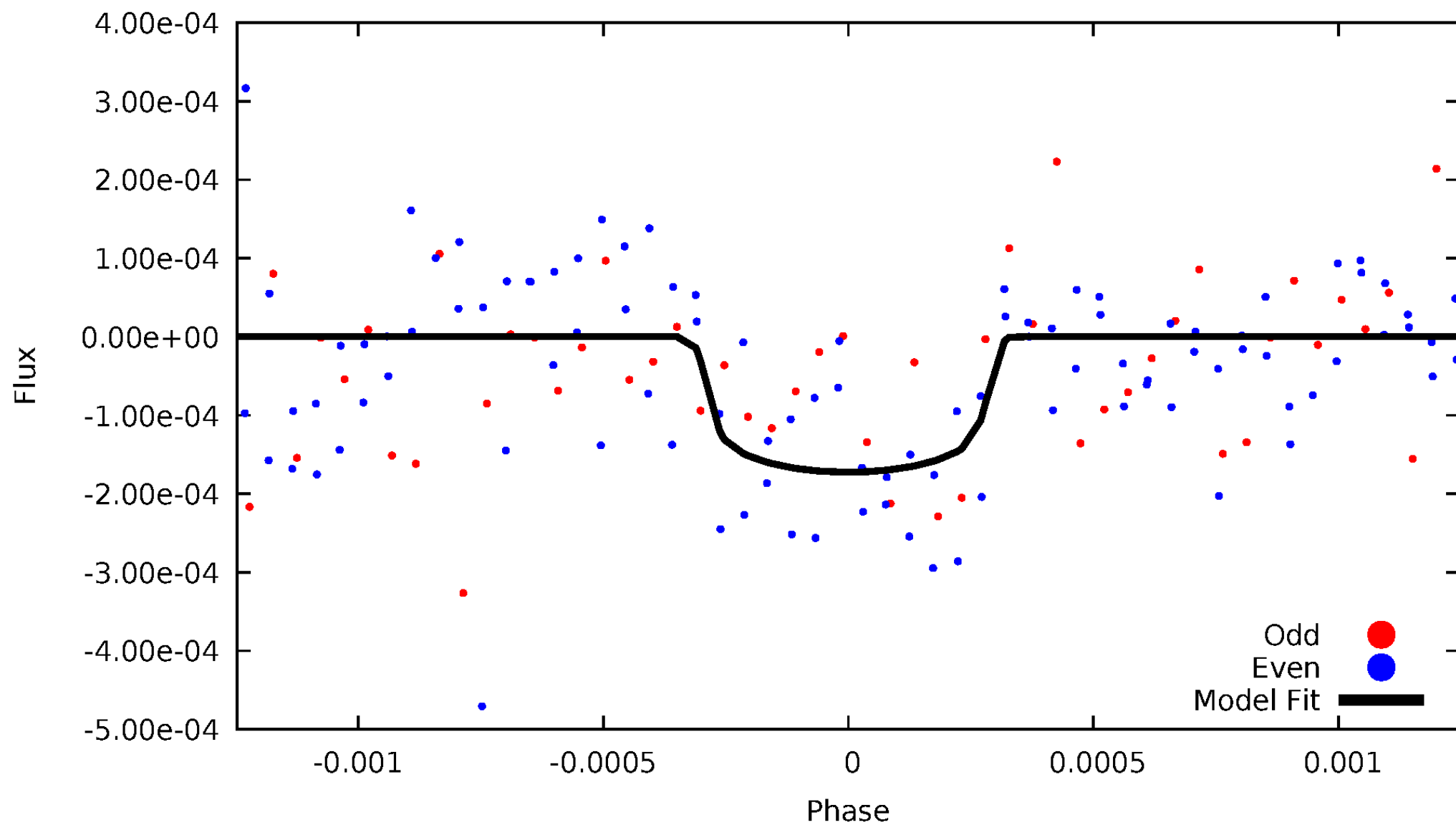


TCE 003347516-01



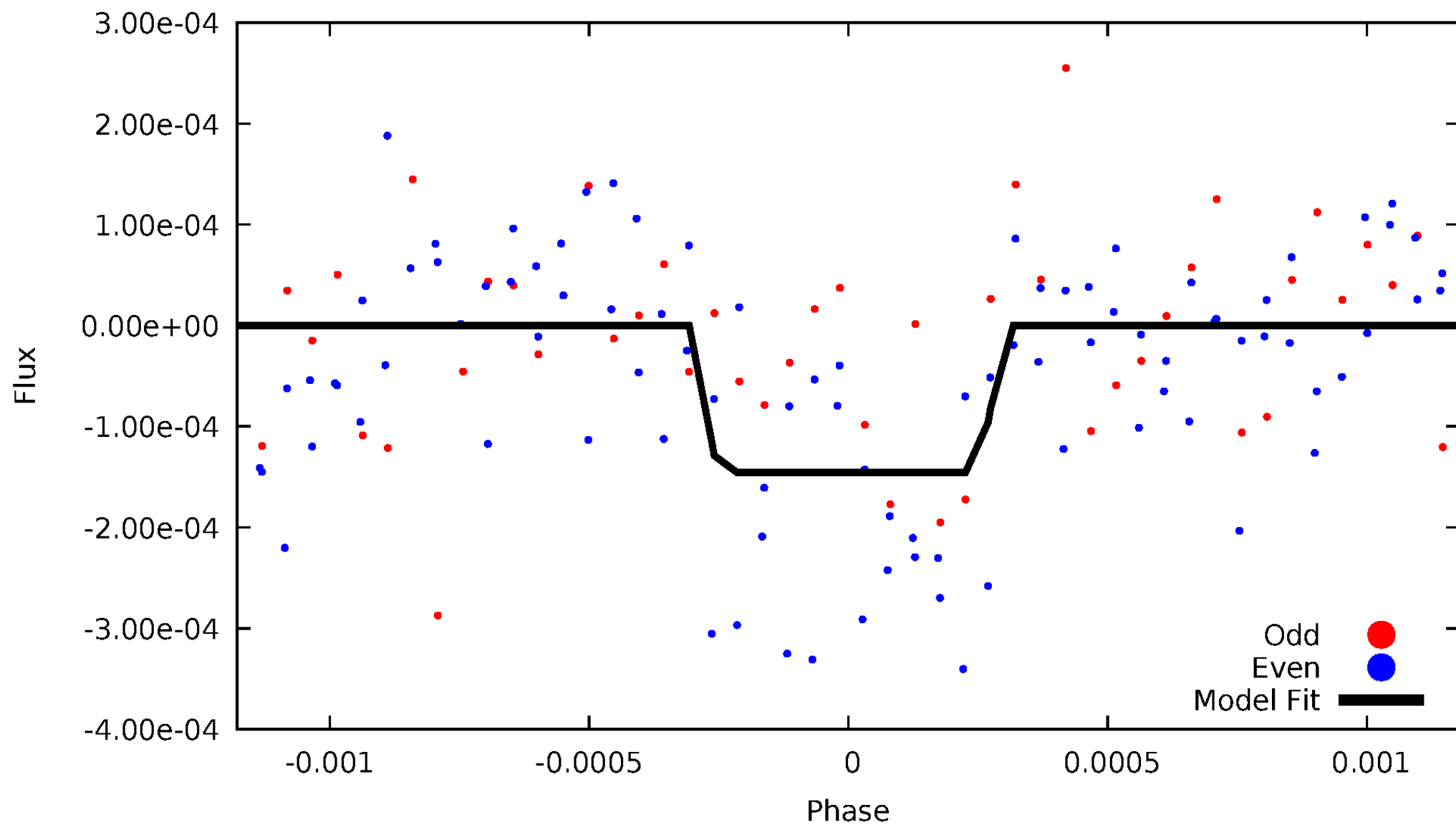
DV Odd/Even

TCE 003347516-01



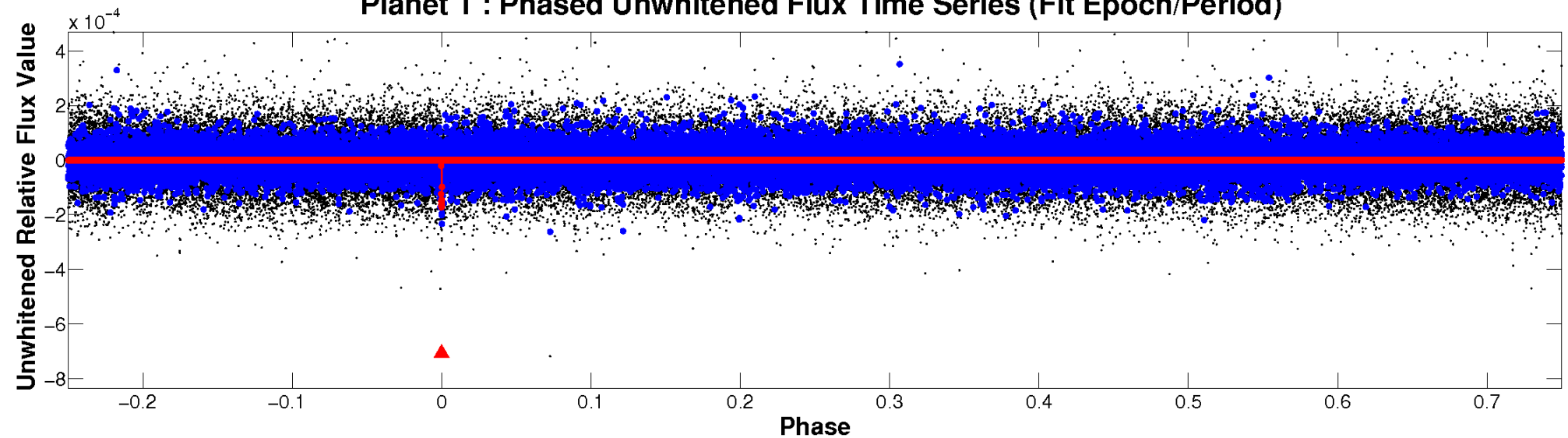
ALT Odd/Even

TCE 003347516-01

