

KIC 009165771

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})
009165771-01	OBS	No	428.646159	327.934040	534.2	14.410	7.2	6.9	0.92	6086	4.15	0.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009165771-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

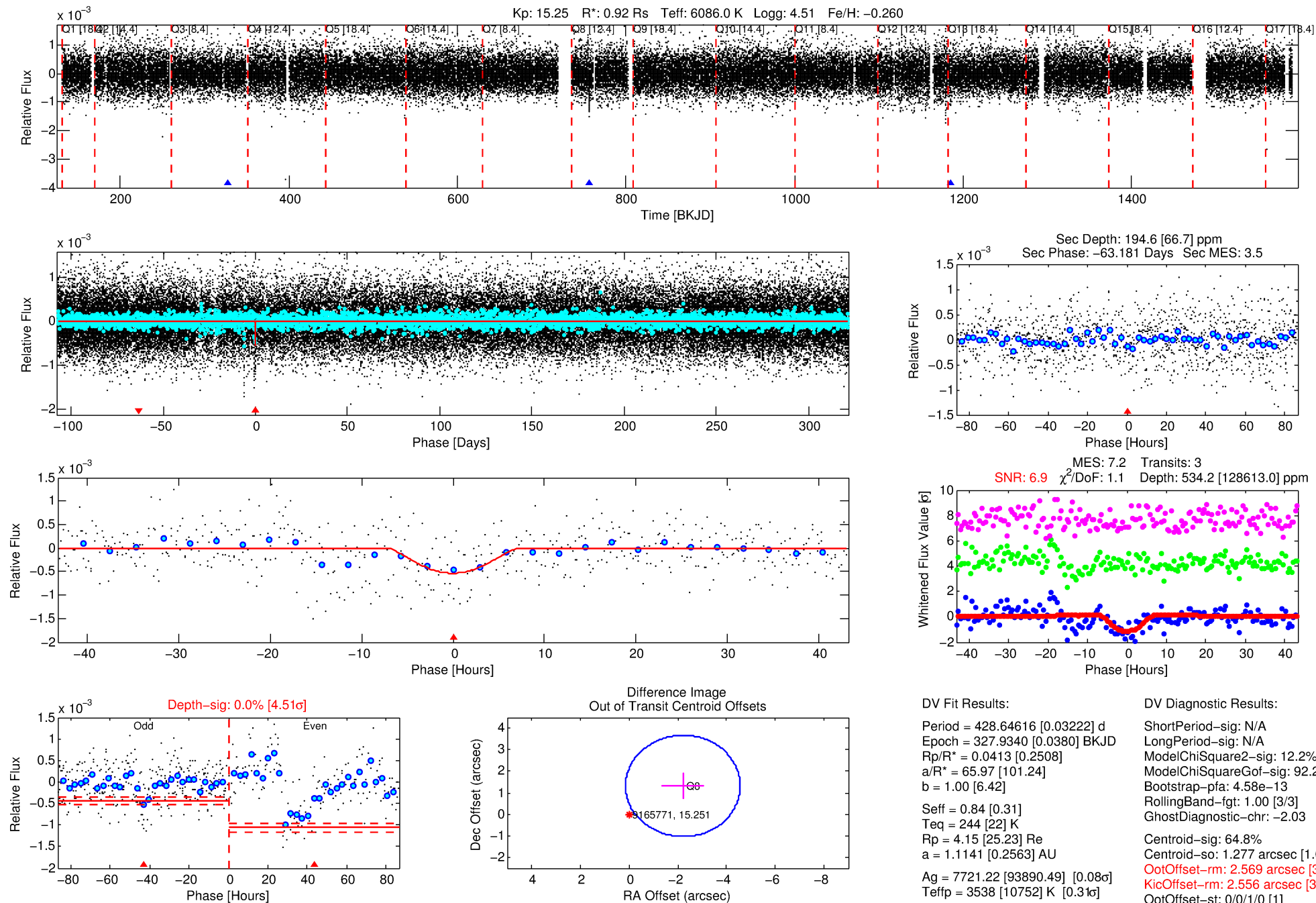
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009165771-01

No Significant Match Found

DV One-Page Summary

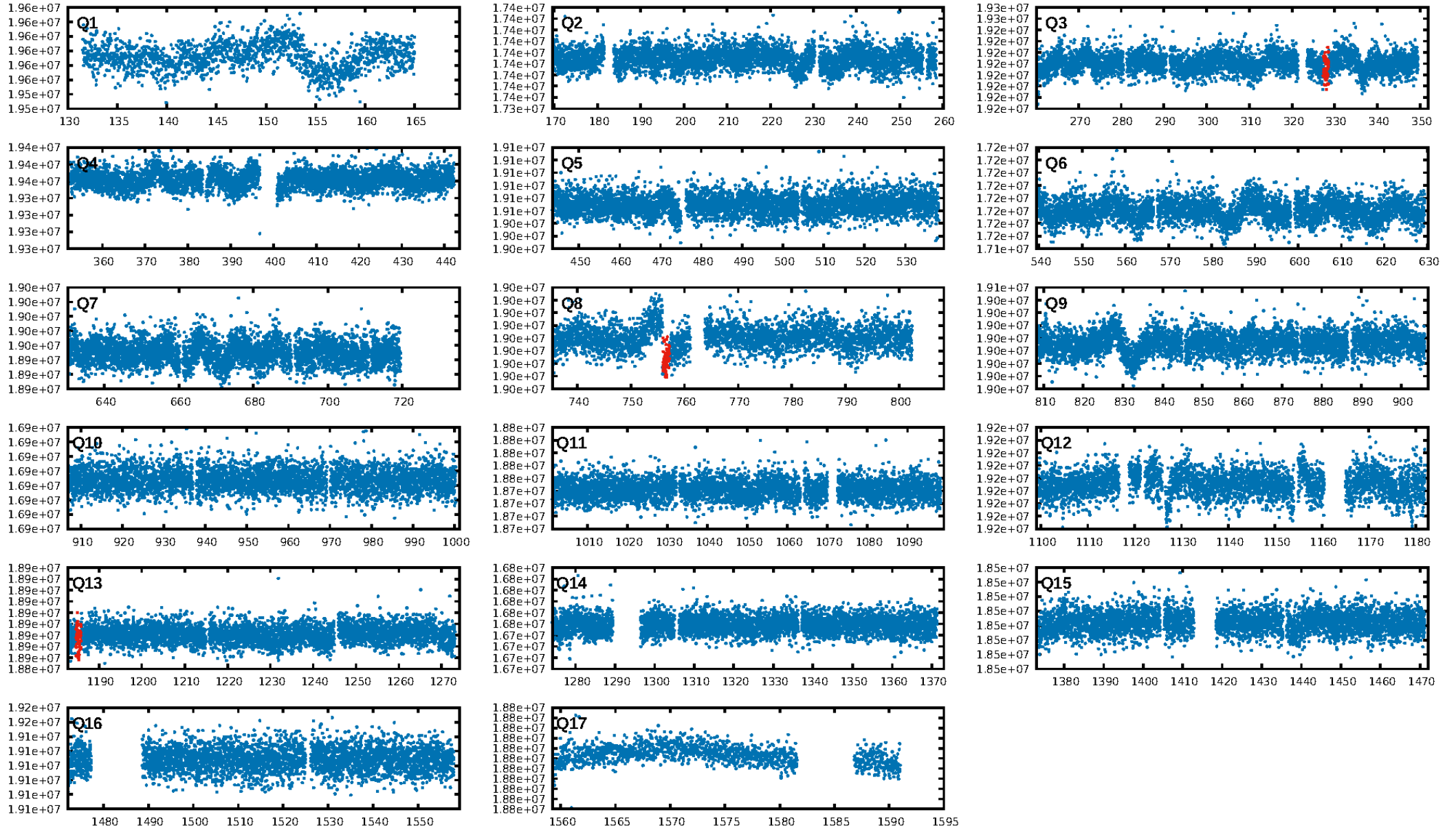
KIC: 9165771 Candidate: 1 of 1 Period: 428.646 d



