

KIC 011616901

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})
011616901-01	OBS	No	464.356203	302.146396	822.9	7.040	7.3	7.3	0.67	5232	3.60	0.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011616901-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

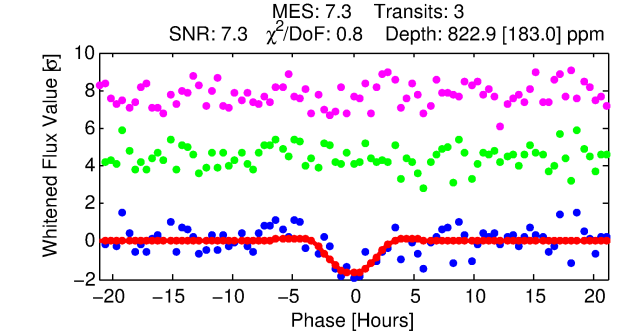
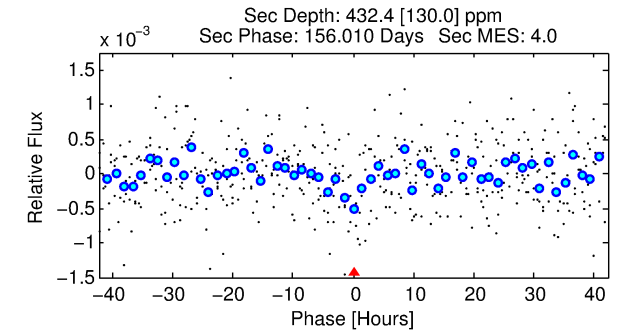
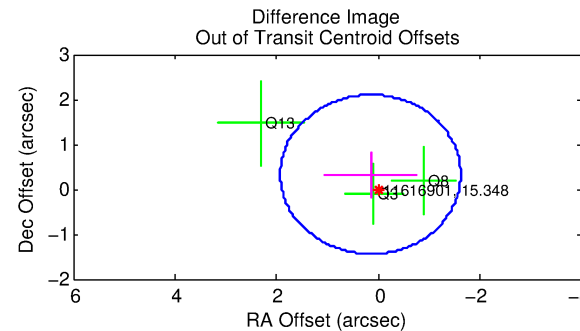
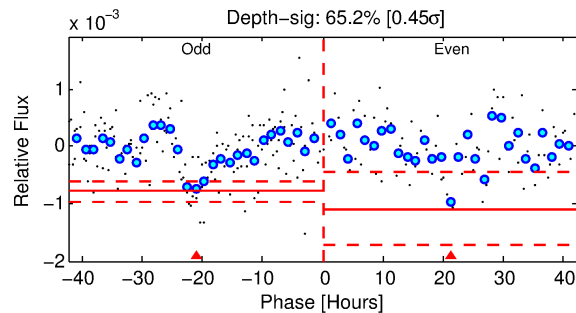
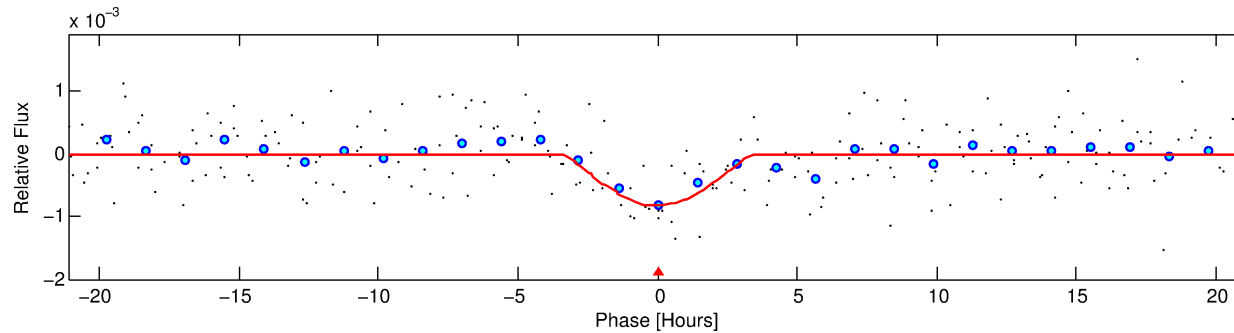
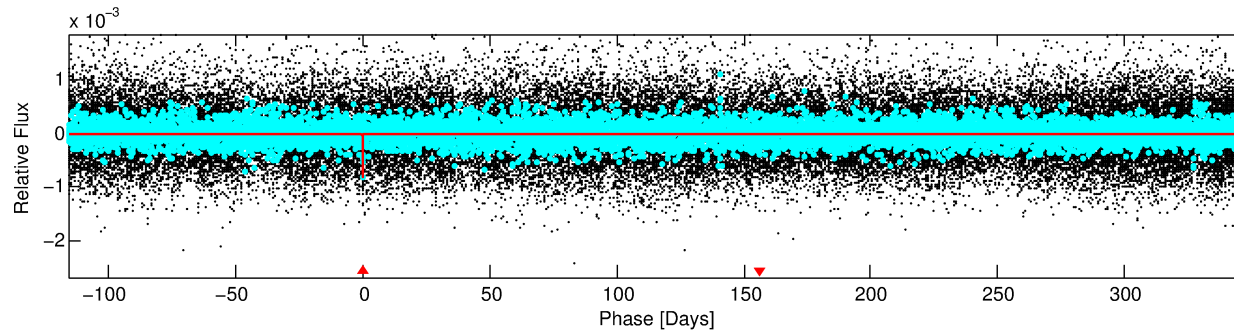
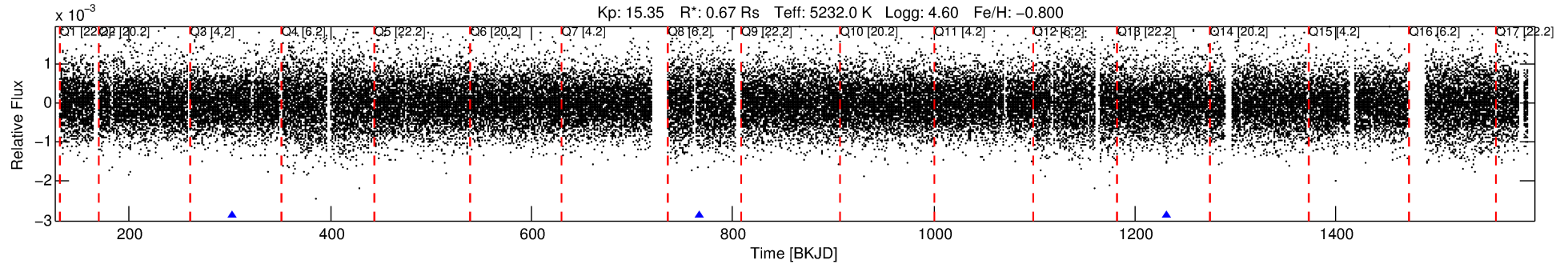
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011616901-01

No Significant Match Found

DV One-Page Summary

KIC: 11616901 Candidate: 1 of 1 Period: 464.356 d



DV Fit Results:

Period = 464.35620 [0.01289] d
Epoch = 302.1464 [0.0160] BKJD
Rp/R* = 0.0496 [0.2491]
a/R* = 166.72 [214.46]
b = 1.00 [0.38]
Seff = 0.29 [0.05]
Teq = 187 [8] K
Rp = 3.60 [18.08] Re
a = 1.0143 [0.0859] AU
Ag = 18905.66 [190053.57] [0.10 σ]
Teff = 3388 [8516] K [0.38 σ]