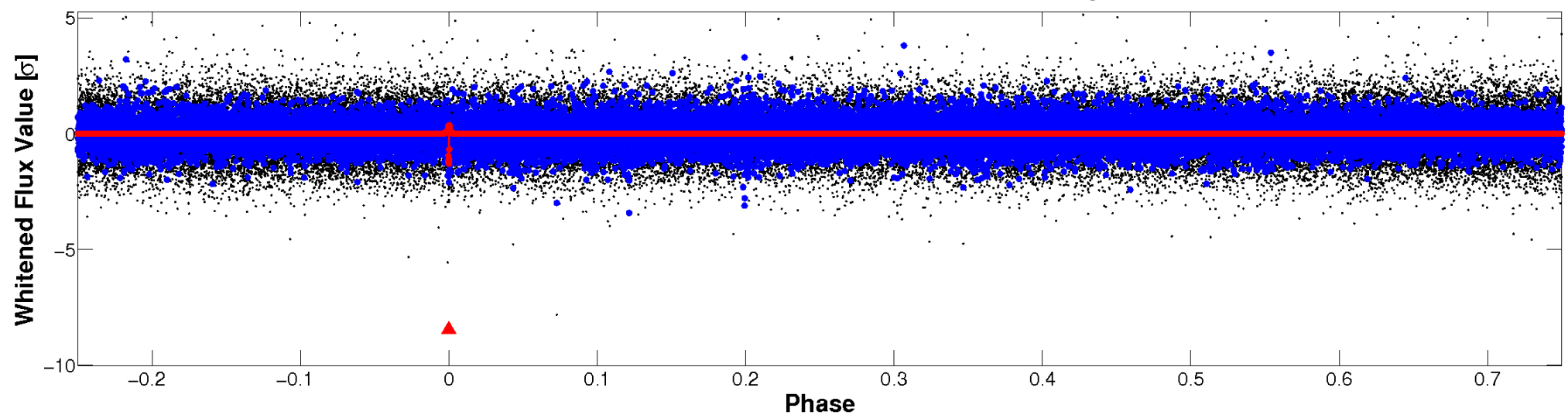


Non-Whitened Vs. Whitened Light Curve

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

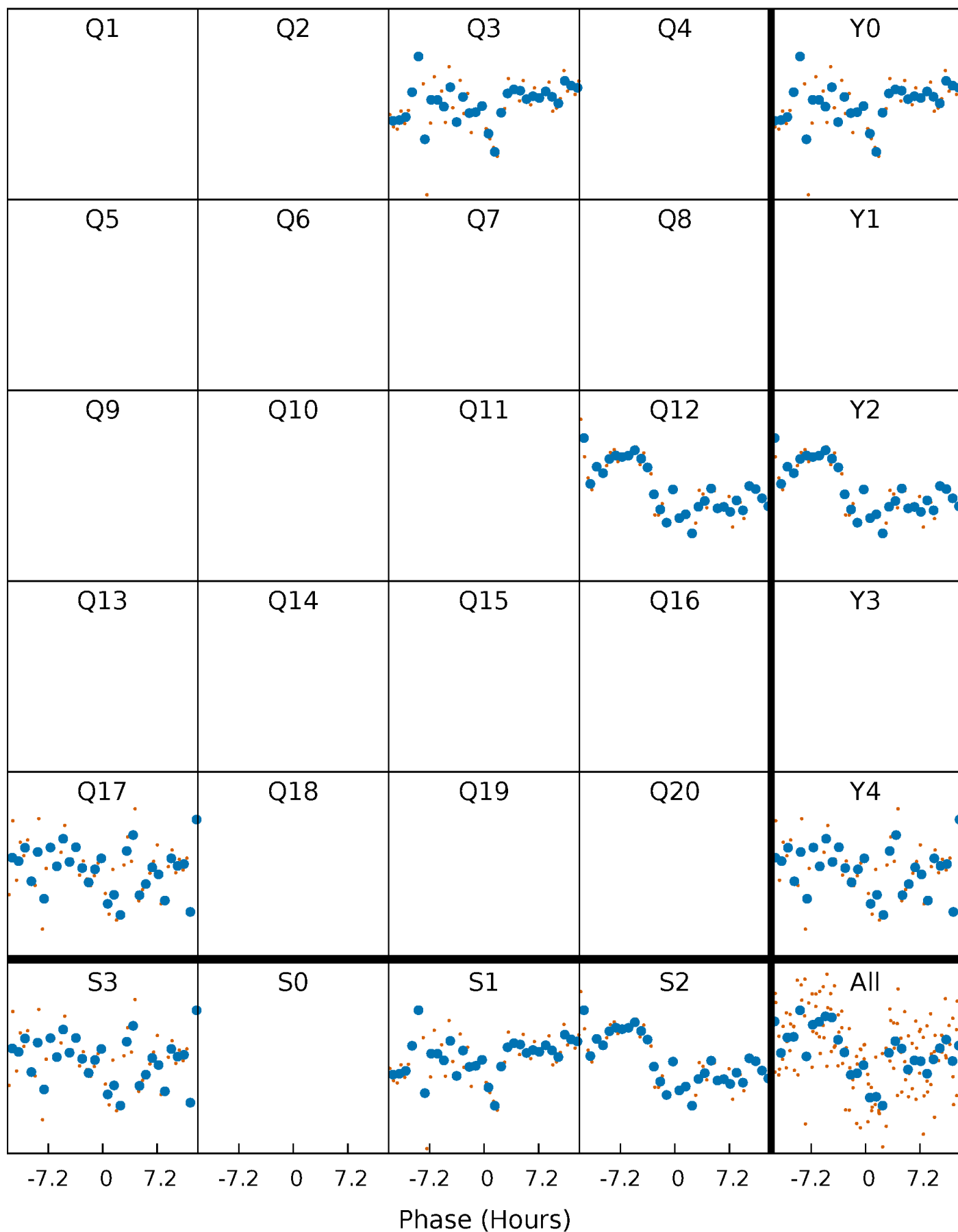