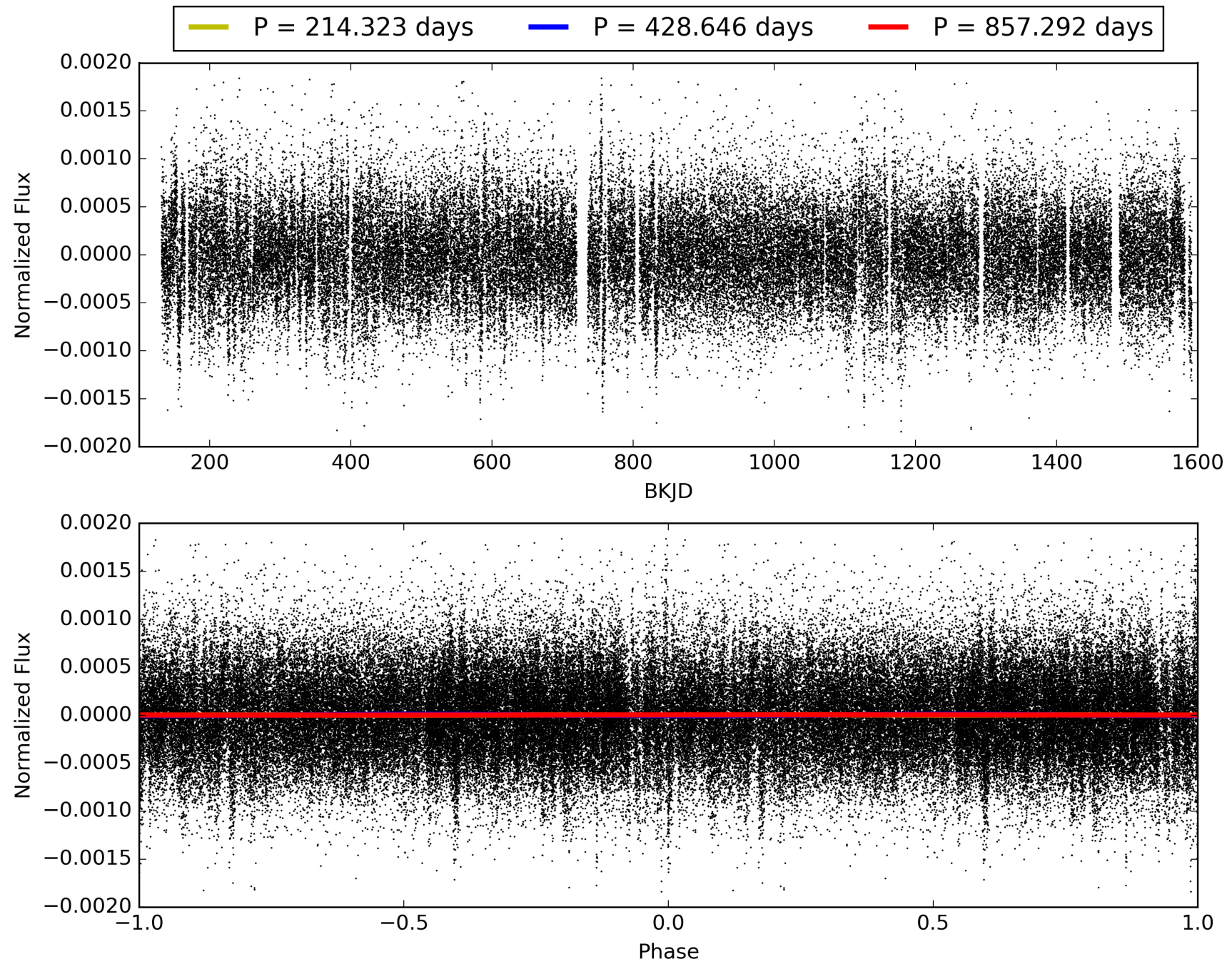
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:33:36 Z