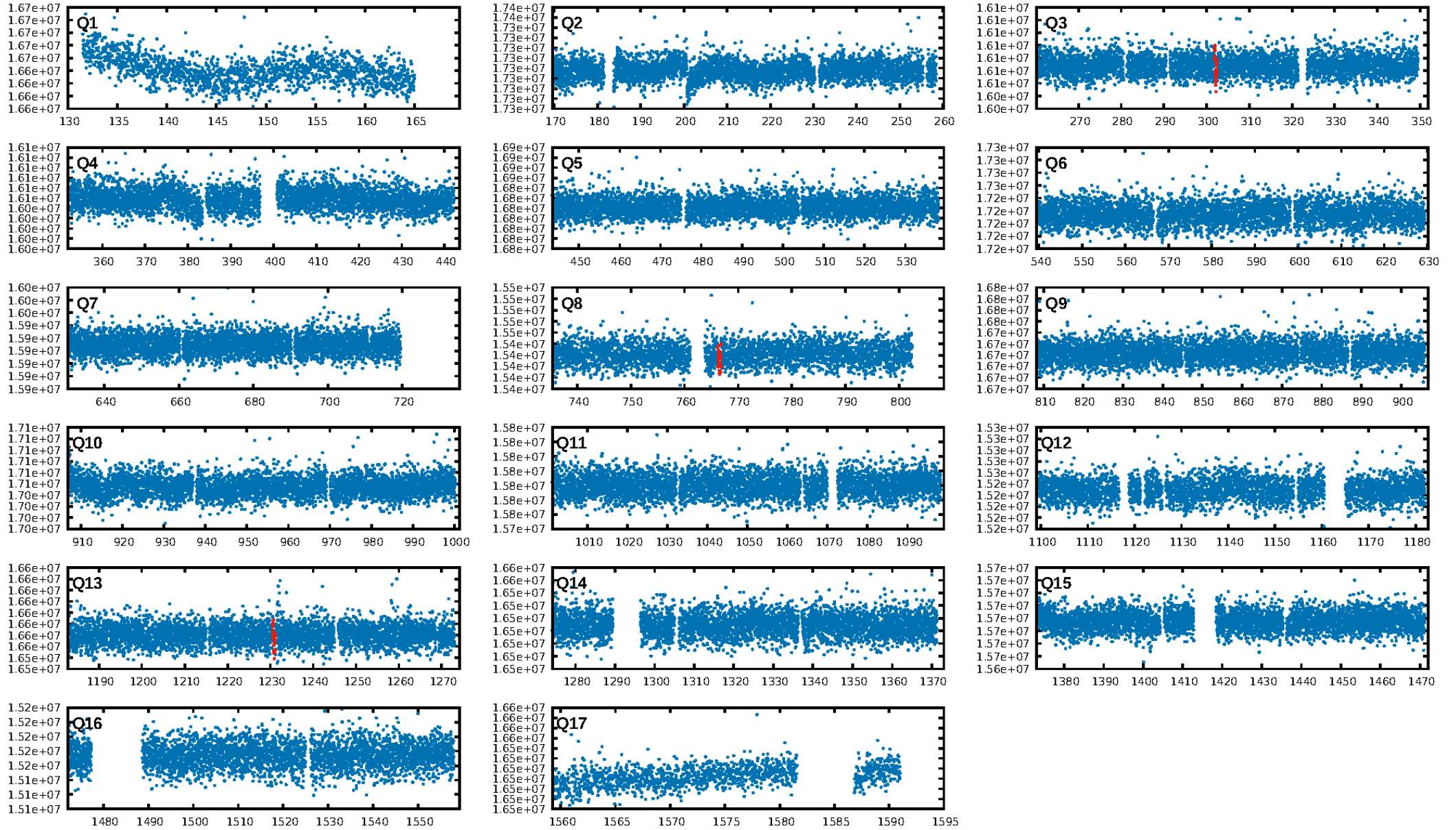
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.05e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.331
Centroid-sig: 23.1%
Centroid-so: 2.628 arcsec [1.10 σ]
OotOffset-rm: 0.360 arcsec [0.61 σ]
KicOffset-rm: 0.481 arcsec [0.88 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

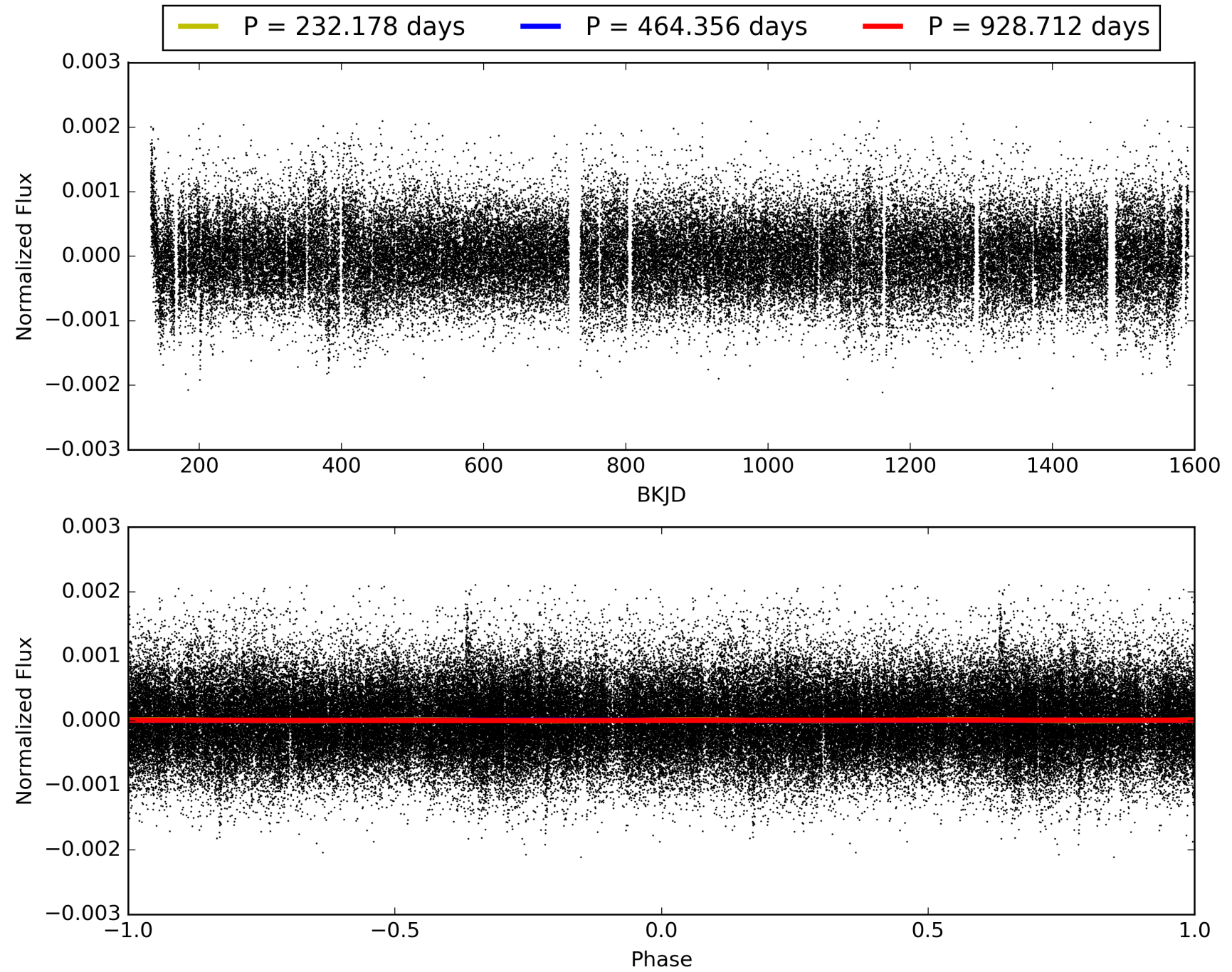
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:06:18 Z