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



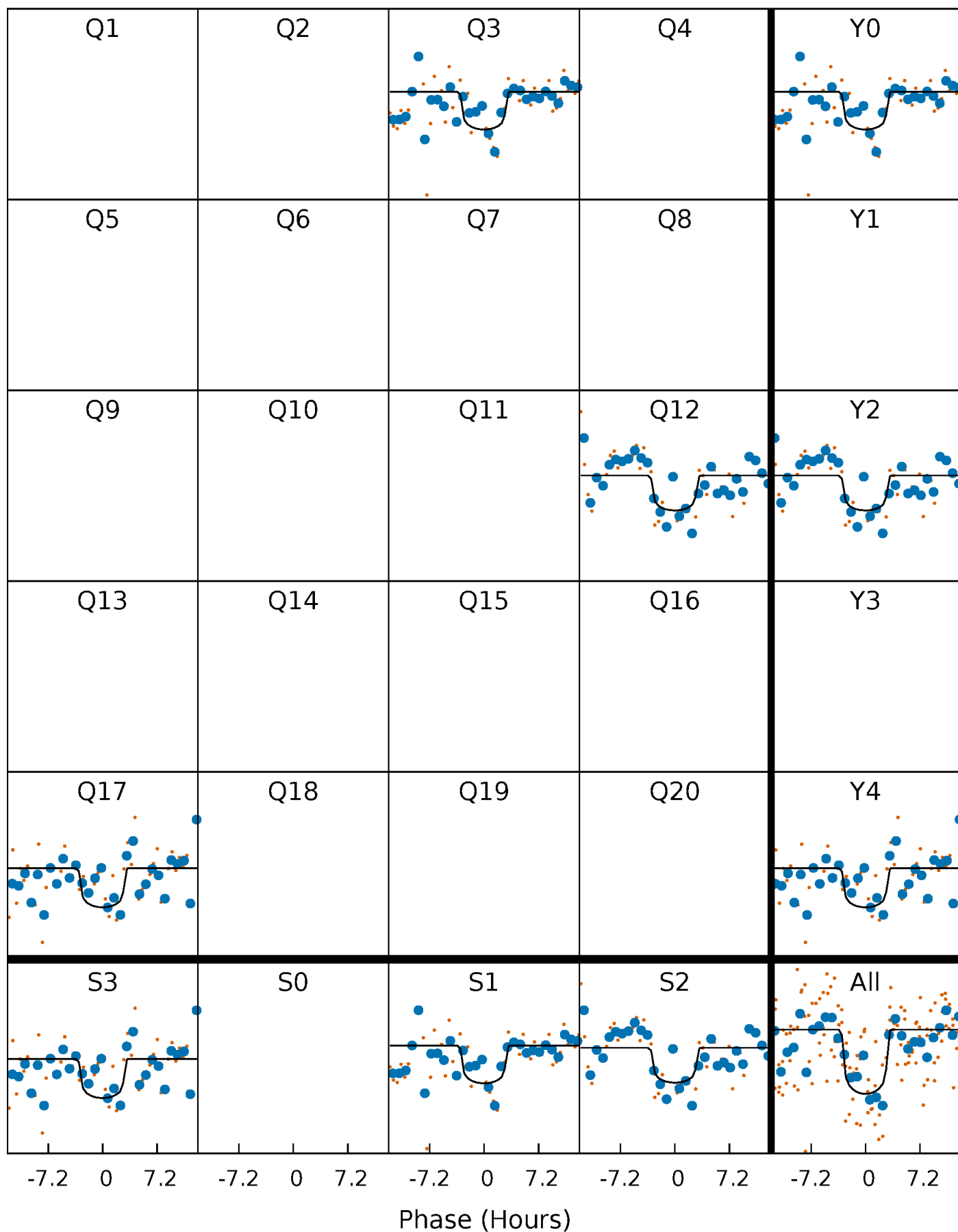
PDC Quarter-Phased Transit Curves

TCE 003347516-01 P=421.829103 Days $T_0=299.771075$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003347516-01 