

KIC 009813390

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})
009813390-01	OBS	No	471.373347	549.445457	2491.7	64.773	15.8	6.0	0.73	4536	4.59	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009813390-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

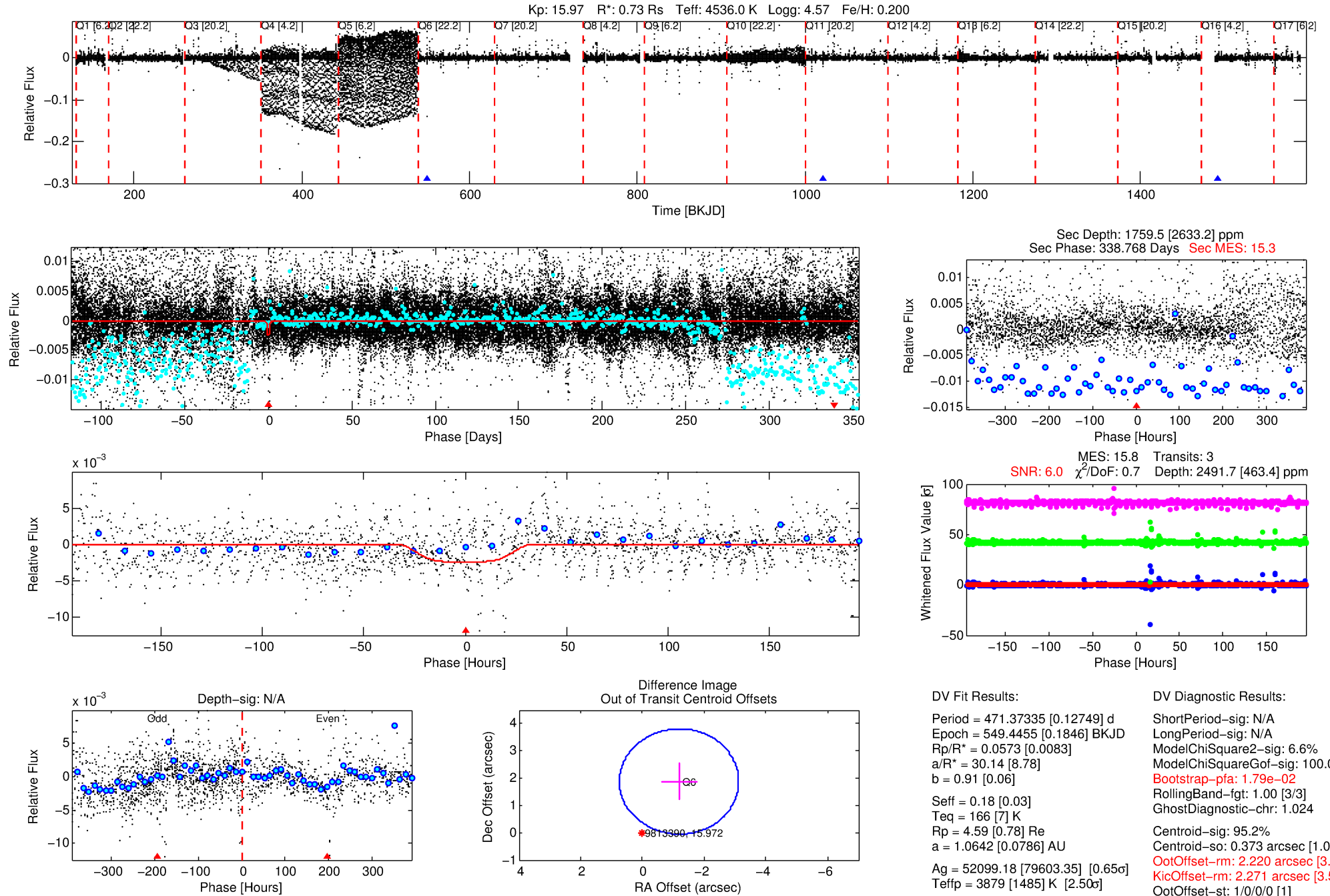
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009813390-01

No Significant Match Found

DV One-Page Summary

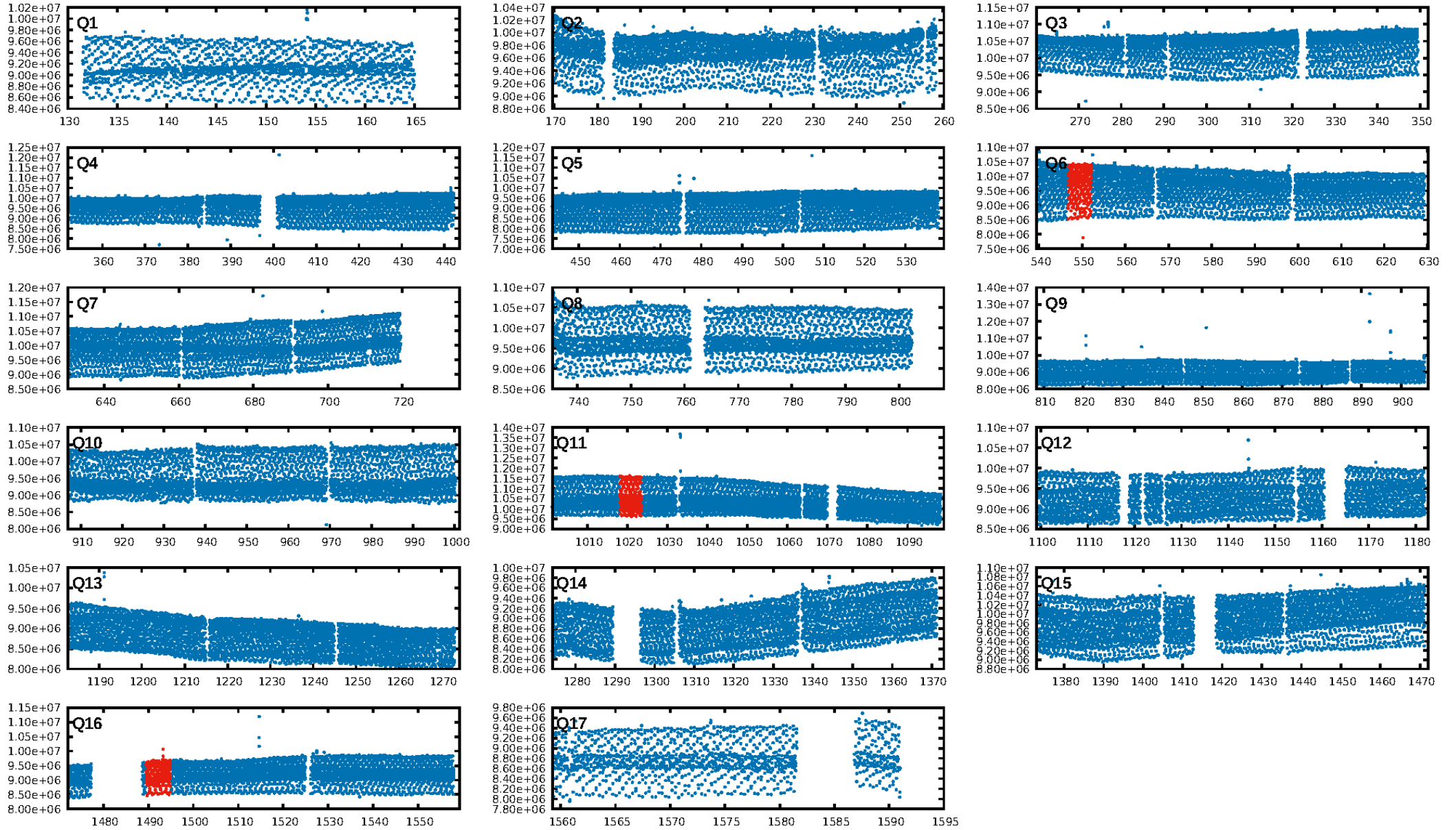
KIC: 9813390 Candidate: 1 of 1 Period: 471.373 d