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

TCE 011616901-01, PDC Light Curves

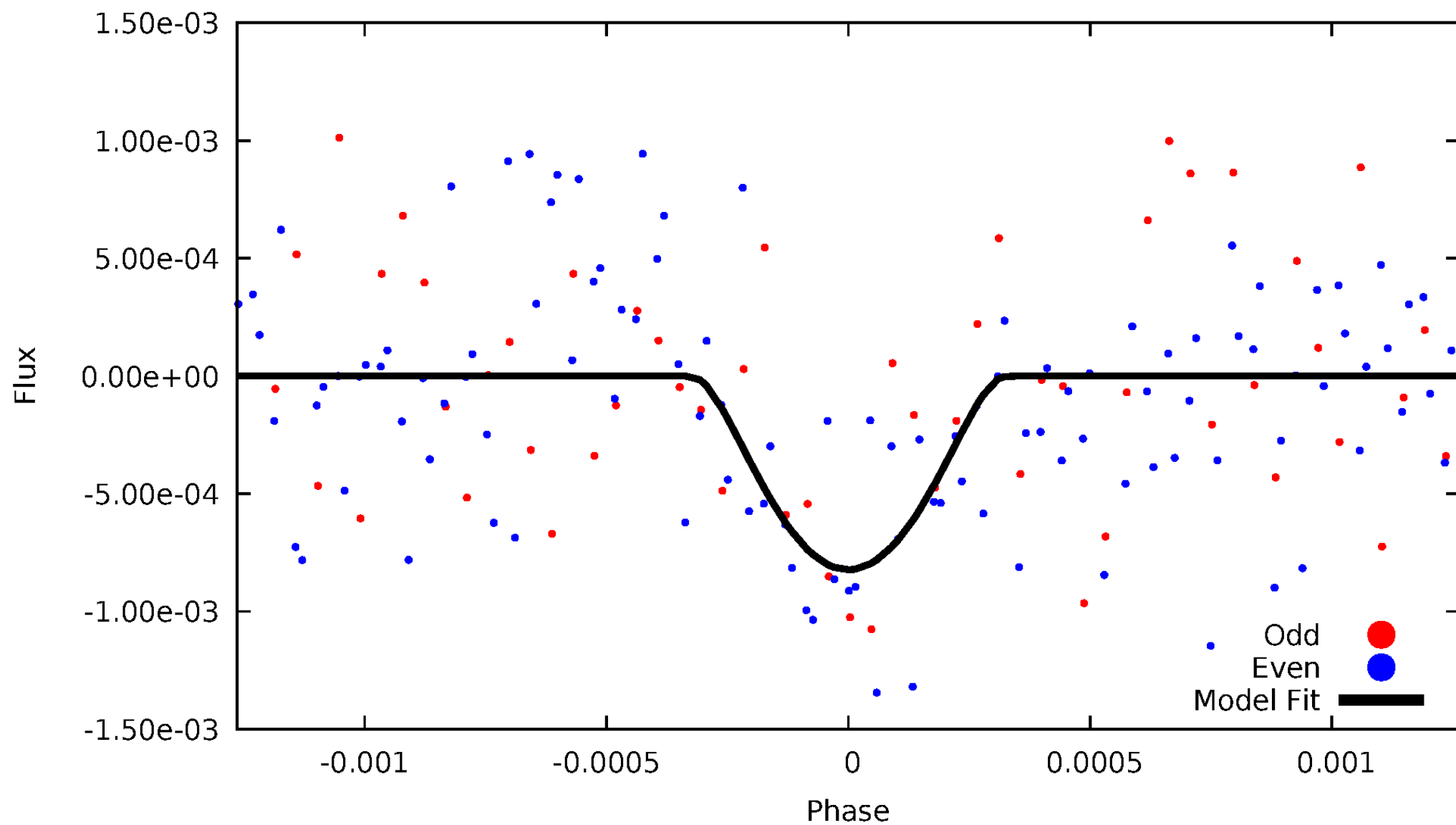


TCE 011616901-01



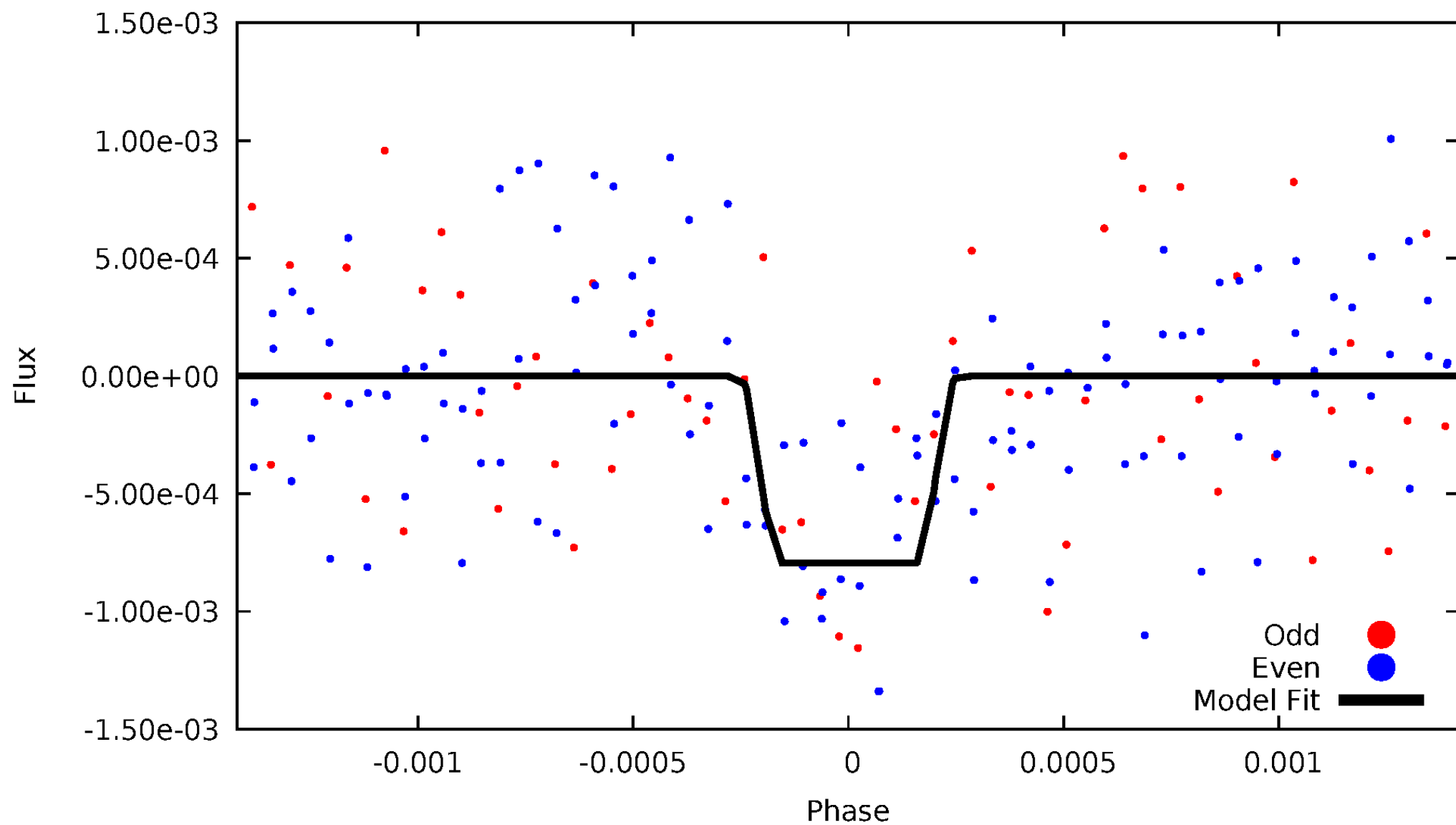
DV Odd/Even

TCE 011616901-01



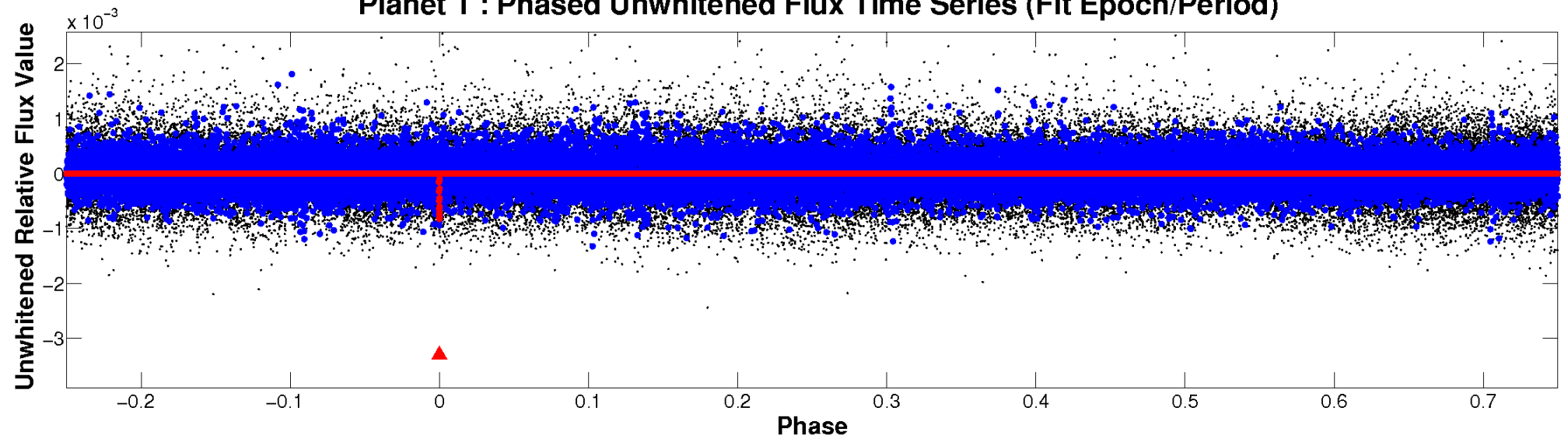
ALT Odd/Even

TCE 011616901-01