P=421.829103 Days $T_0=299.771075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

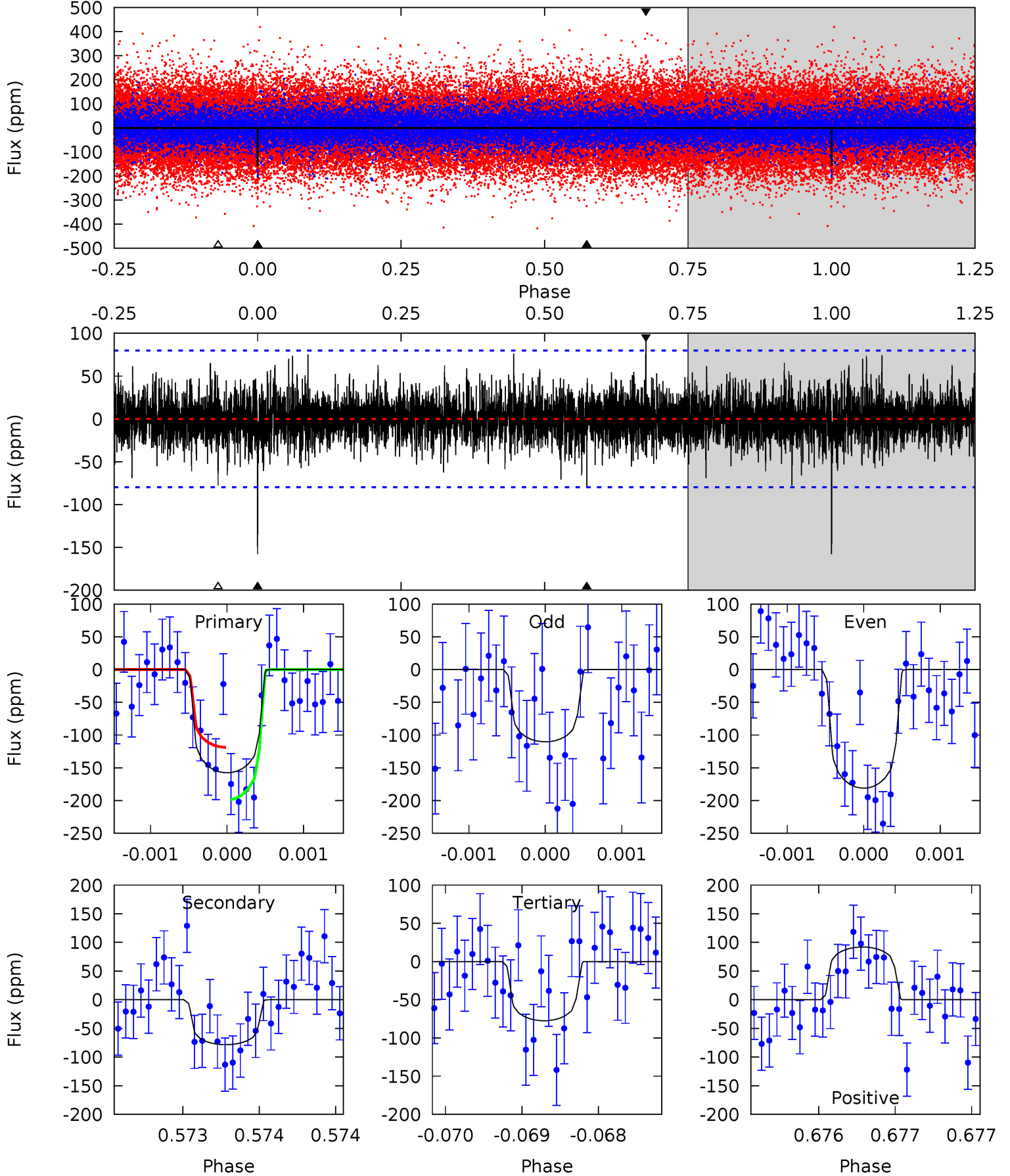
TCE 003347516-01 P=421.830413 Days $T_0=299.769465$ (BKJD)