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

TCE 009165771-01, PDC Light Curves

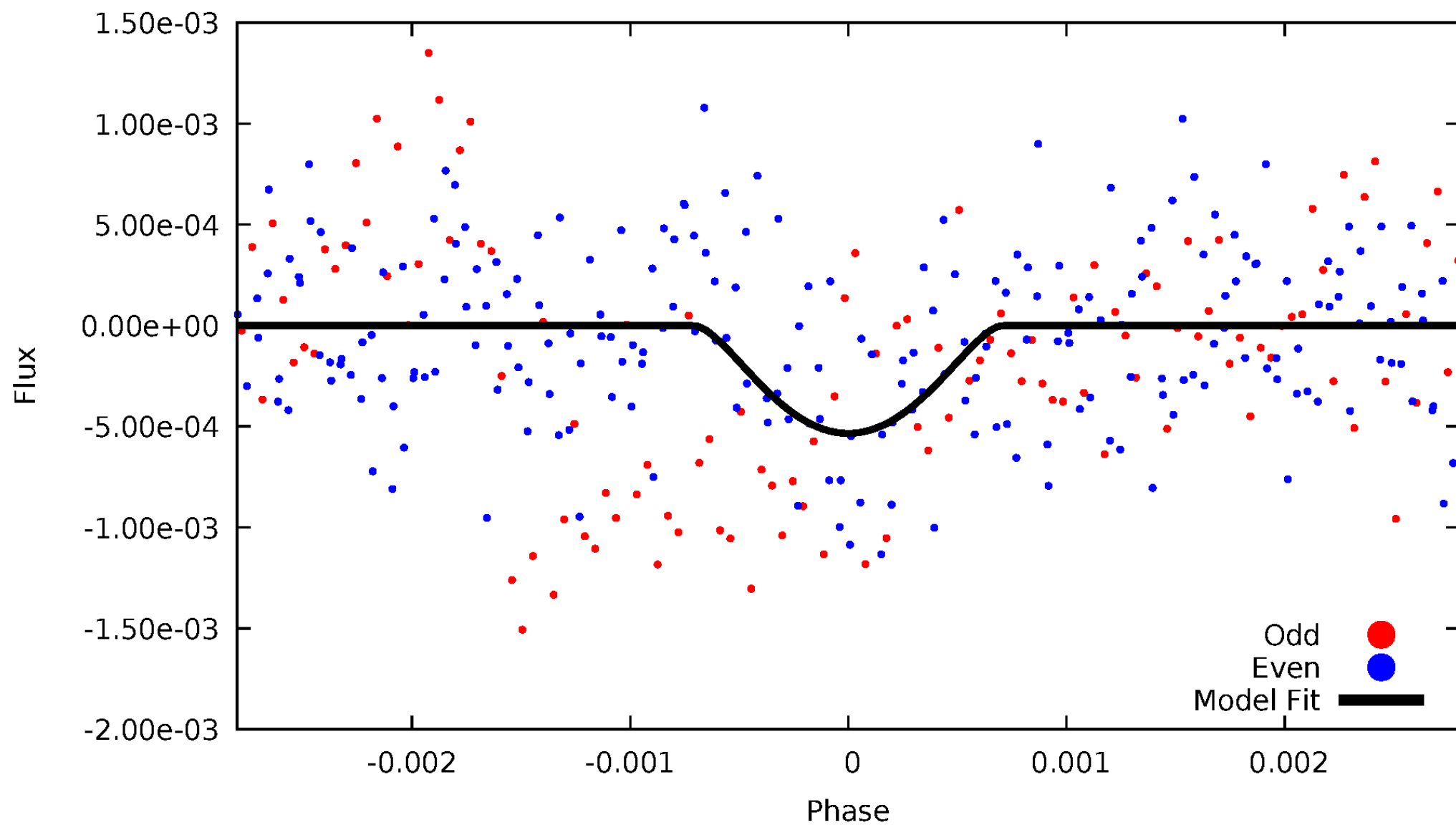


TCE 009165771-01



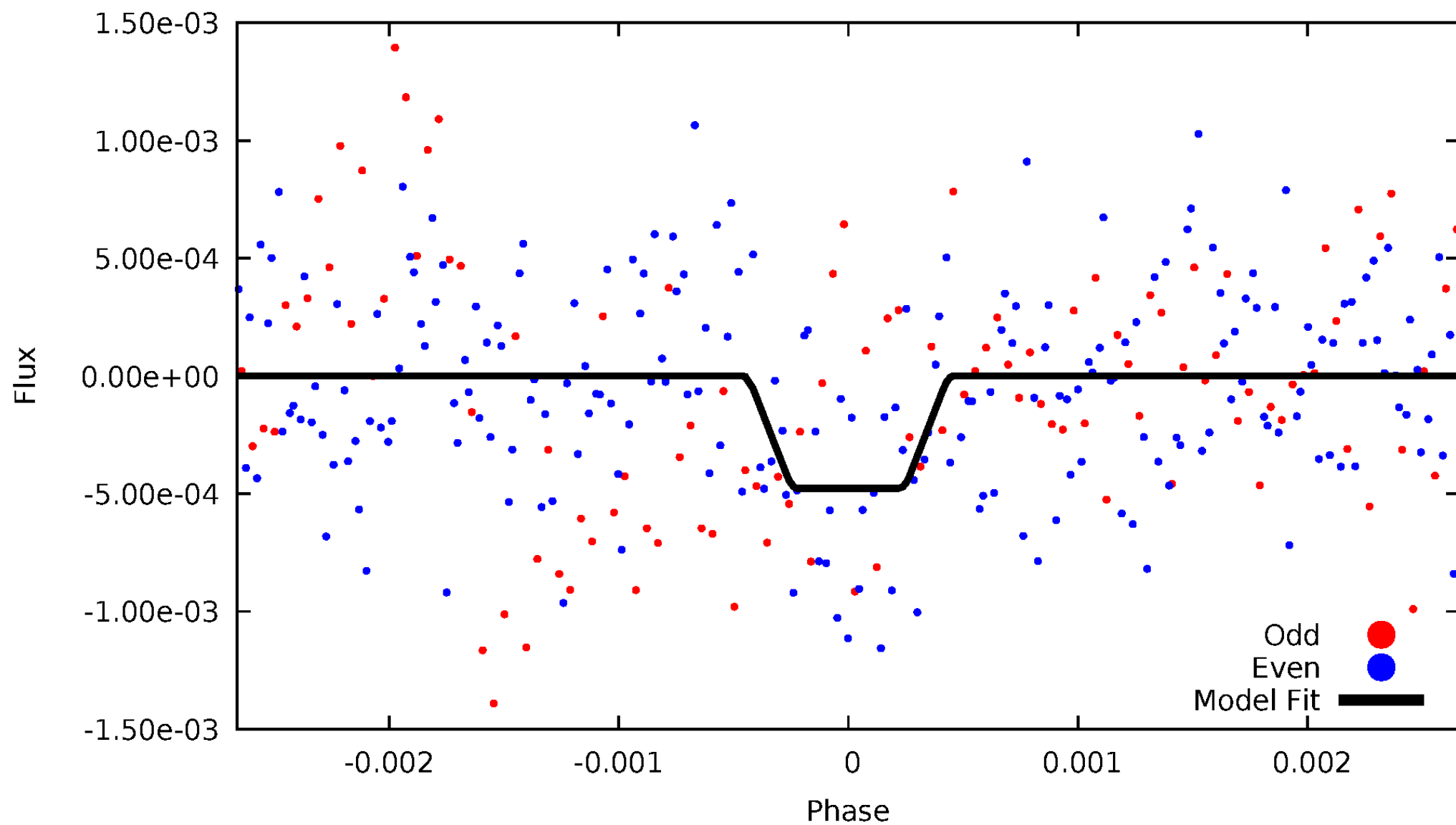
DV Odd/Even

TCE 009165771-01



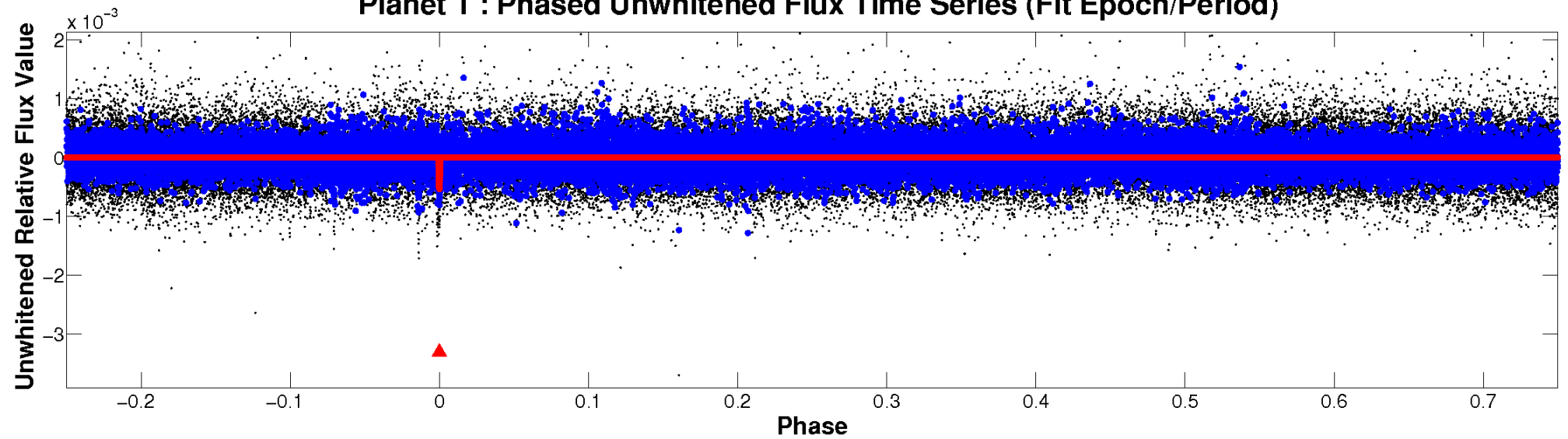
ALT Odd/Even

TCE 009165771-01

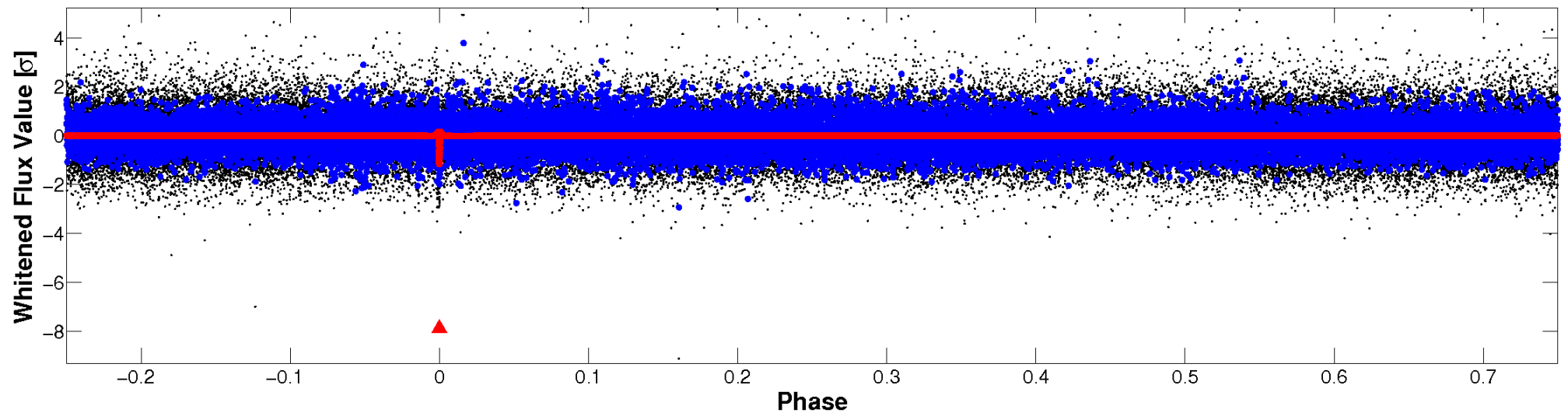