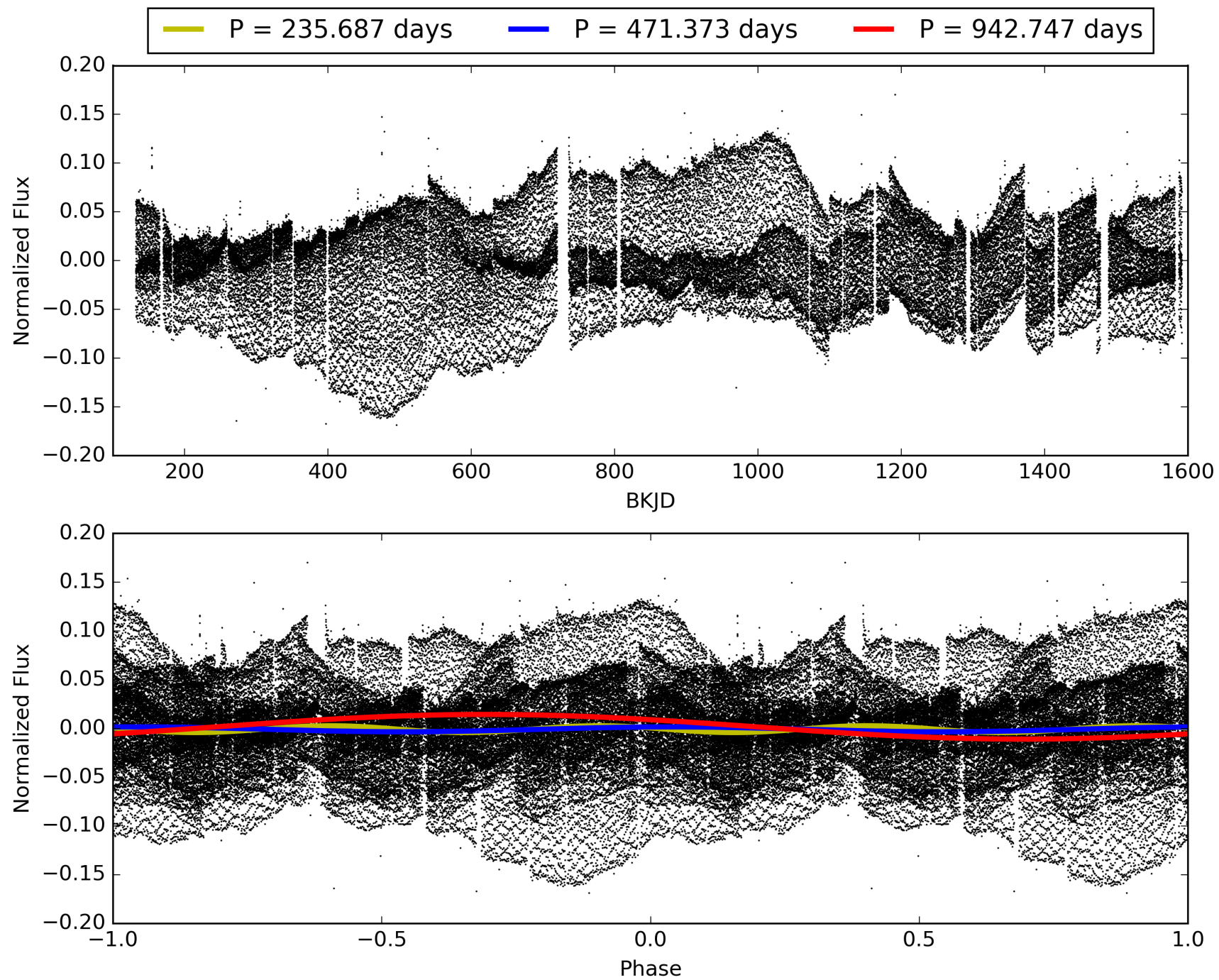
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:24:11 Z