DV Model-Shift Uniqueness Test

003347516-01, P = 421.829103 Days, E = 299.771075 Days

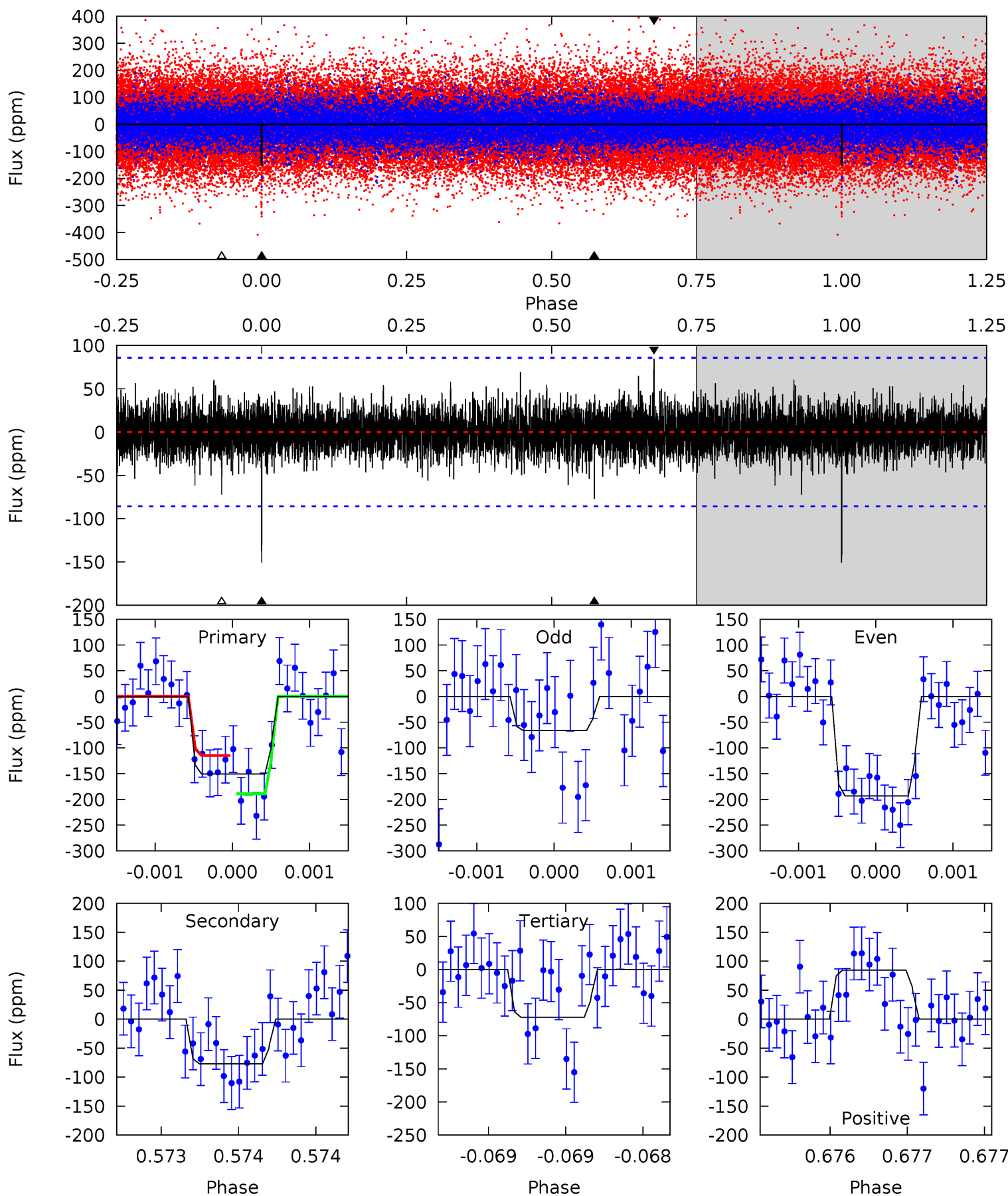
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	5.43	5.37	6.38	5.53	3.41	1.30	5.56	4.54	0.06	-0.95	2.32	1.03	0.37	2.77



Alt Model-Shift Uniqueness Test

003347516-01, P = 421.830413 Days, E = 299.769465 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	4.99	4.68	5.50	5.56	3.46	1.07	5.09	4.27	0.31	-0.51	3.87	1.28	0.36	2.42



Stellar Parameters For KIC 003347516

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5727^{+190}_{-190}	$4.418^{+0.153}_{-0.187}$	$-0.540^{+0.300}_{-0.300}$	$0.897^{+0.221}_{-0.148}$	$0.768^{+0.118}_{-0.047}$	$1.497^{+1.163}_{-0.693}$
	+3%/-3%	+3%/-4%	+56%/-56%	+25%/-16%	+15%/-6%	+78%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003347516-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-78 ± 14	$1.42^{+0.41}_{-0.40}$	334^{+25}_{-20}	4671^{+696}_{-446}	22798^{+20883}_{-10408}
Alt.	-77 ± 15	$1.22^{+0.41}_{-0.38}$	334^{+24}_{-20}	4945^{+837}_{-557}	29389^{+32502}_{-13329}