Non-Whitened Vs. Whitened Light Curve

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 009165771-01 P=428.646159 Days $T_0=327.934040$ (BKJD)



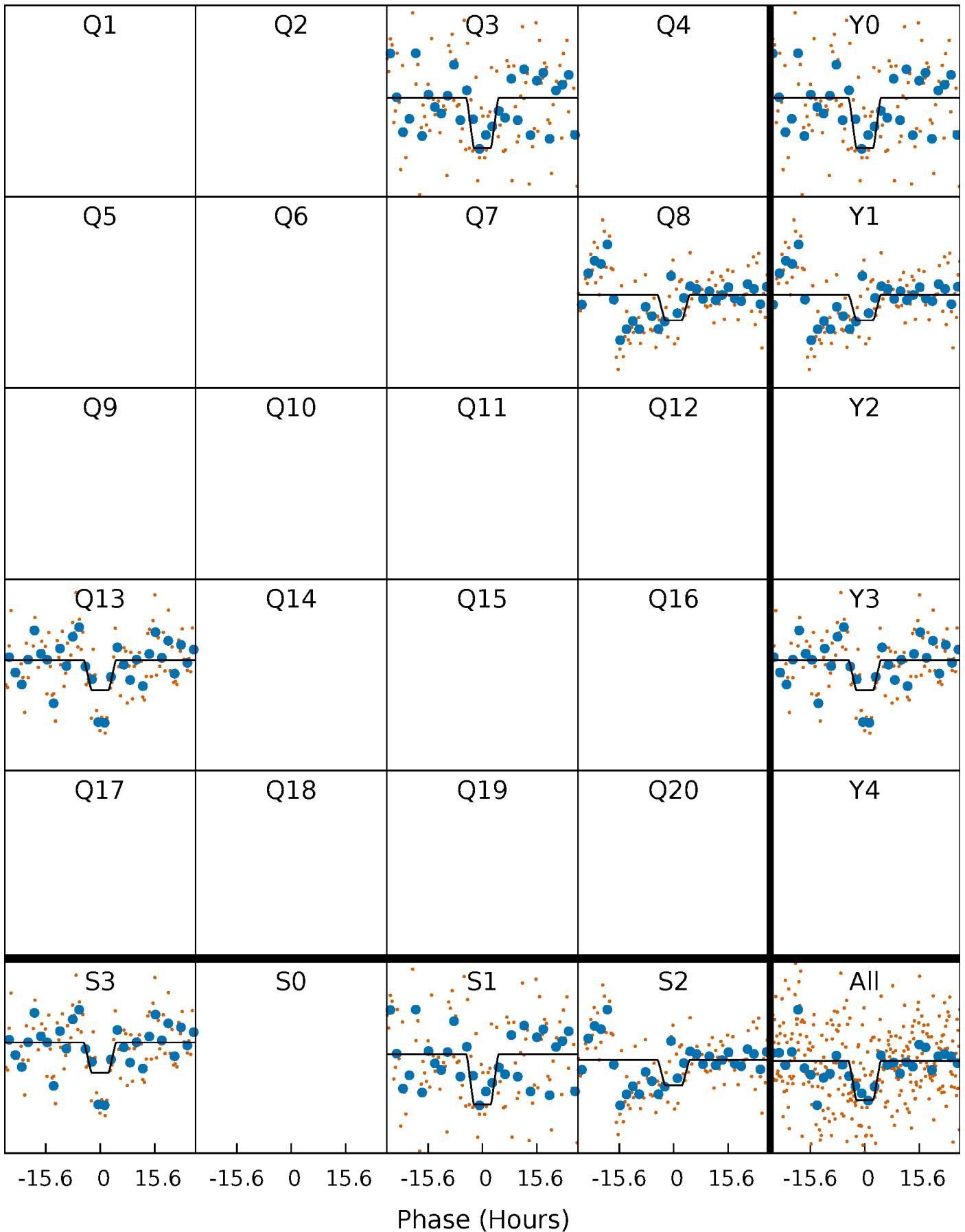
DV Quarter-Phased Transit Curves

TCE 009165771-01 P=428.646159 Days $T_0=327.934040$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