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

TCE 009813390-01, PDC Light Curves

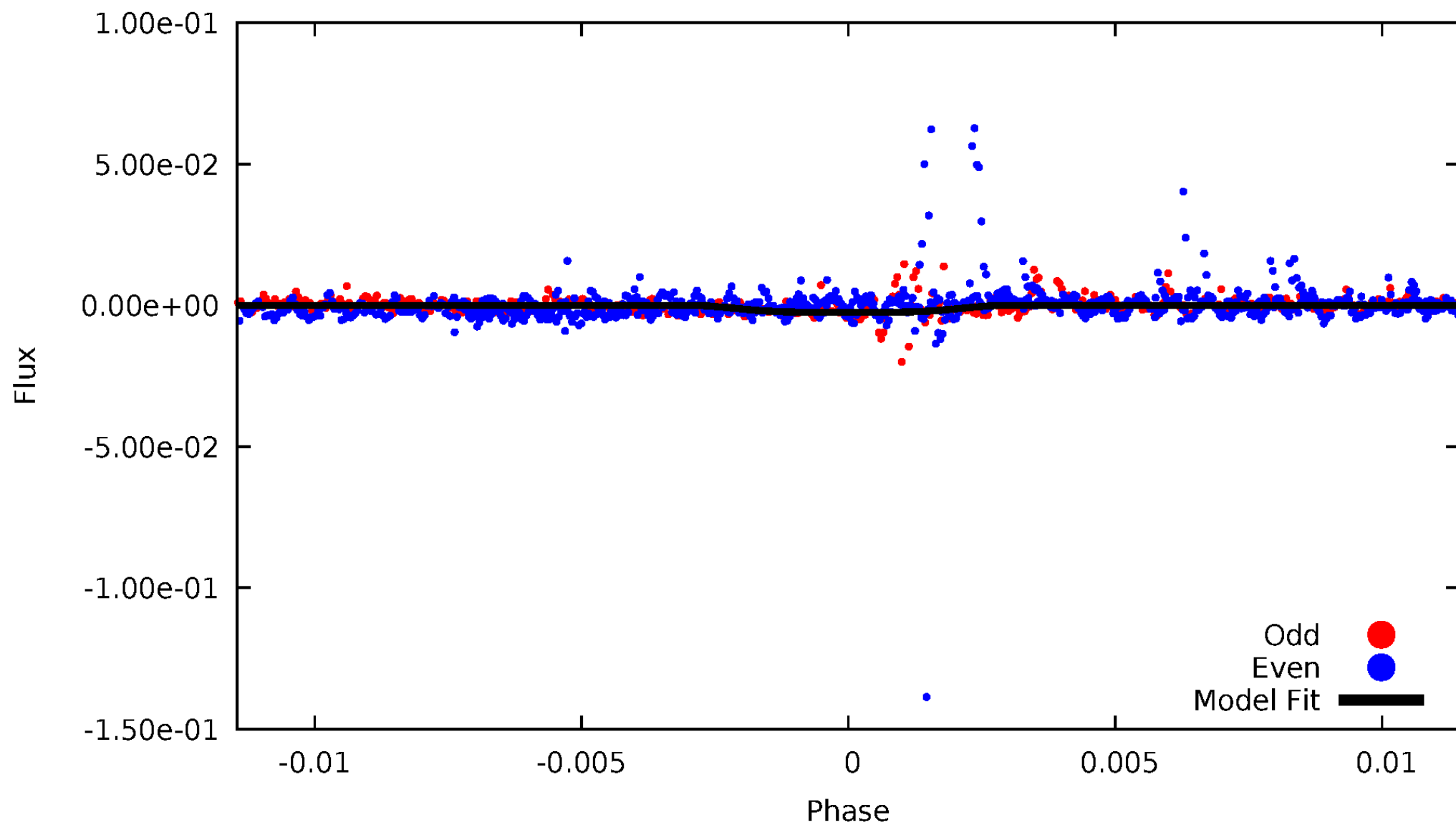


TCE 009813390-01



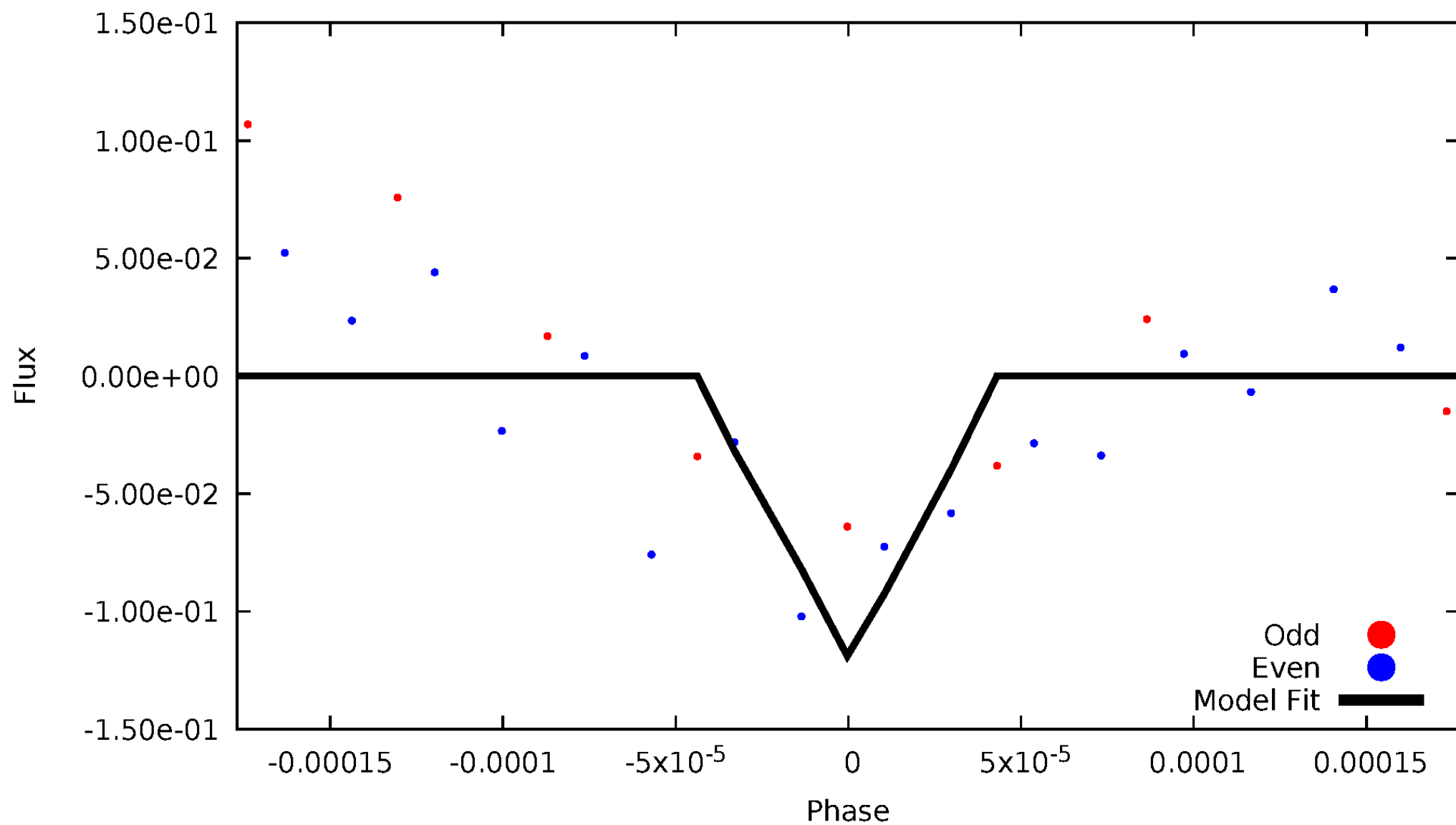
DV Odd/Even

TCE 009813390-01



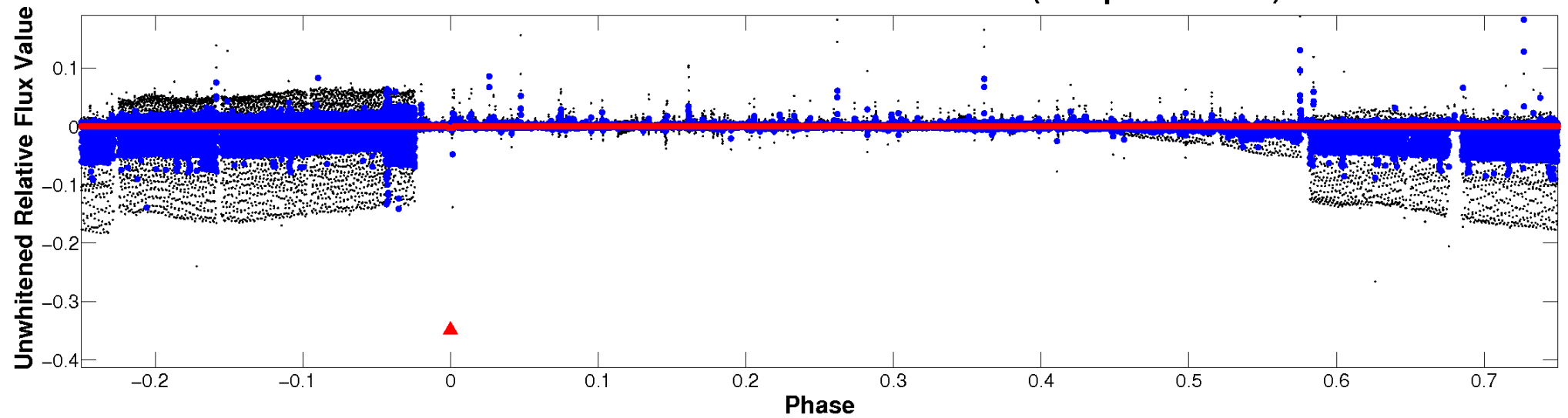
ALT Odd/Even

TCE 009813390-01