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 $A_{obs} \gg 1.0$

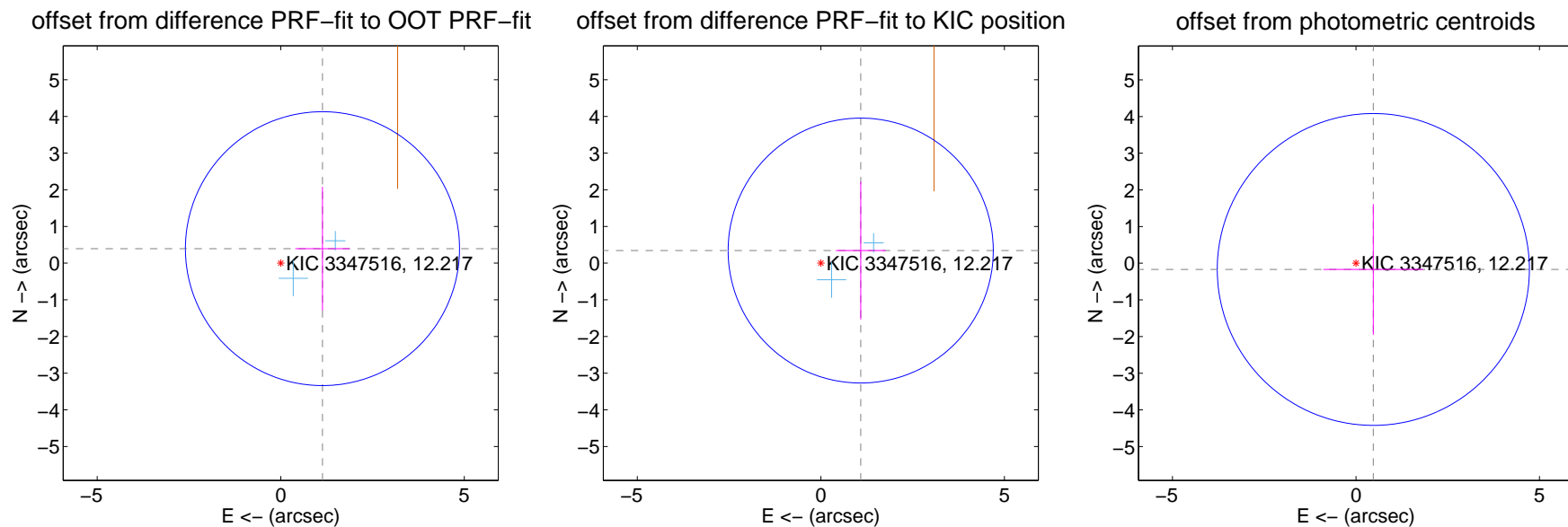
DV Centroid Data

Supplemental centroid analysis for 003347516-01. Kepler magnitude: 12.22. Transit SNR 7.17

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.203 ± 1.244	0.97	-1.136 ± 0.740	0.395 ± 1.686
PRF-fit source offset from KIC position	1.138 ± 1.204	0.95	-1.085 ± 0.678	0.343 ± 1.878
photometric centroid source offset	0.50 ± 1.42	0.35	-0.47 ± 1.36	-0.17 ± 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



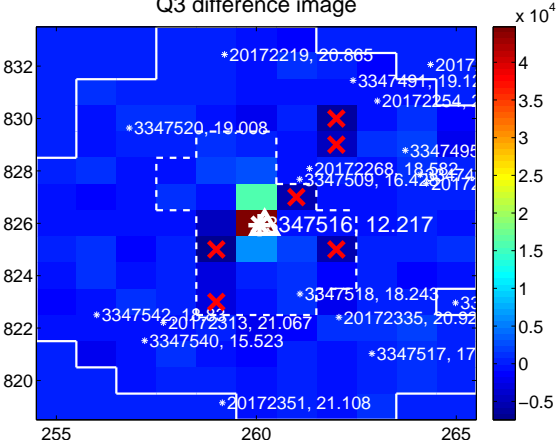
Q2 no difference image



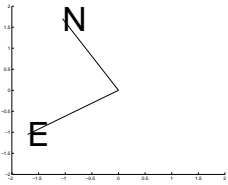
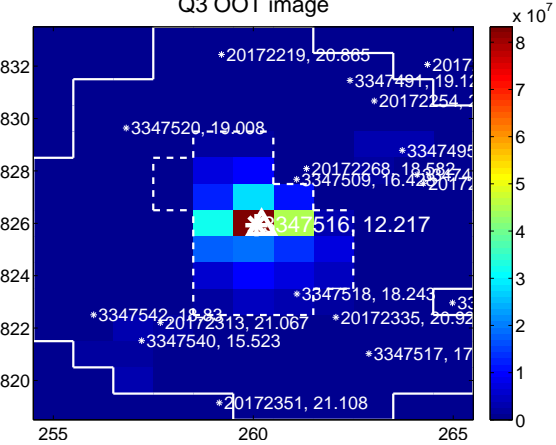
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