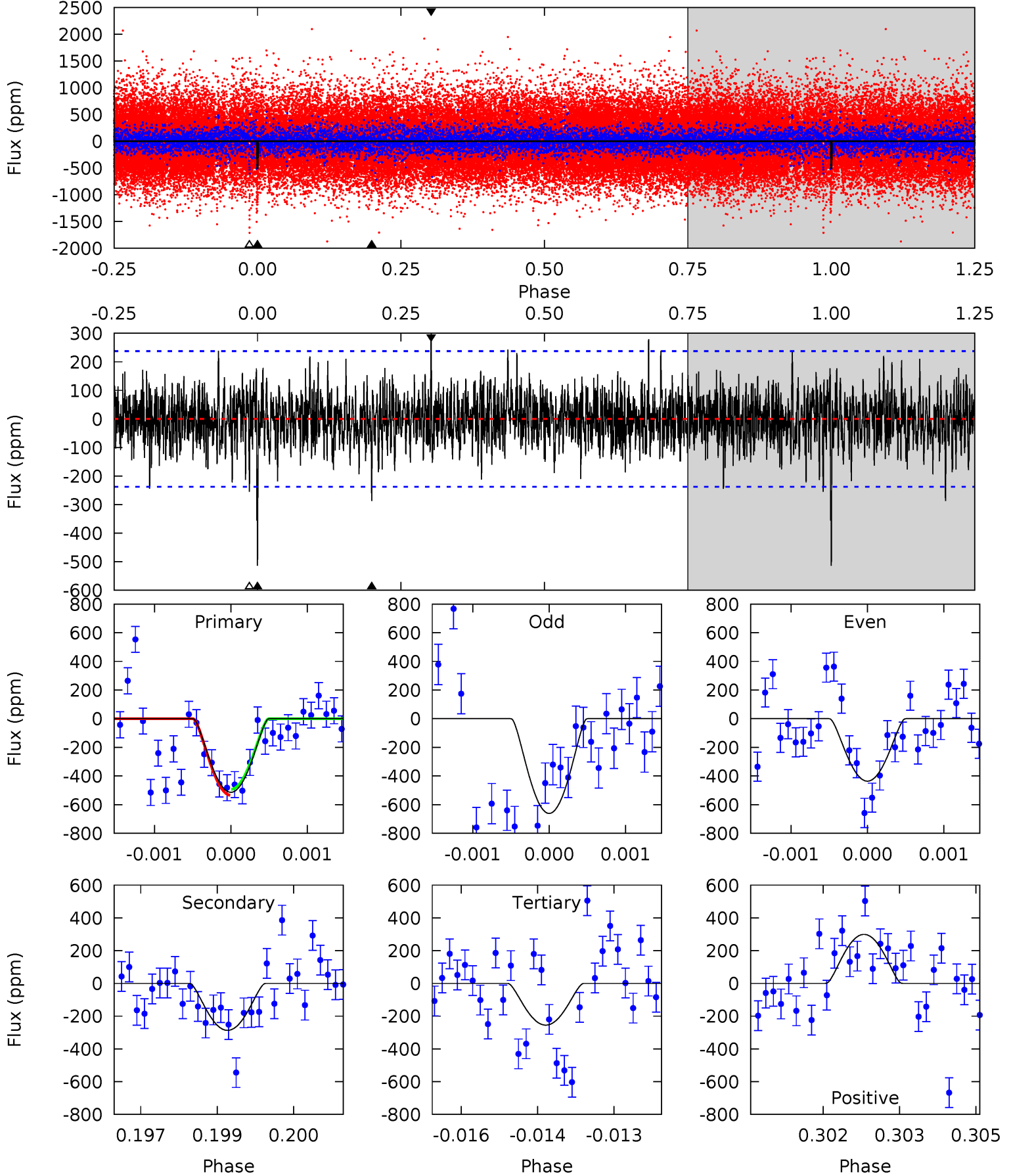
TCE 009165771-01 P=428.627977 Days $T_0=327.974030$ (BKJD)