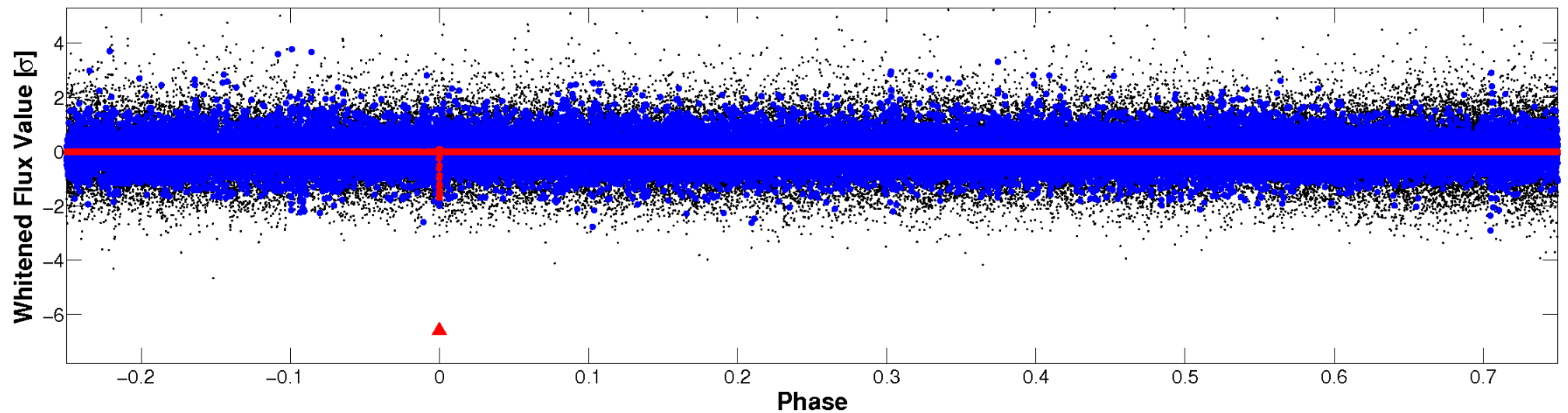


Non-Whitened Vs. Whitened Light Curve

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

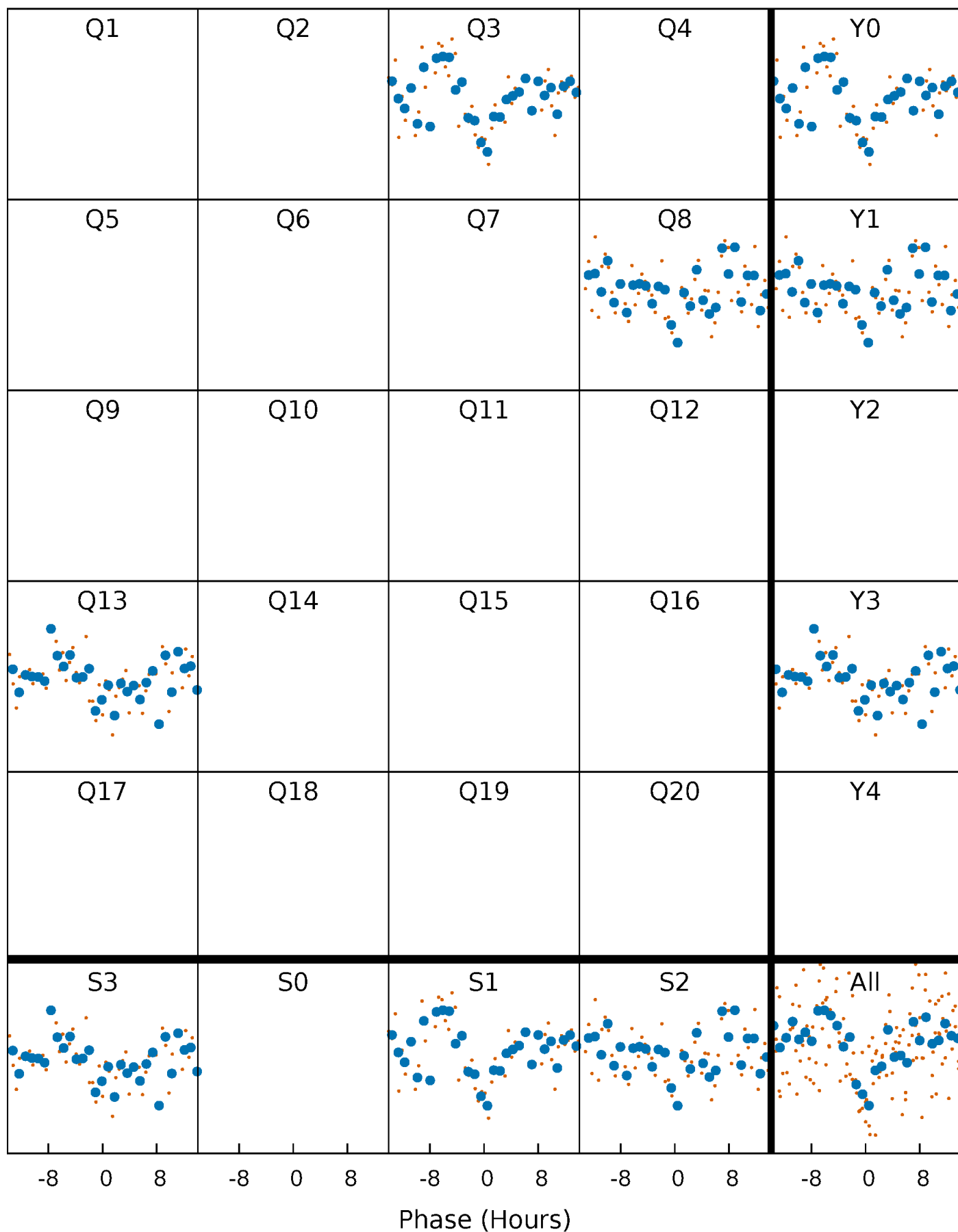


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



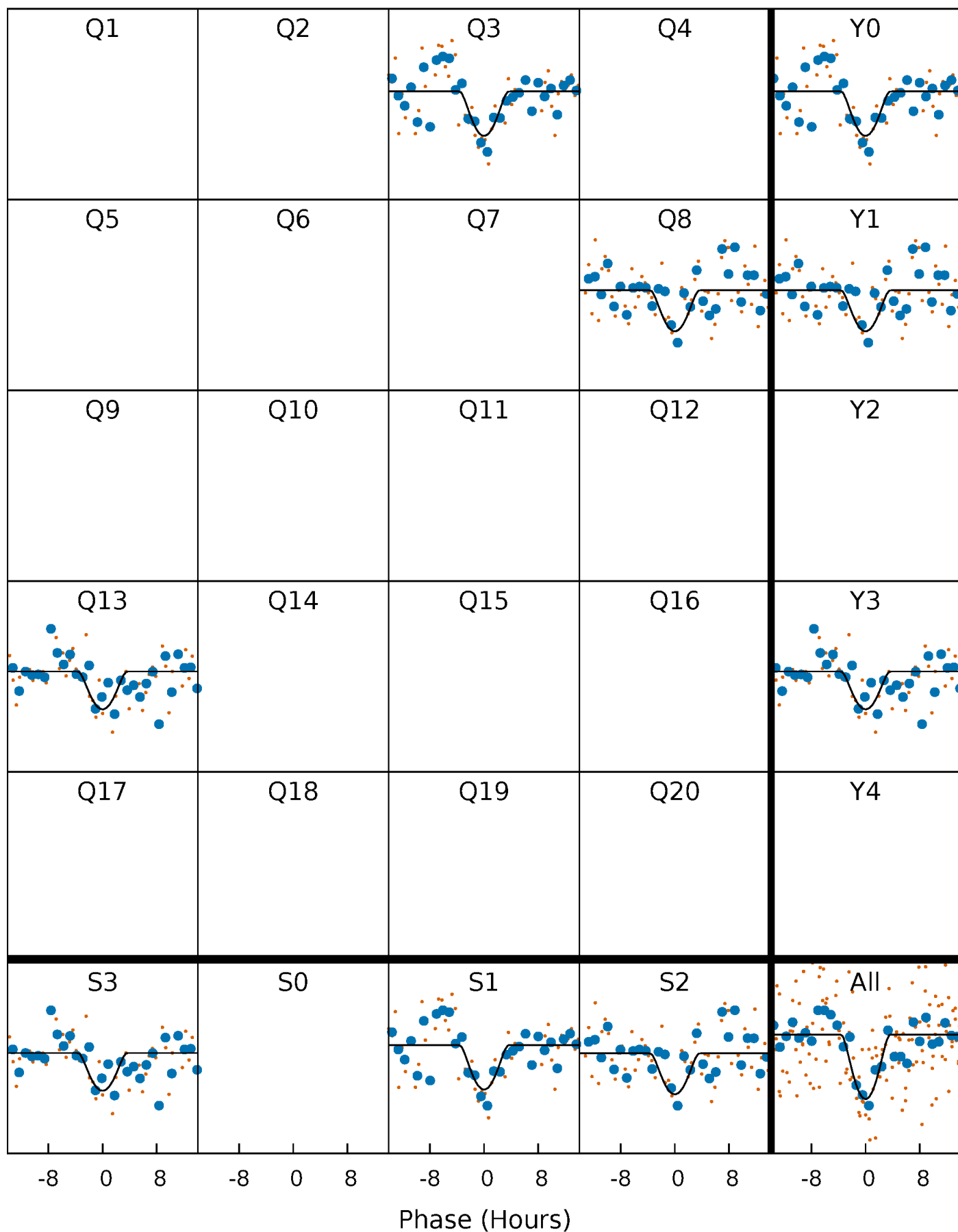
PDC Quarter-Phased Transit Curves