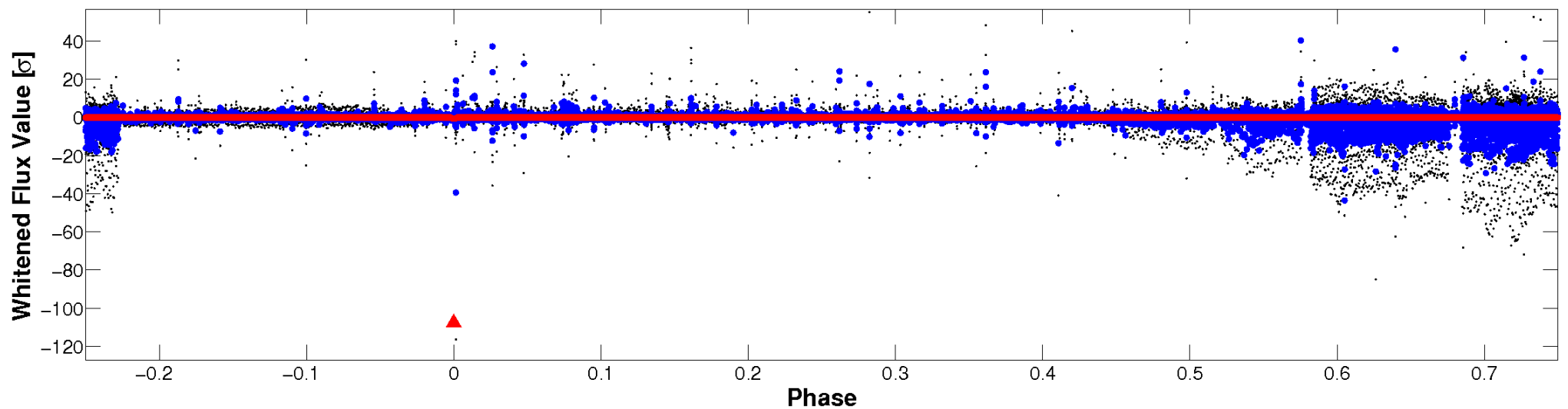


Non-Whitened Vs. Whitened Light Curve

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

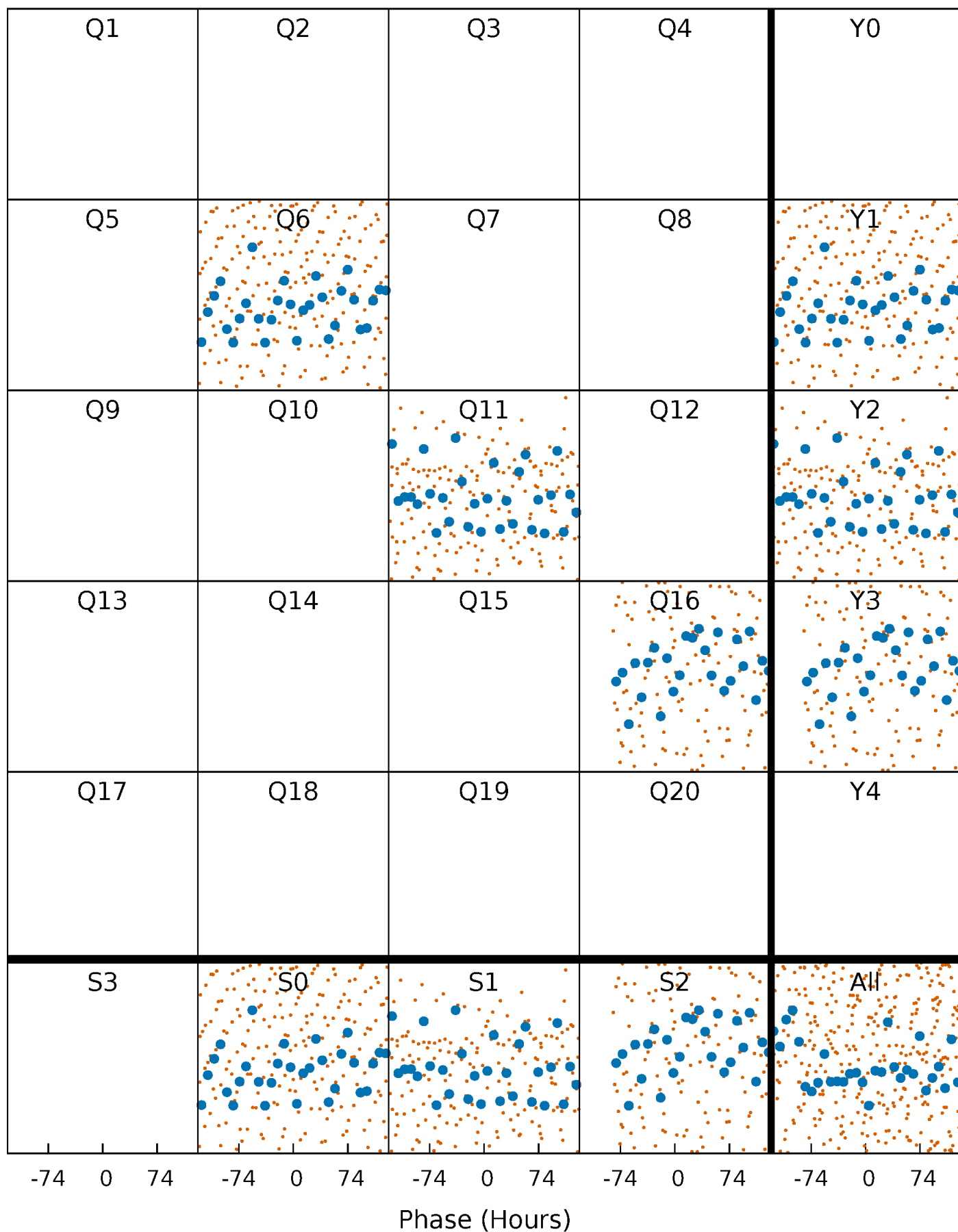


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009813390-01 P=471.373347 Days $T_0=549.445457$ (BKJD)