DV Model-Shift Uniqueness Test

009165771-01, P = 428.646159 Days, E = 327.934040 Days

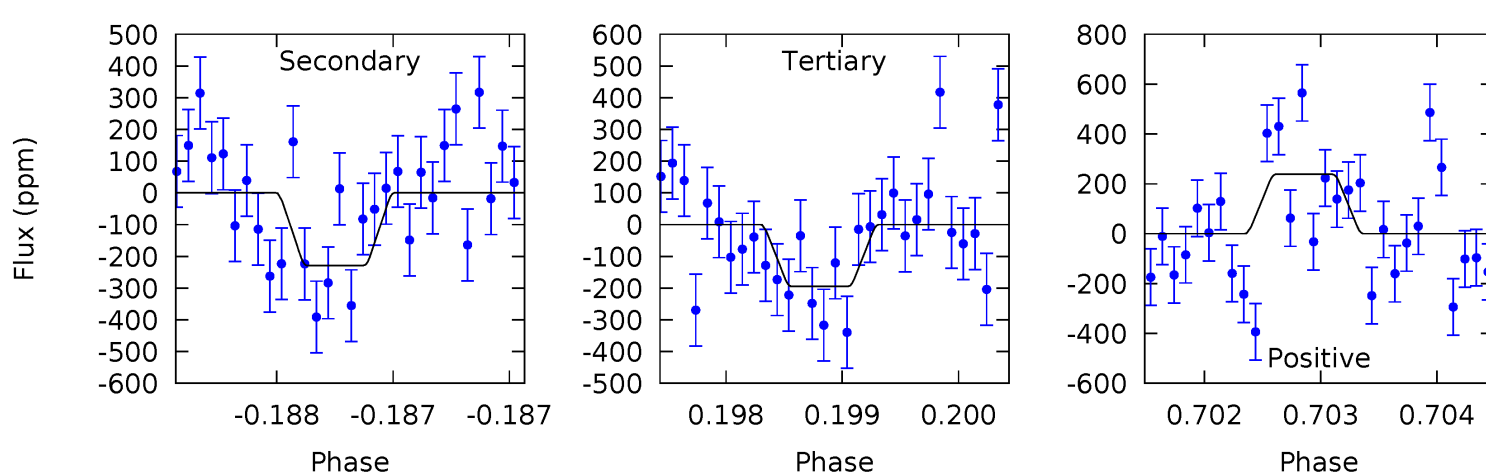
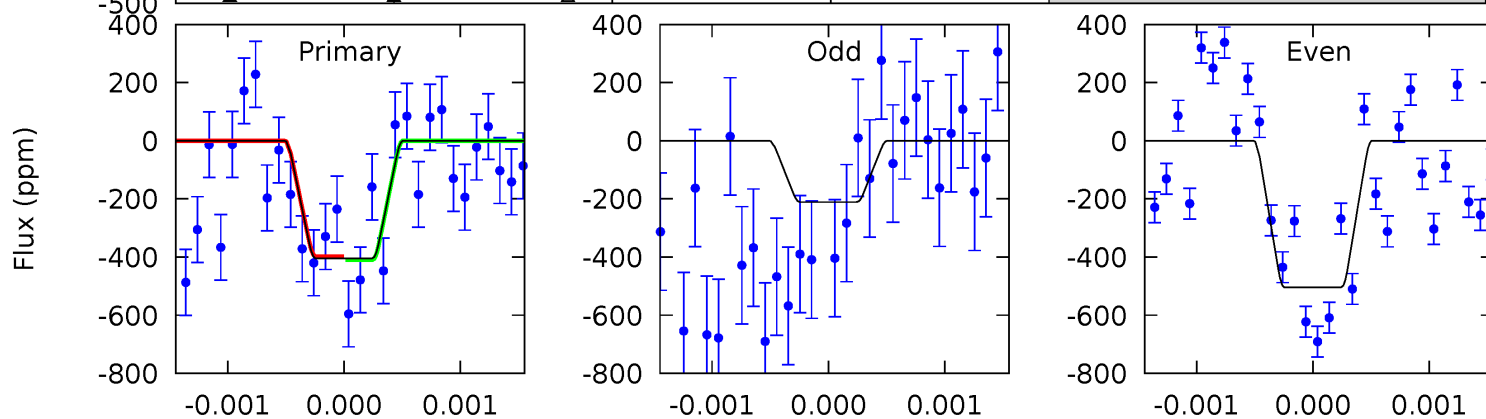
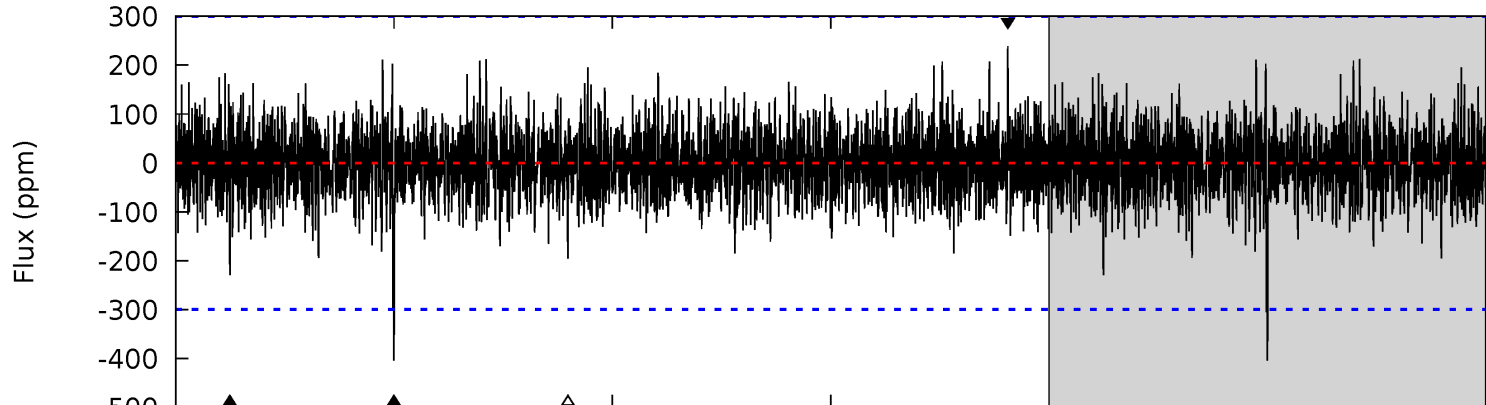
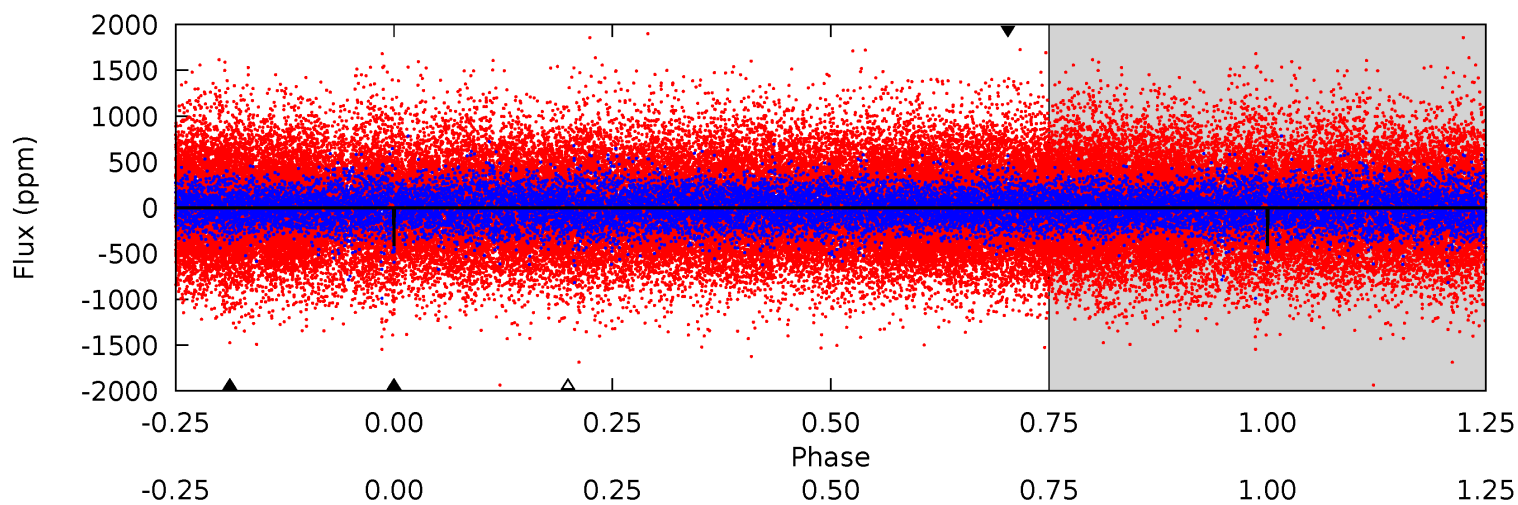
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	6.50	5.78	6.78	5.39	3.19	1.56	5.88	4.87	0.73	-0.28	2.45	0.88	0.37	0.47



Alt Model-Shift Uniqueness Test

009165771-01, P = 428.627977 Days, E = 327.974030 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.38	4.18	3.56	4.35	5.47	3.32	1.04	3.82	3.03	0.62	-0.17	2.59	1.22	0.37	0.11



Stellar Parameters For KIC 009165771

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6086^{+164}_{-200}	$4.511^{+0.048}_{-0.192}$	$-0.260^{+0.250}_{-0.350}$	$0.921^{+0.244}_{-0.087}$	$1.003^{+0.116}_{-0.129}$	$1.808^{+0.434}_{-0.855}$
	+3%/-3%	+1%/-4%	+96%/-135%	+26%/-9%	+12%/-13%	+24%/-47%
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 009165771-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-287 ± 44	$19.63^{+20.98}_{-13.75}$	348^{+21}_{-17}	2647^{+1042}_{-427}	499^{+4579}_{-384}
Alt.	-229 ± 55	$18.11^{+19.87}_{-13.09}$	348^{+23}_{-16}	2624^{+1179}_{-429}	478^{+5312}_{-374}