TCE 011616901-01 P=464.356203 Days $T_0=302.146396$ (BKJD)



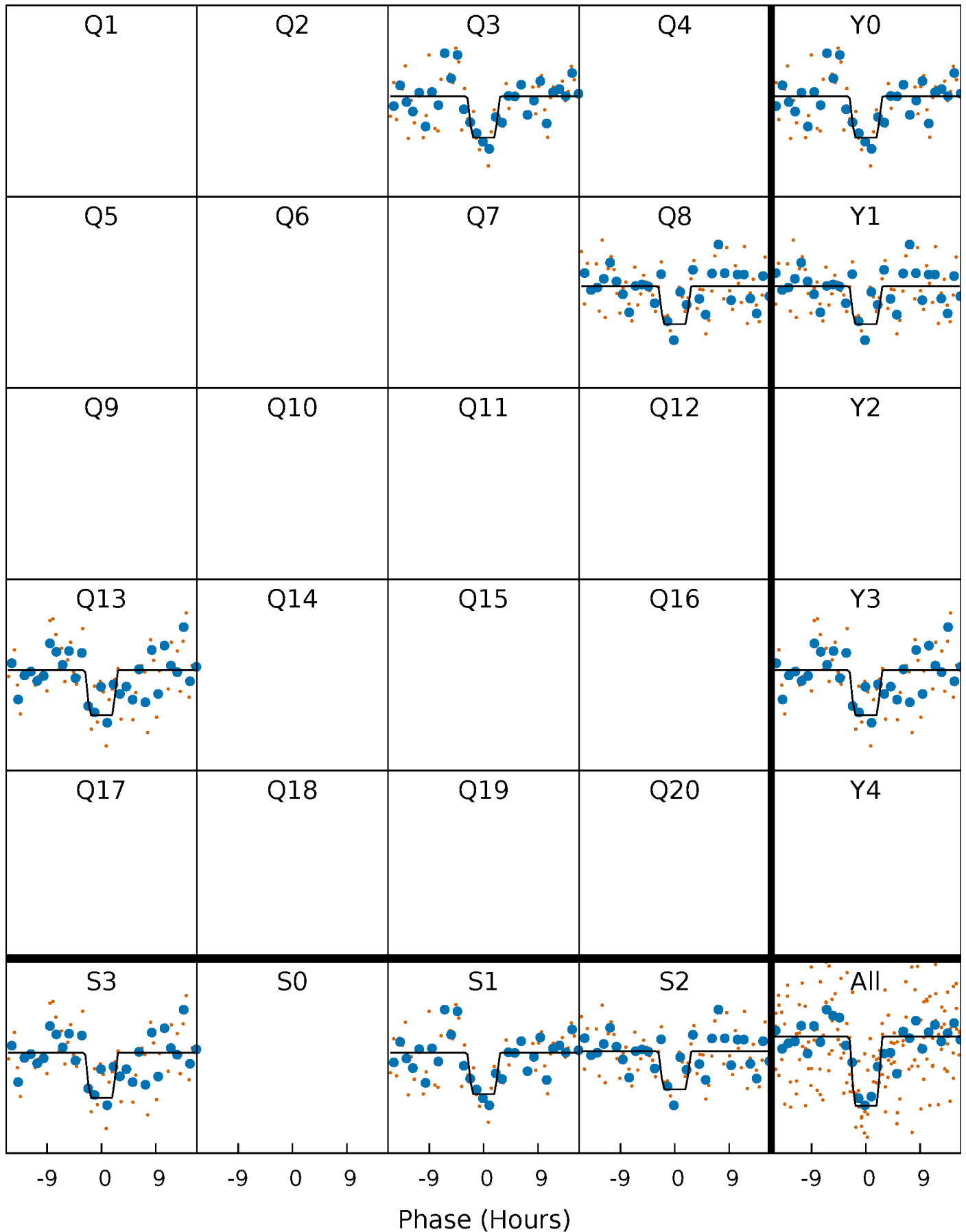
DV Quarter-Phased Transit Curves

TCE 011616901-01 P=464.356203 Days $T_0=302.146396$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

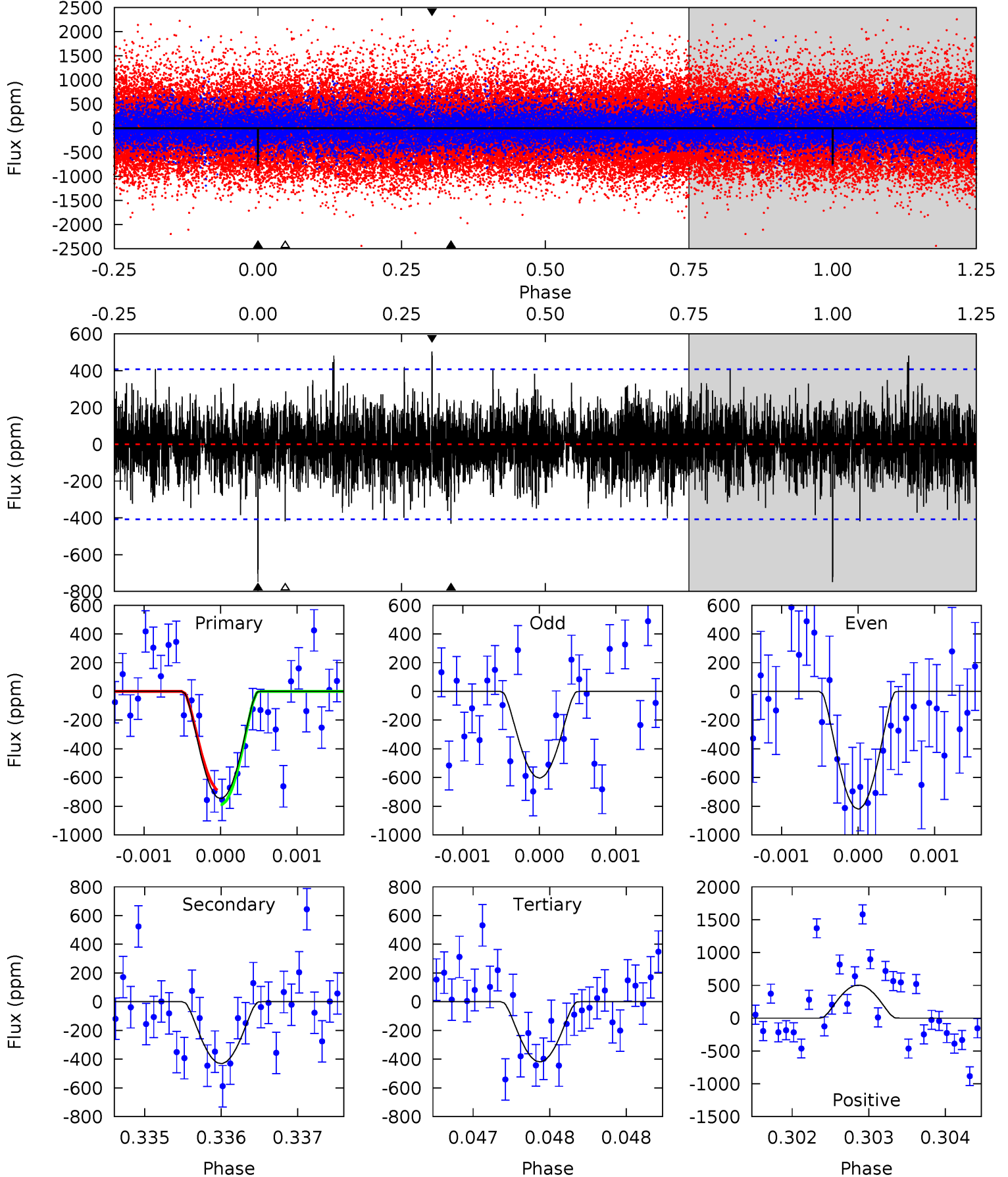
TCE 011616901-01 $P=464.373085$ Days $T_0=302.141024$ (BKJD)