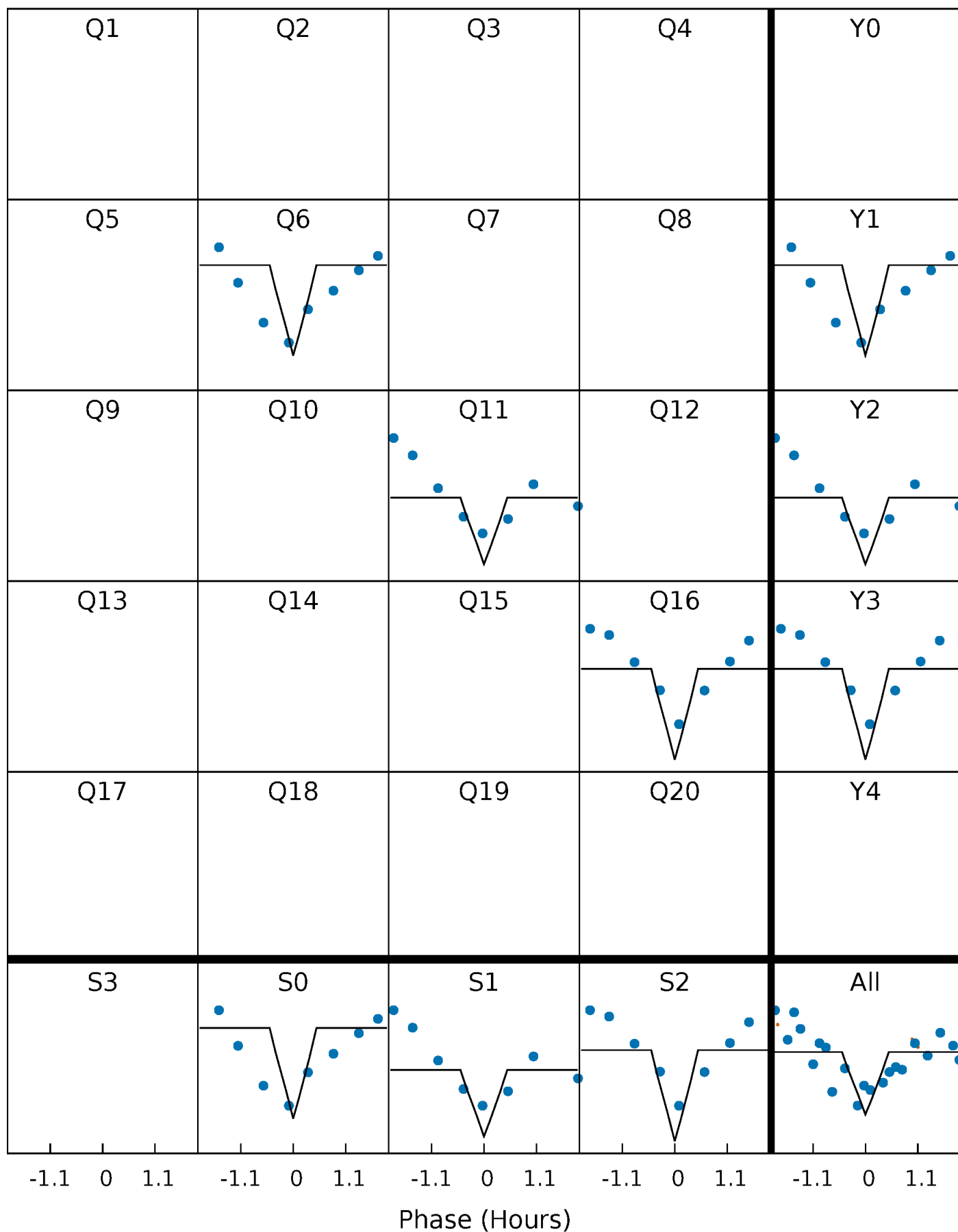
DV Quarter-Phased Transit Curves

TCE 009813390-01 P=471.373347 Days $T_0=549.445457$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

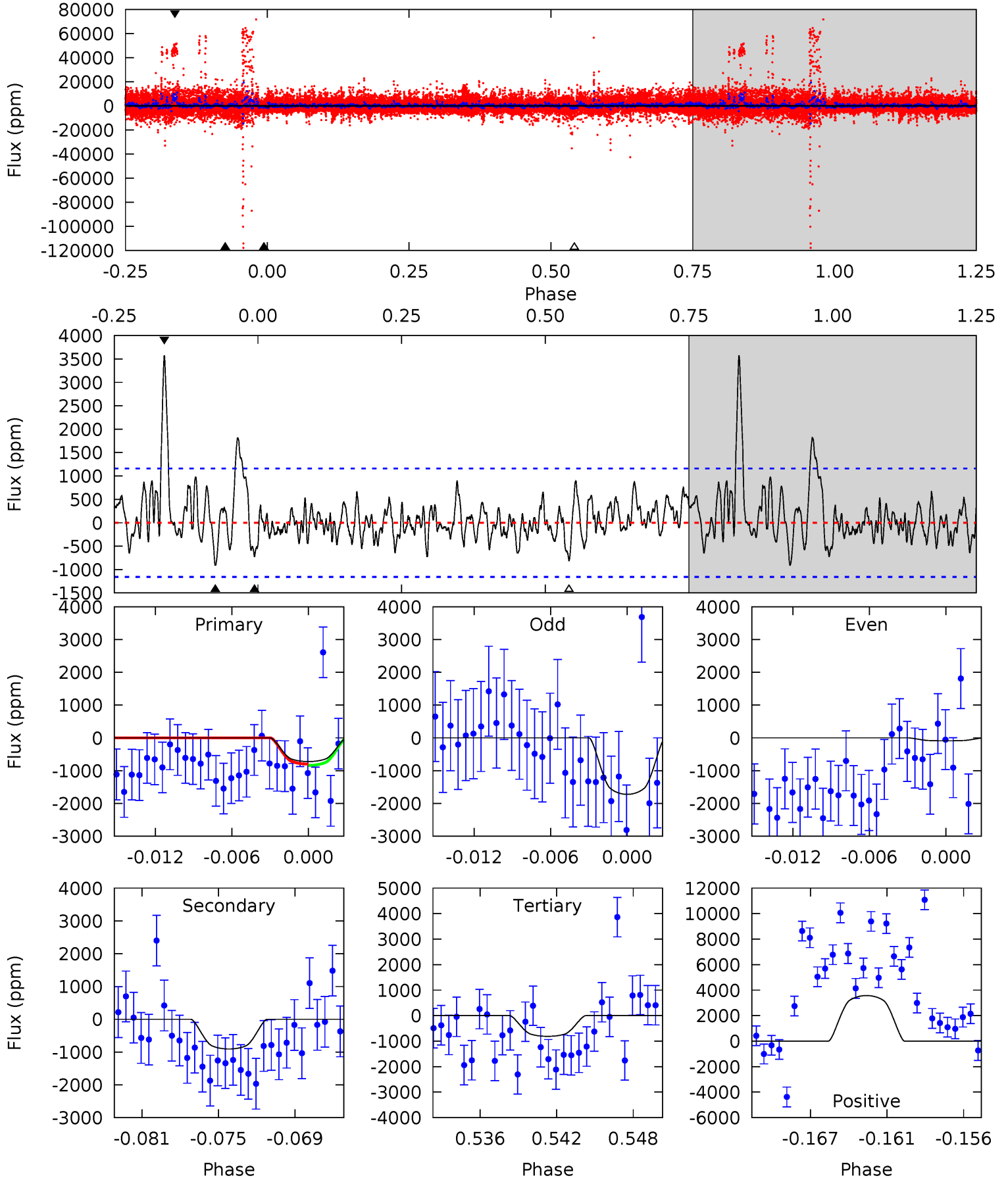
TCE 009813390-01 P=470.864145 Days $T_0=550.408951$ (BKJD)