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

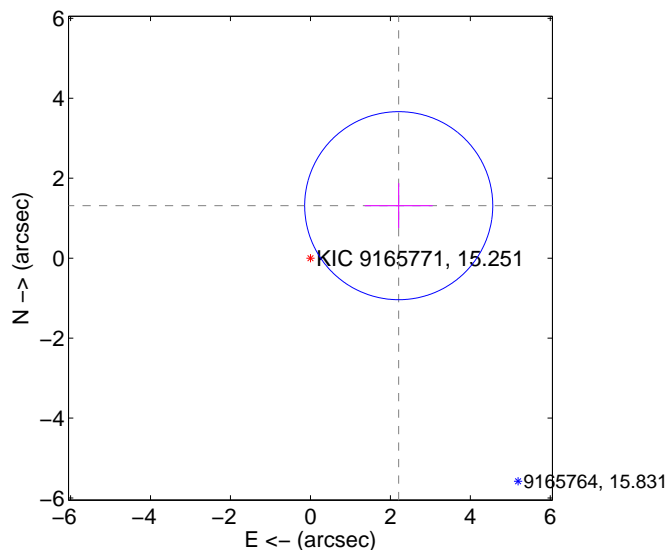
Supplemental centroid analysis for 009165771-01. Kepler magnitude: 15.25. Transit SNR 6.89

There are 1 quarters with good PRF difference image offsets

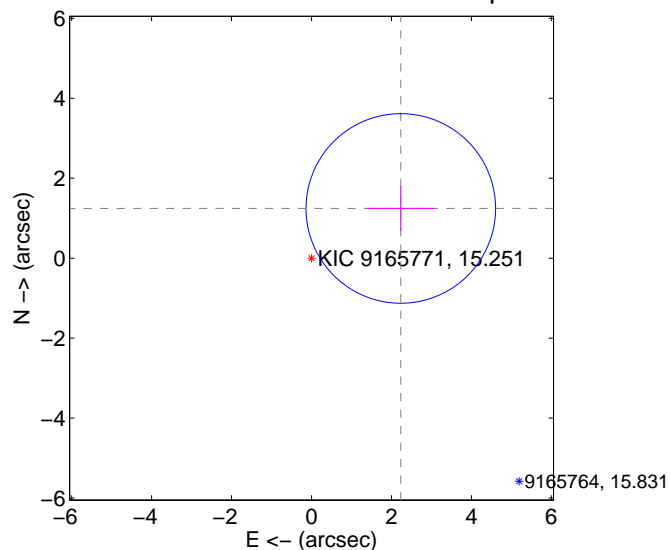
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.569 ± 0.784	3.28	-2.208 ± 0.848	1.313 ± 0.564
PRF-fit source offset from KIC position	2.556 ± 0.790	3.23	-2.234 ± 0.848	1.244 ± 0.564
photometric centroid source offset	1.28 ± 1.26	1.02	-1.23 ± 1.24	-0.35 ± 1.41

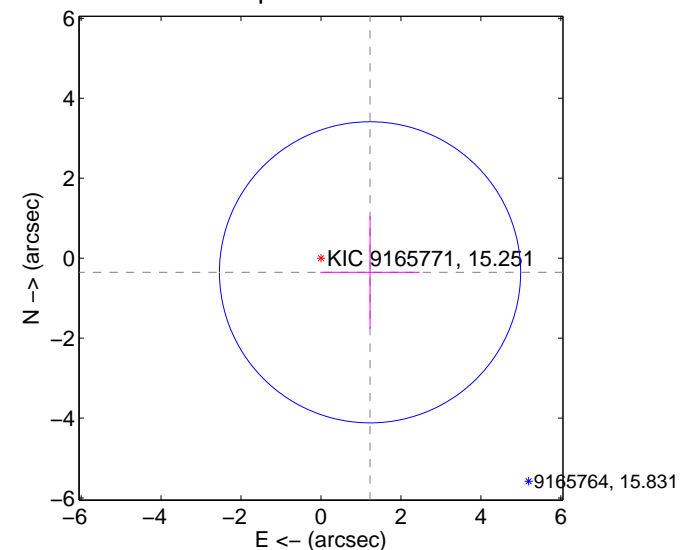
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