DV Model-Shift Uniqueness Test

011616901-01, P = 464.356203 Days, E = 302.146396 Days

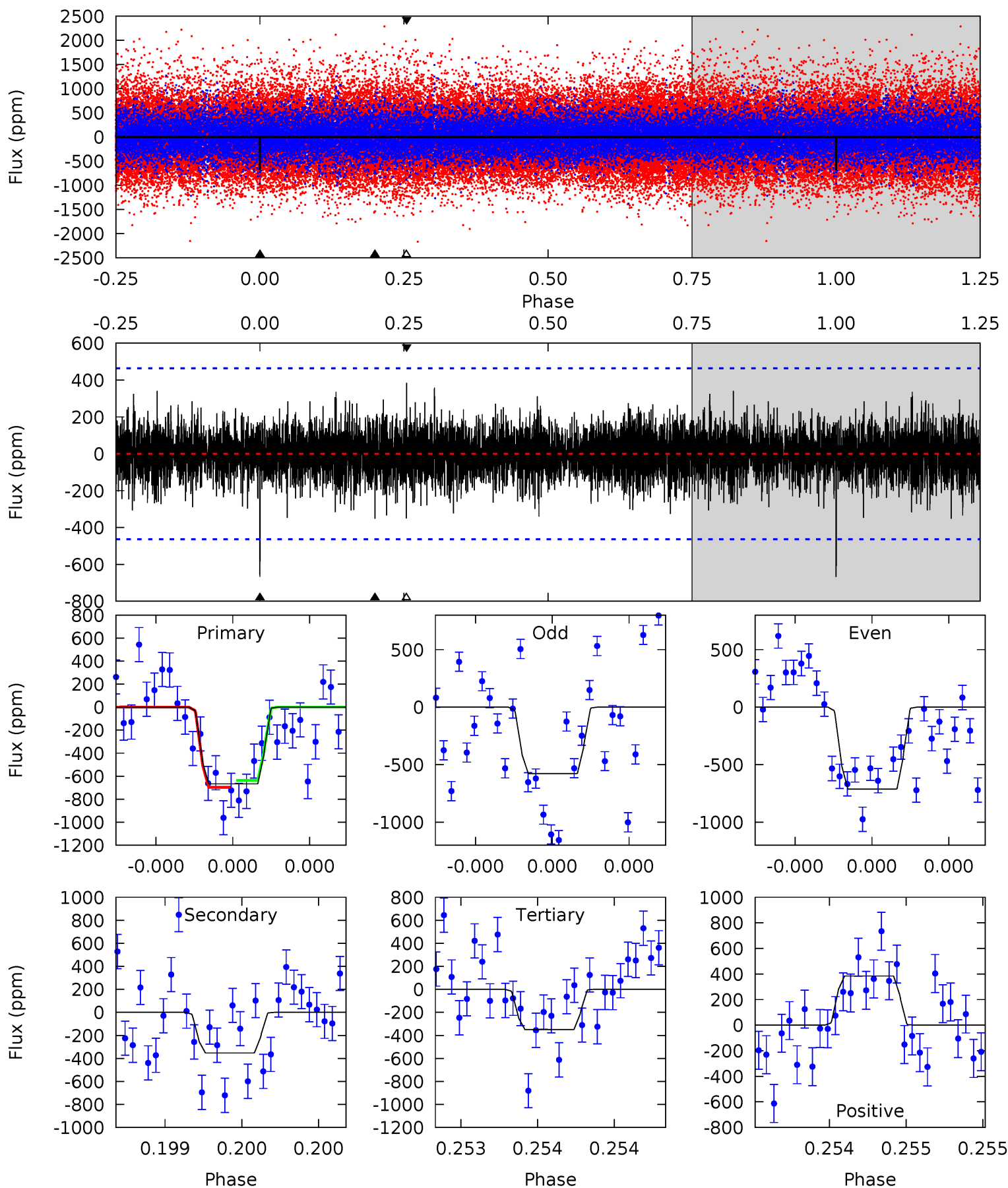
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	5.84	5.67	6.82	5.52	3.41	1.56	4.45	3.31	0.16	-0.98	1.40	1.13	0.40	0.69



Alt Model-Shift Uniqueness Test

011616901-01, P = 464.373085 Days, E = 302.141024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.03	4.24	4.20	4.63	5.58	3.49	1.11	3.82	3.40	0.04	-0.39	0.76	1.04	0.37	0.37



Stellar Parameters For KIC 011616901

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5232^{+156}_{-156}	$4.602^{+0.072}_{-0.048}$	$-0.800^{+0.300}_{-0.300}$	$0.665^{+0.064}_{-0.064}$	$0.645^{+0.066}_{-0.028}$	$3.089^{+0.943}_{-0.544}$
	+3%/-3%	+2%/-1%	+37%/-37%	+10%/-10%	+10%/-4%	+31%/-18%
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 011616901-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-431 ± 74	$13.65^{+13.28}_{-9.65}$	260^{+10}_{-9}	2545^{+1100}_{-376}	1344^{+13715}_{-1011}
Alt.	-352 ± 83	$12.80^{+15.22}_{-9.17}$	259^{+10}_{-9}	2513^{+1060}_{-407}	1159^{+13324}_{-912}

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

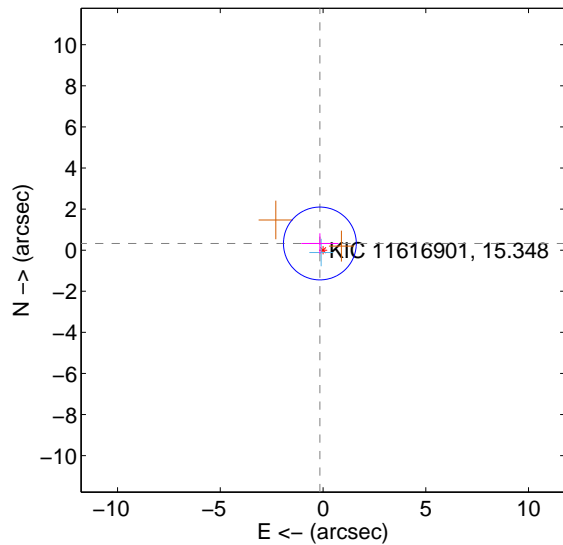
Supplemental centroid analysis for 011616901-01. Kepler magnitude: 15.35. Transit SNR 7.29

There are 1 quarters with good PRF difference image offsets

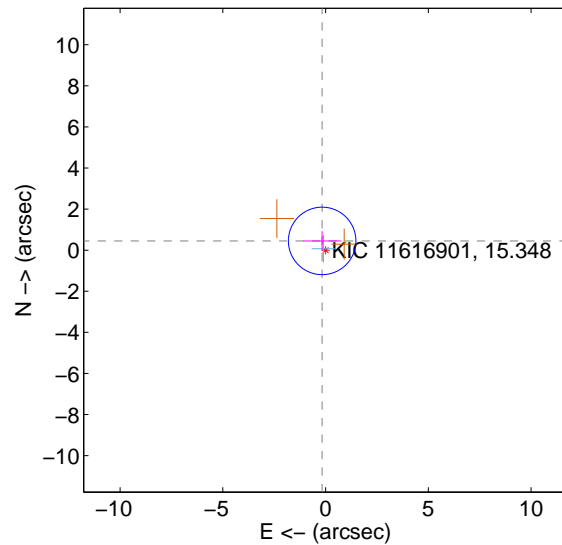
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.360 ± 0.591	0.61	0.154 ± 0.904	0.326 ± 0.495
PRF-fit source offset from KIC position	0.481 ± 0.547	0.88	0.167 ± 0.926	0.451 ± 0.472
photometric centroid source offset	2.63 ± 2.39	1.10	-2.37 ± 2.38	1.14 ± 2.45