DV Model-Shift Uniqueness Test

009813390-01, $P = 471.373347$ Days, $E = 78.072110$ Days

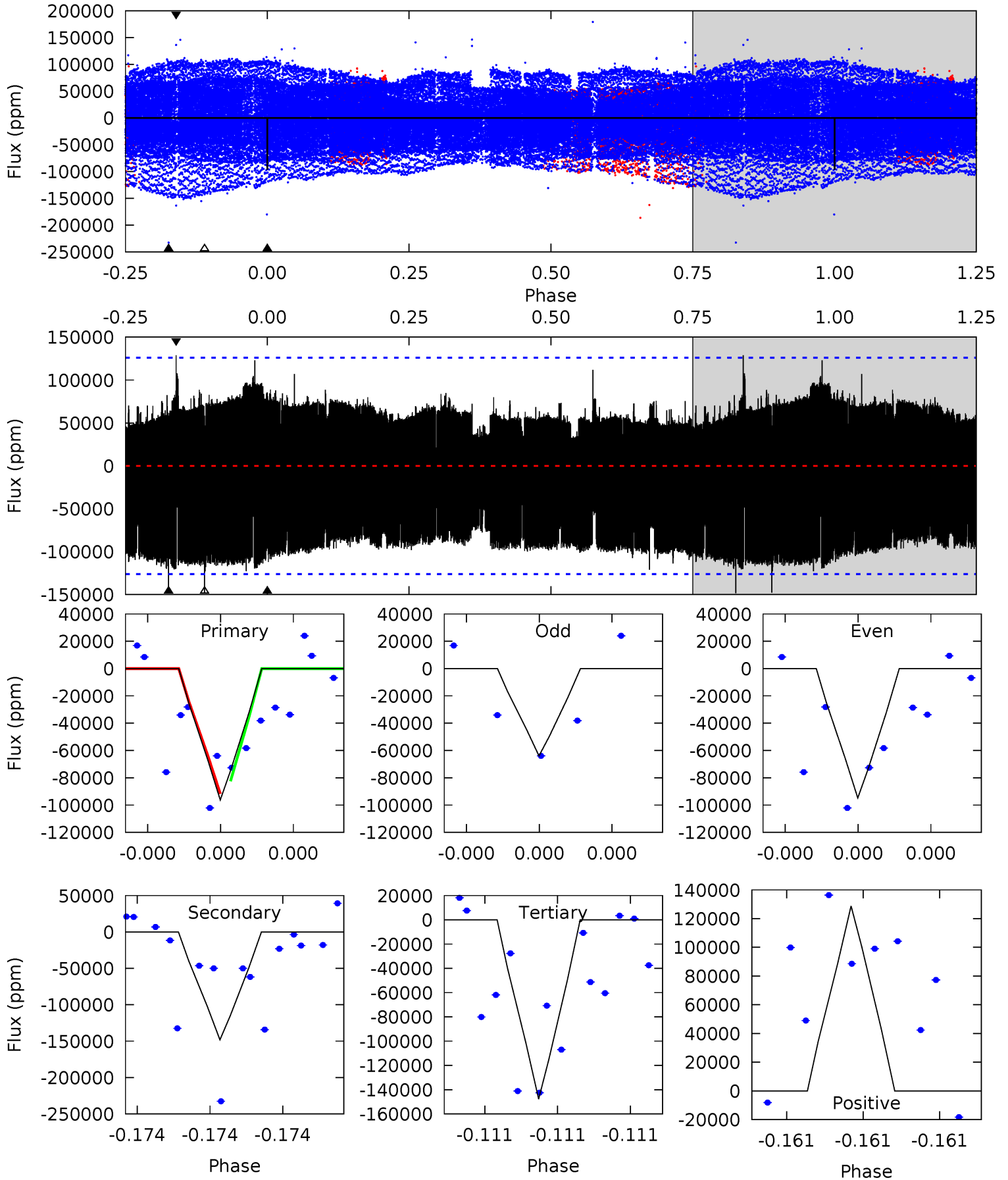
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.20	4.01	3.59	15.8	5.13	2.76	1.78	-0.40	-12.6	0.42	-11.8	1.96	1.97	0.80	0.08



Alt Model-Shift Uniqueness Test

009813390-01, P = 470.864145 Days, E = 79.544806 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.50	6.92	6.90	6.02	5.89	3.96	2.01	-2.40	-1.52	0.02	0.90	0.65	1.00	0.47	0.22



Stellar Parameters For KIC 009813390

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4536^{+159}_{-159}	$4.567^{+0.056}_{-0.024}$	$0.200^{+0.200}_{-0.300}$	$0.733^{+0.035}_{-0.066}$	$0.723^{+0.057}_{-0.052}$	$2.589^{+0.655}_{-0.238}$
	+4%/-4%	+1%/-1%	+100%/-150%	+5%/-9%	+8%/-7%	+25%/-9%
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 009813390-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-907 ± 226	$4.58^{+0.70}_{-0.67}$	230^{+9}_{-9}	3595^{+249}_{-244}	26811^{+12728}_{-8691}
Alt.	-148143 ± 21408	$27.47^{+1.13}_{-1.43}$	231^{+9}_{-9}	4890^{+265}_{-249}	146185^{+26639}_{-23845}