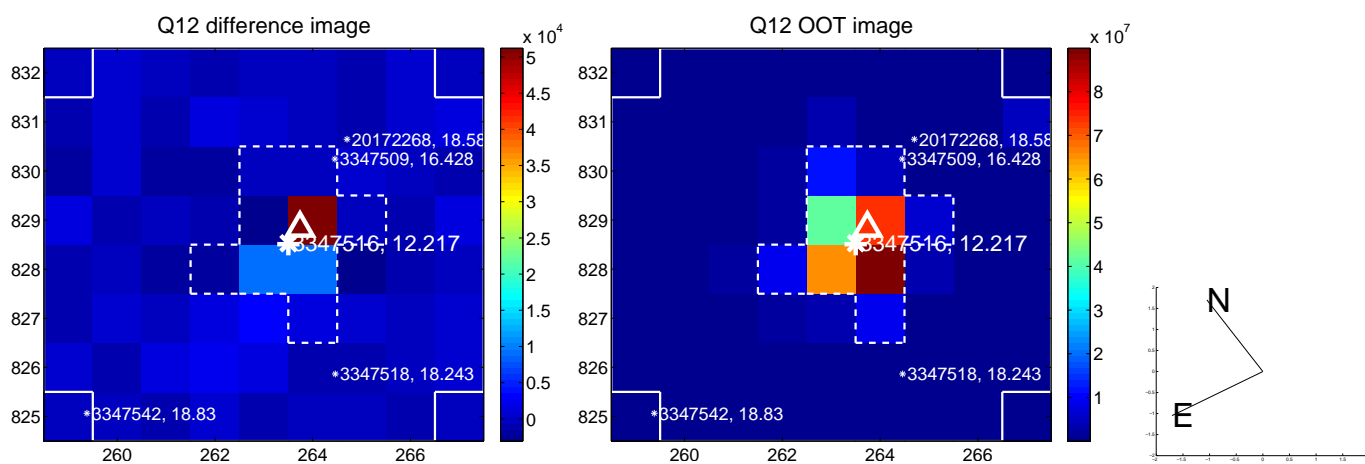
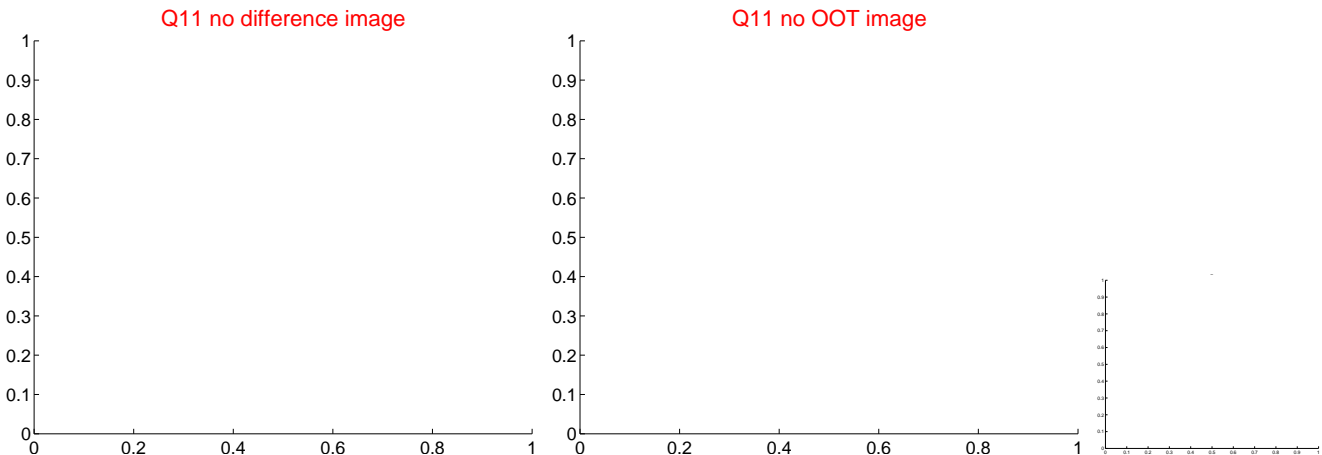
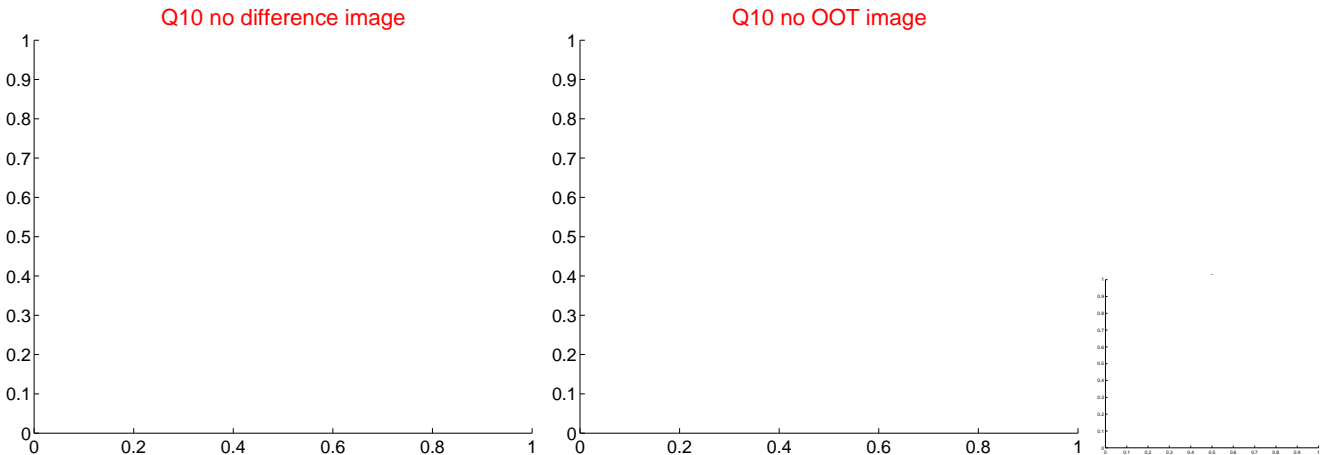
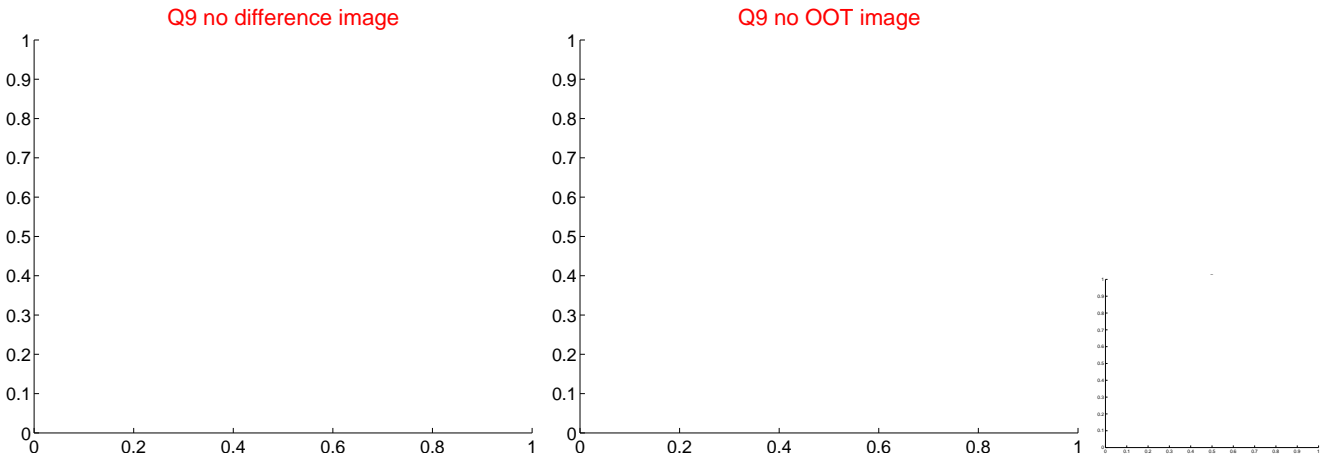
Q4 no OOT image