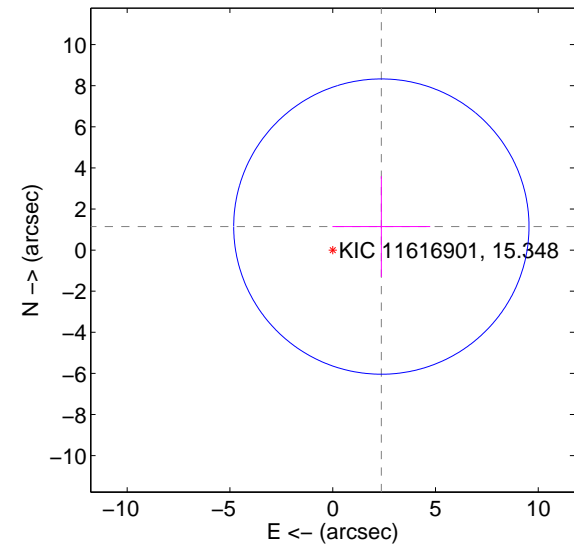
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

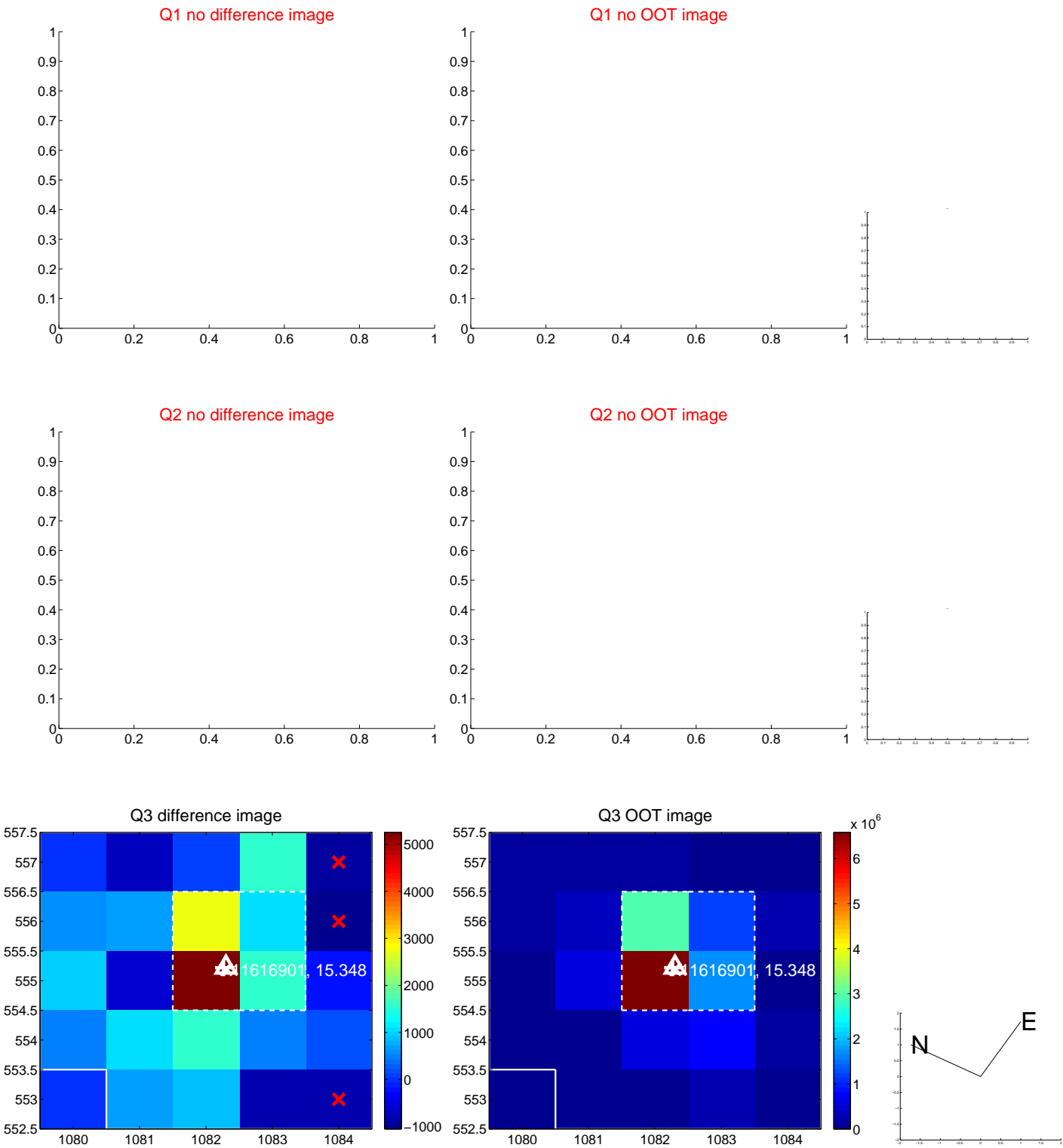


offset from photometric centroids

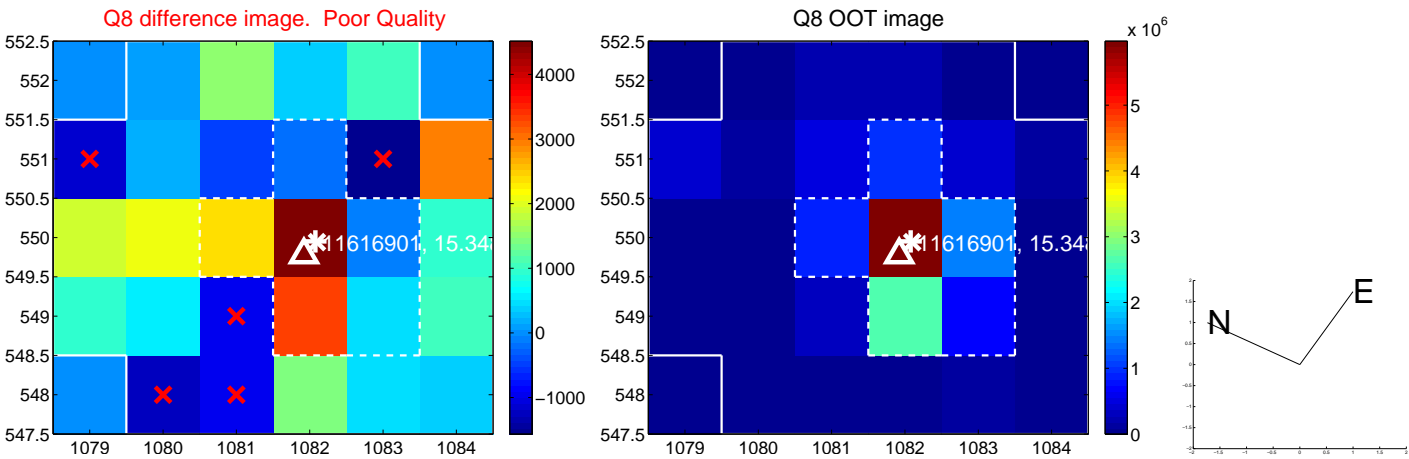


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