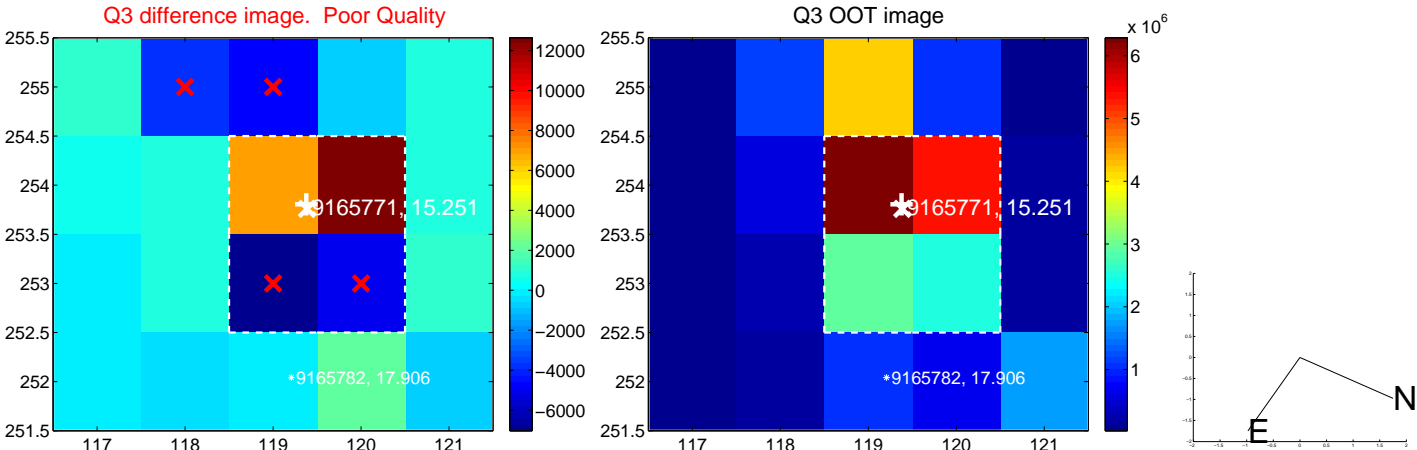


offset from photometric centroids

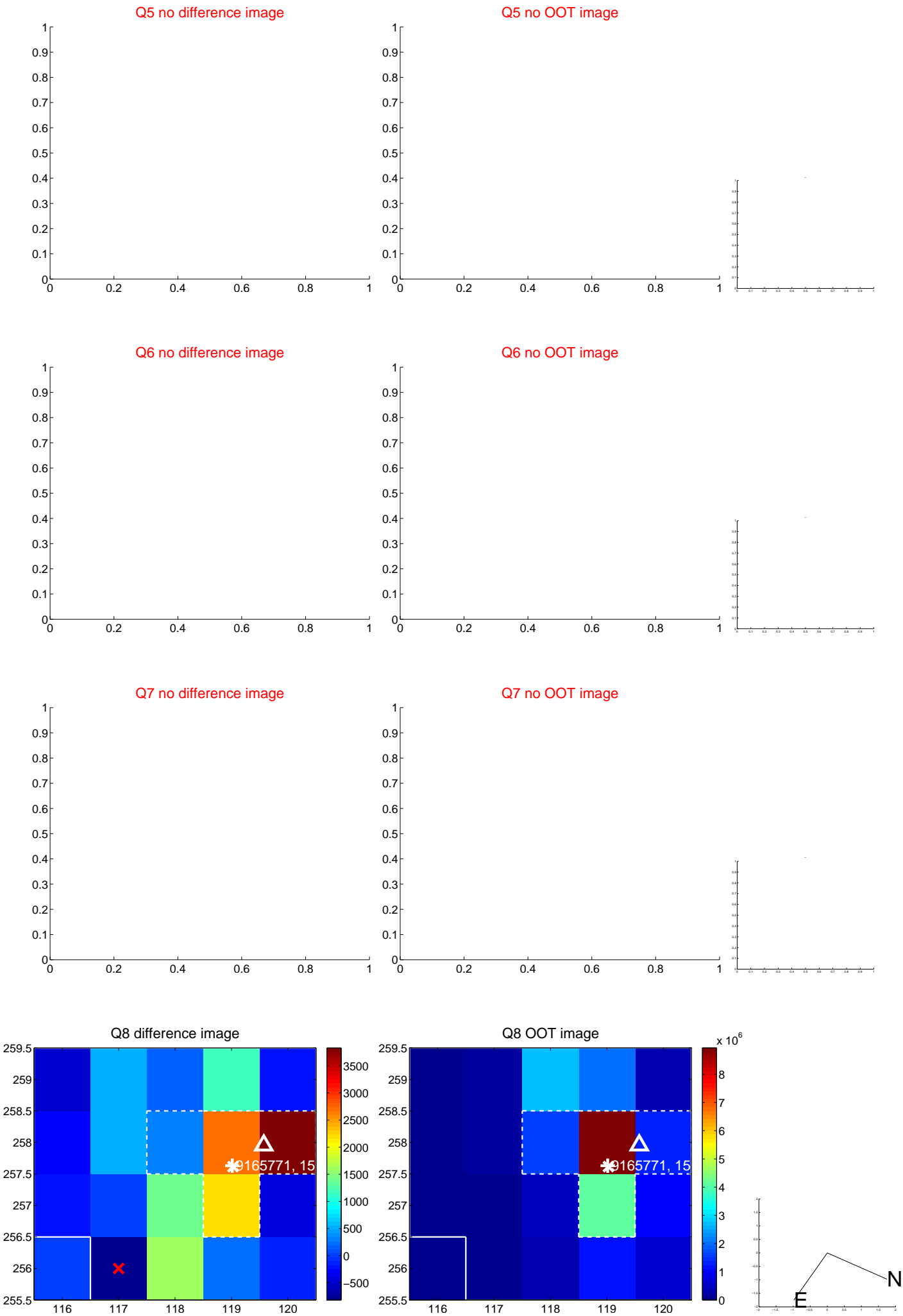


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



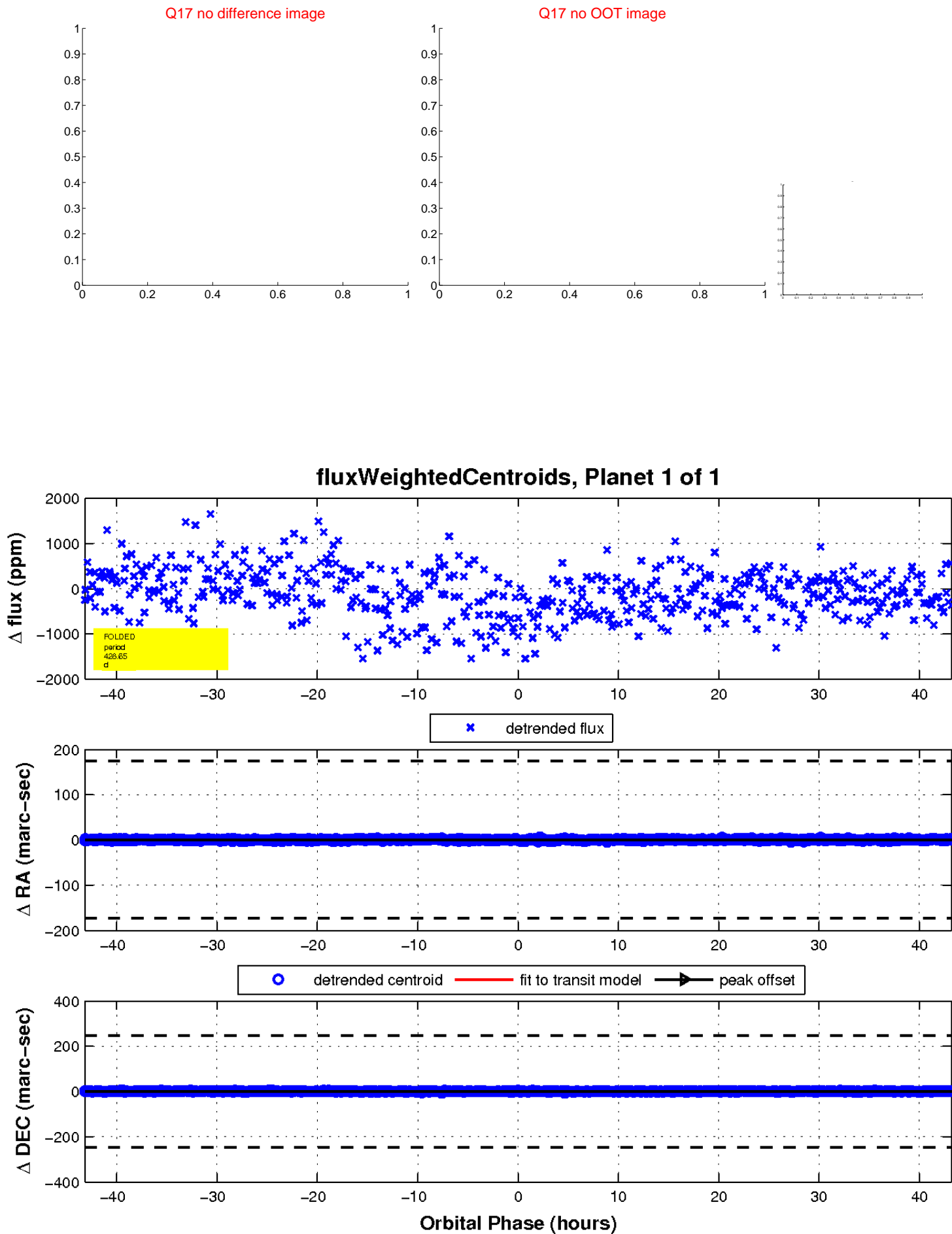
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