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



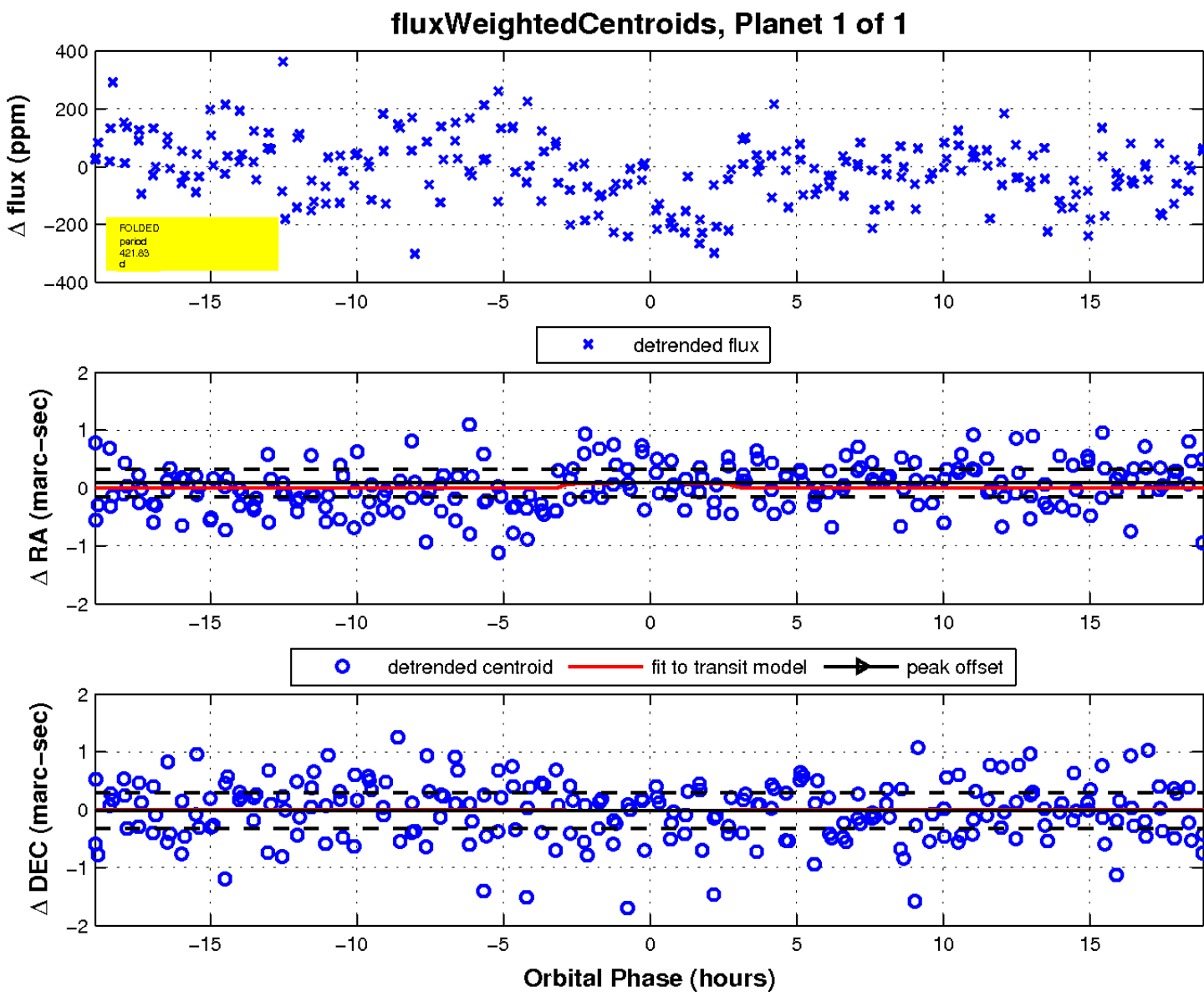
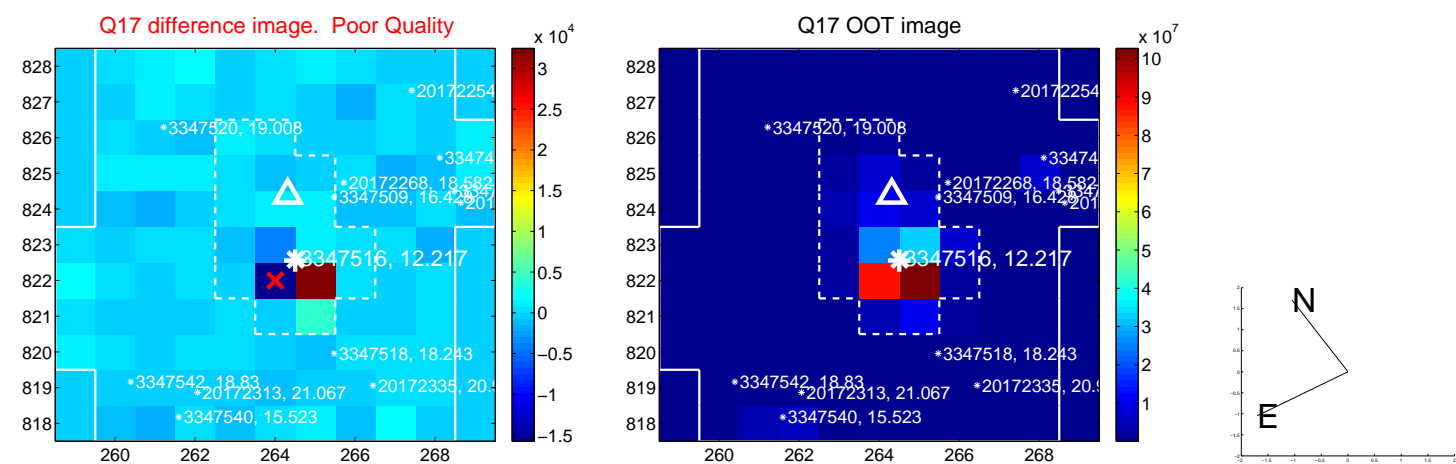
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