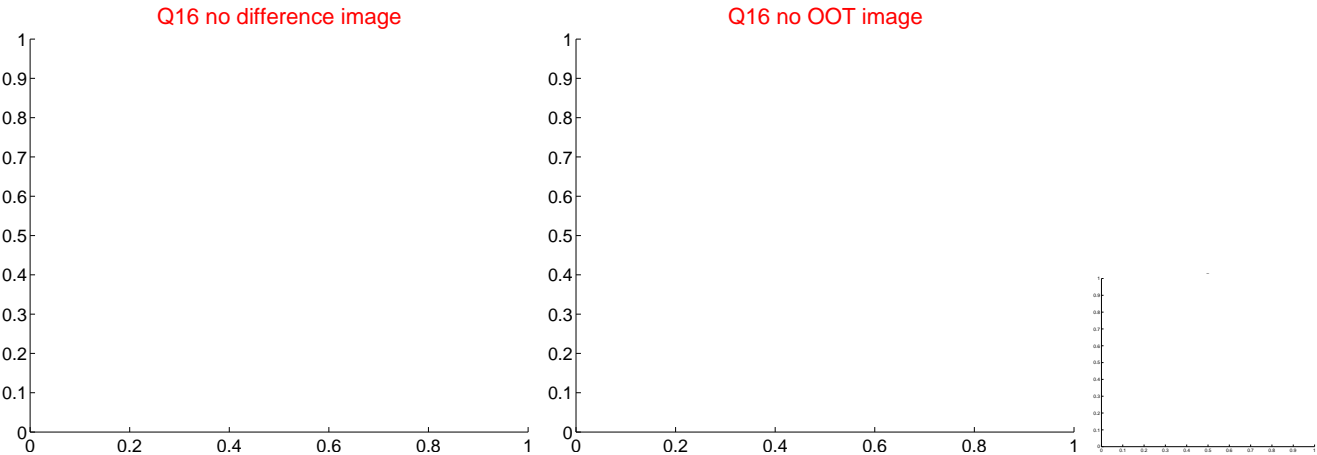
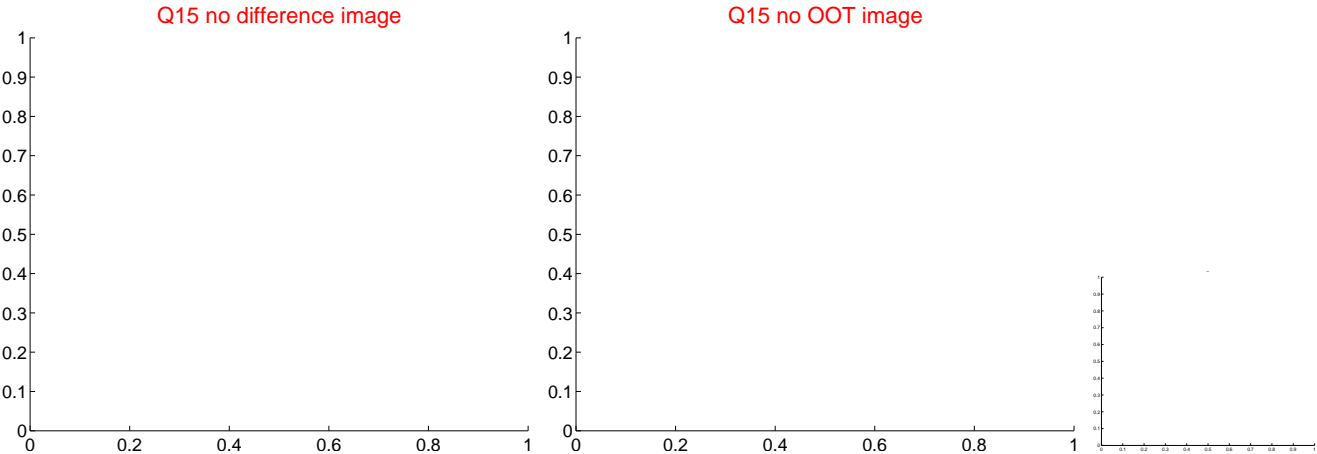
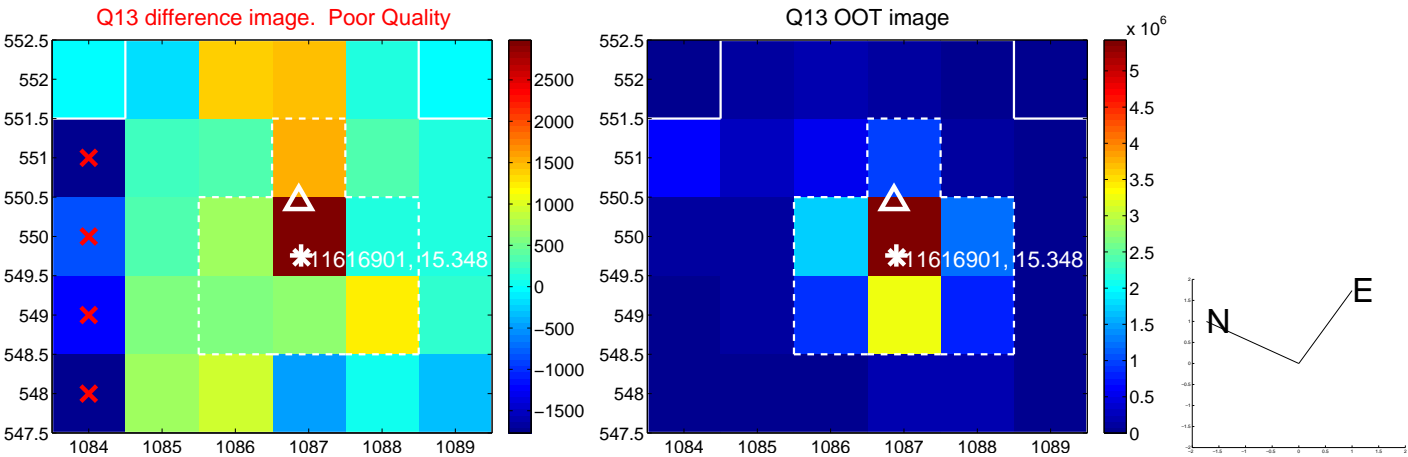
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



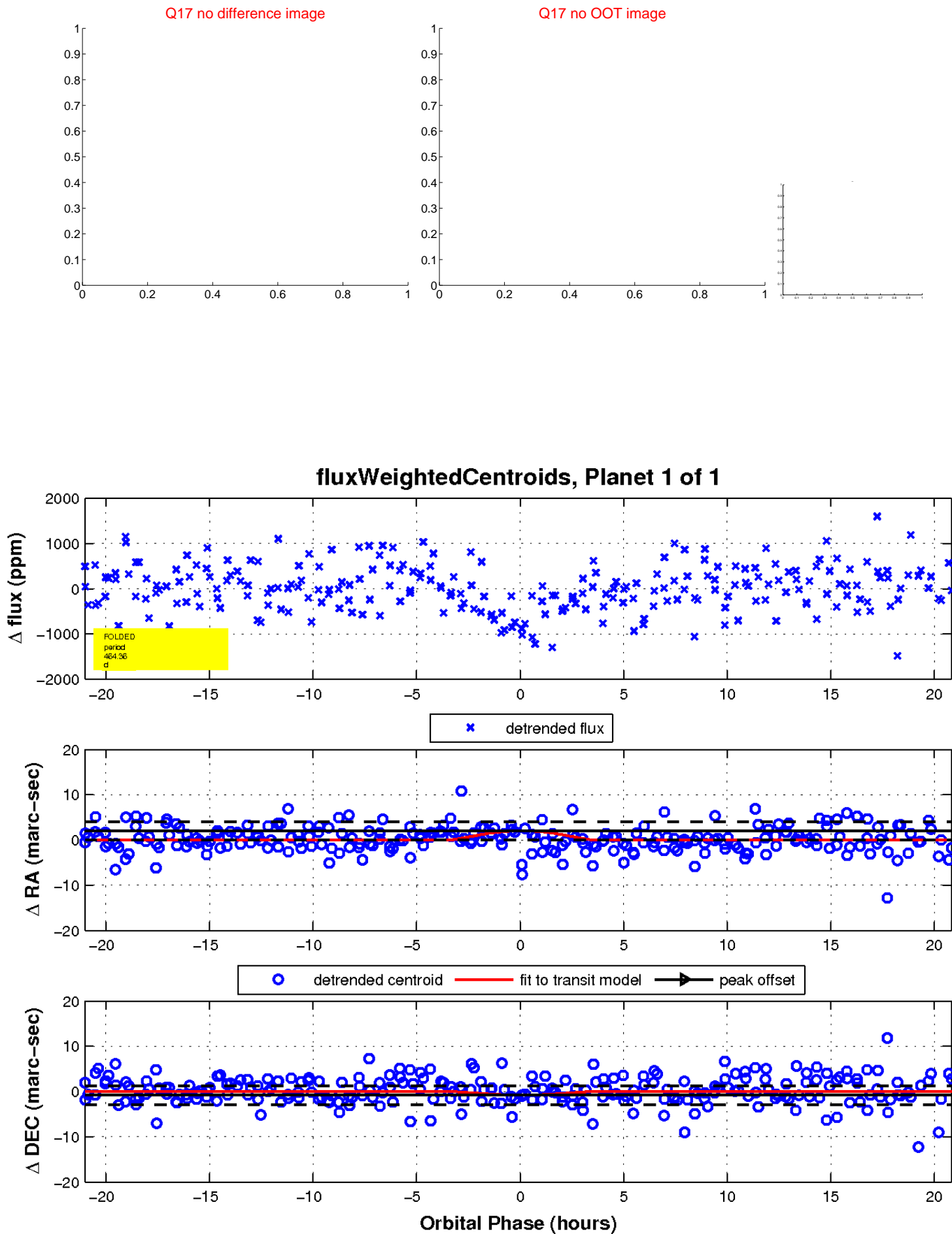
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