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 $A_{\text{obs}} \gg 1.0$

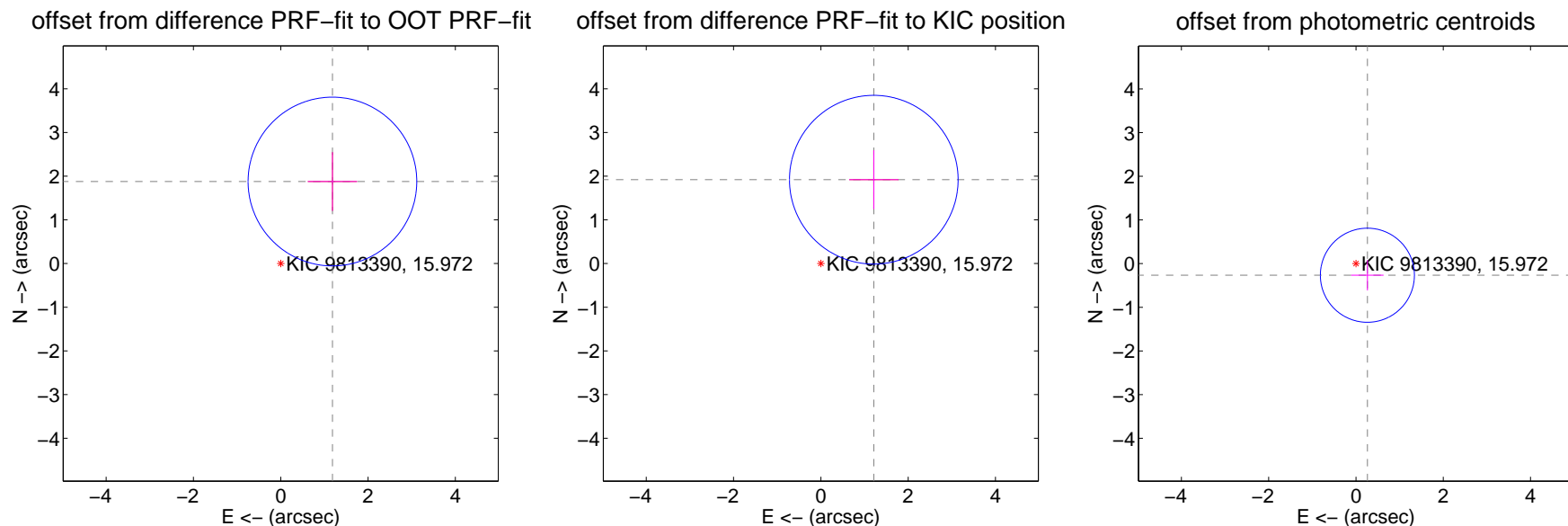
DV Centroid Data

Supplemental centroid analysis for 009813390-01. Kepler magnitude: 15.97. Transit SNR 5.97

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.220 ± 0.644	3.45	-1.184 ± 0.566	1.878 ± 0.673
PRF-fit source offset from KIC position	2.271 ± 0.644	3.53	-1.213 ± 0.566	1.920 ± 0.673
photometric centroid source offset	0.37 ± 0.36	1.04	-0.26 ± 0.37	-0.27 ± 0.35

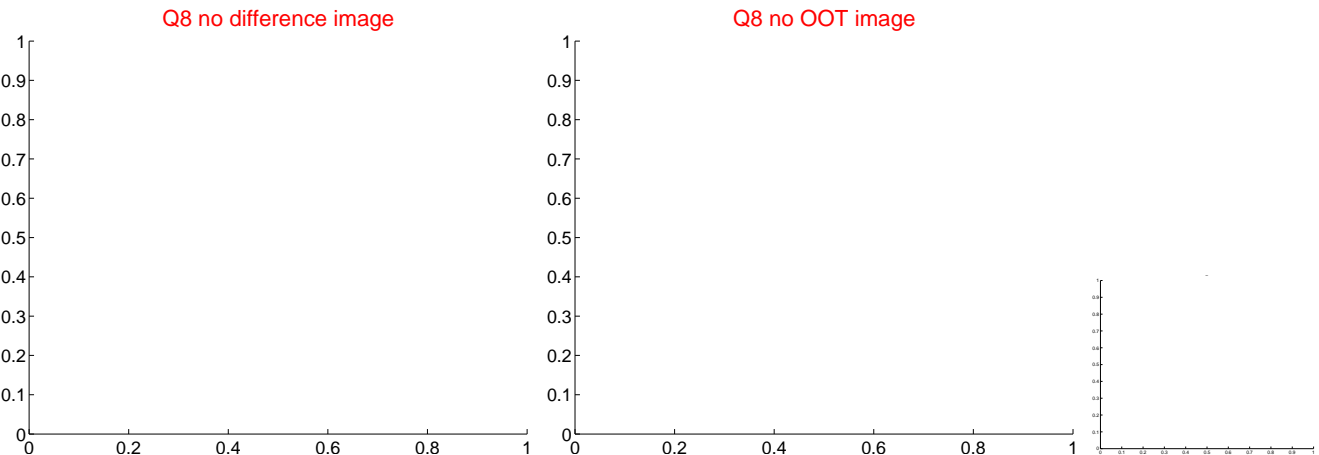
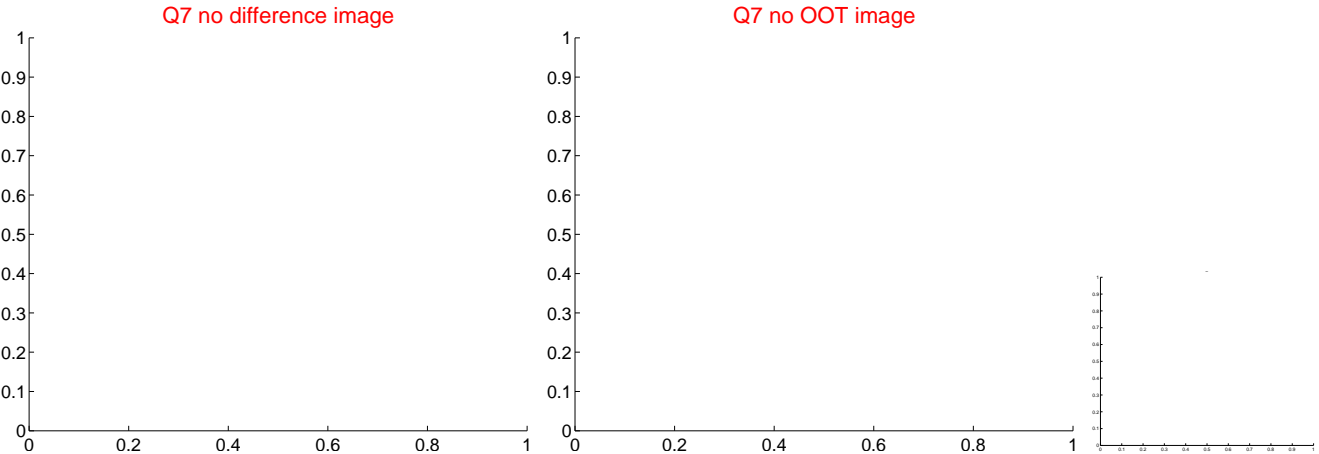
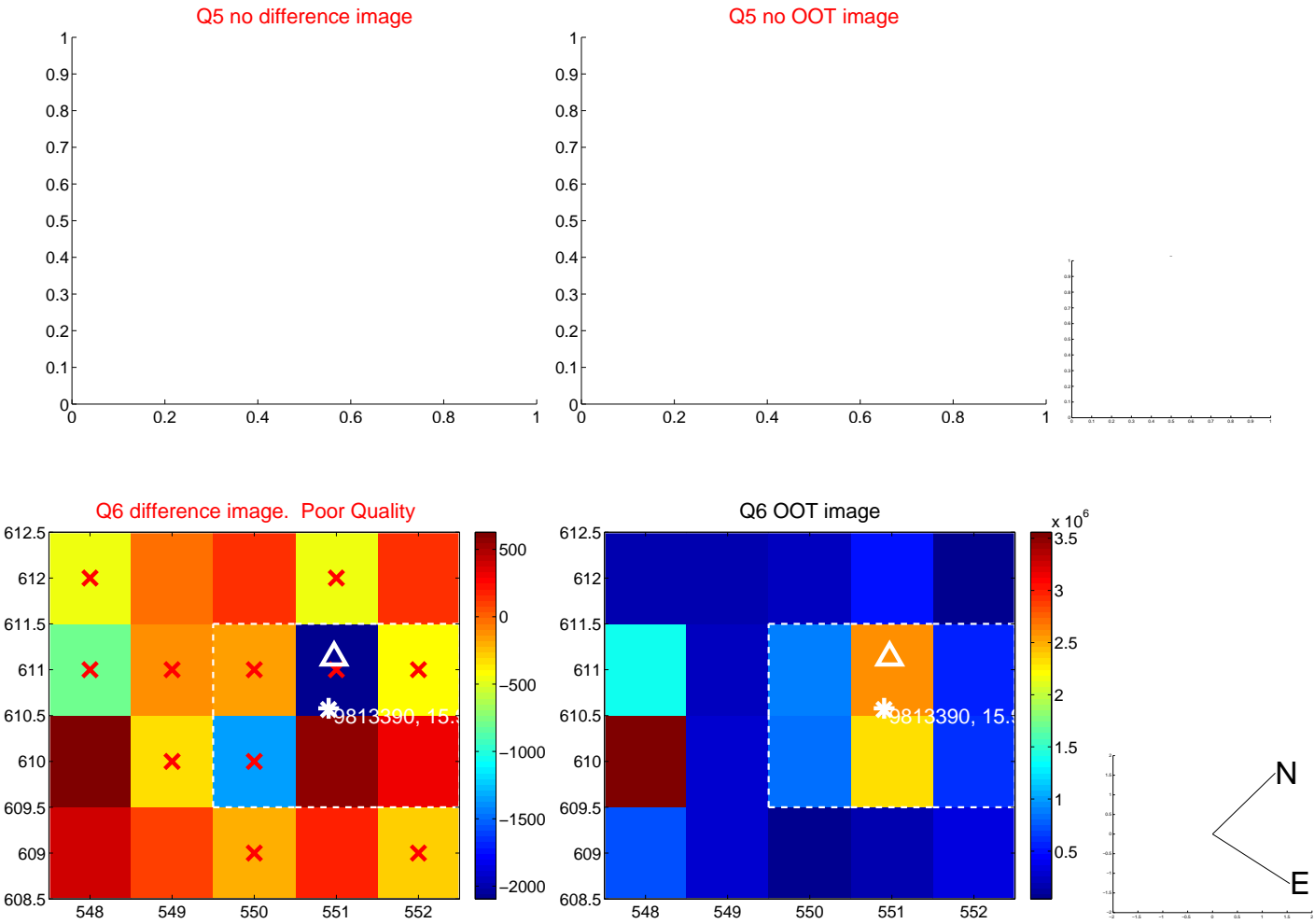


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



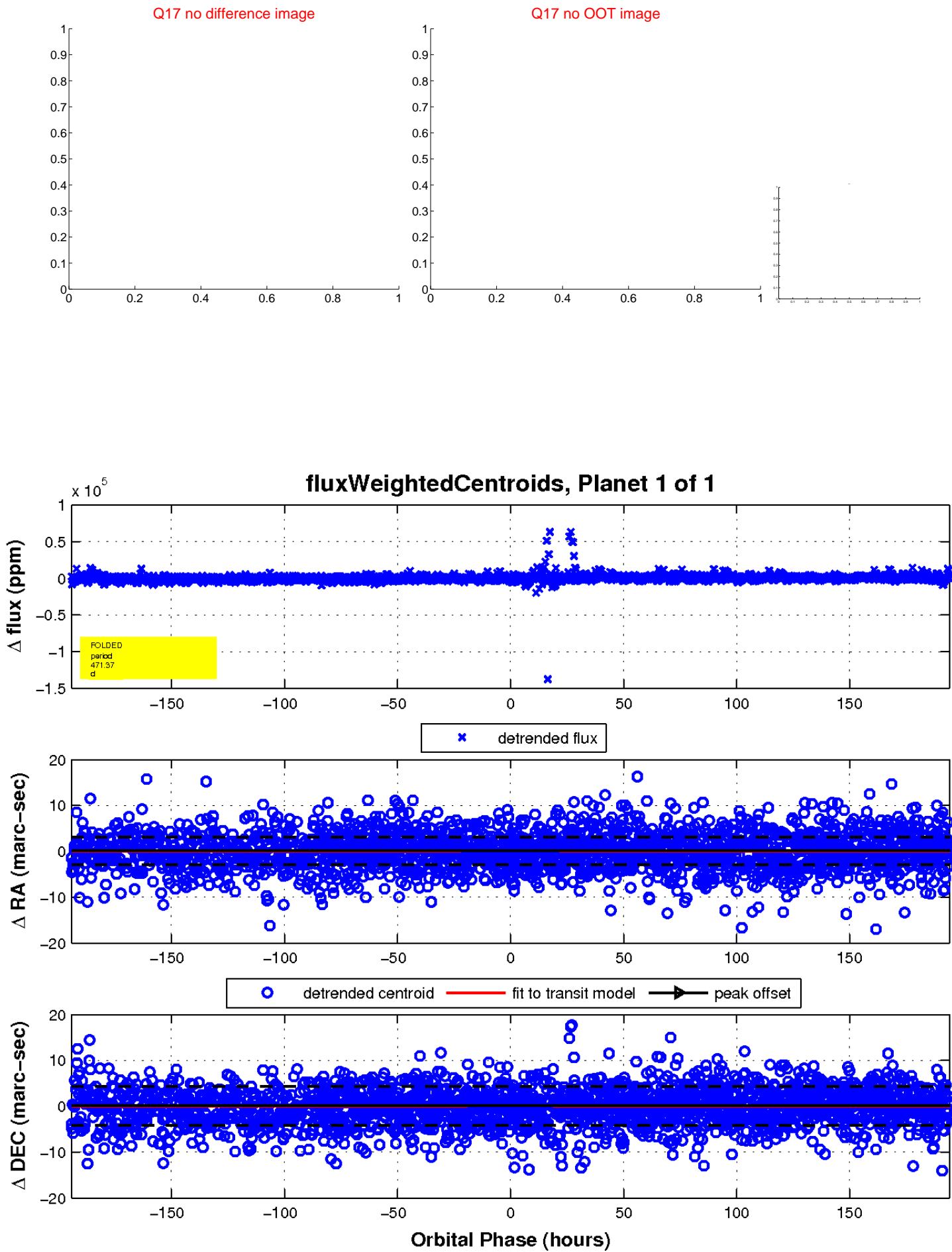
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

