

KIC 008439107

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})
008439107-01	OBS	No	370.766878	230.735767	2468.9	26.582	8.6	9.3	0.92	6054	5.58	1.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008439107-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

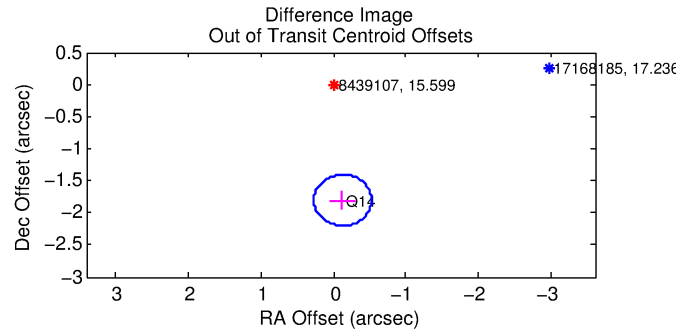
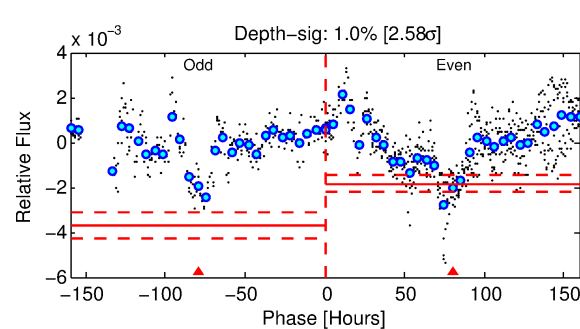
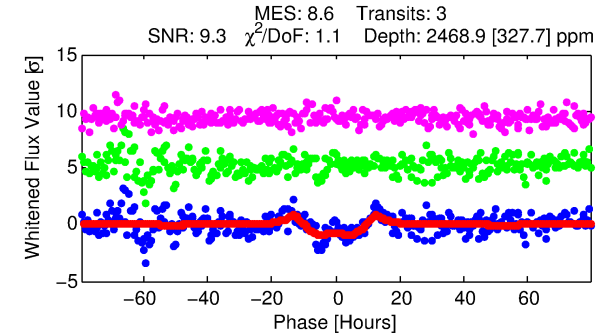
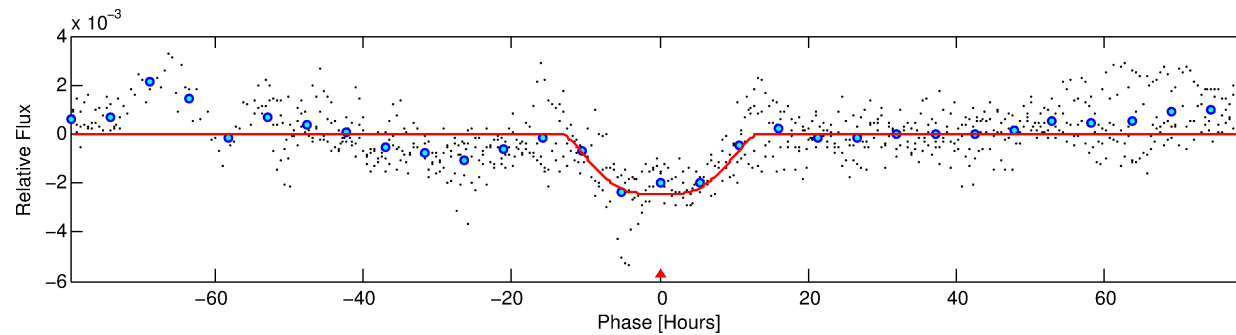
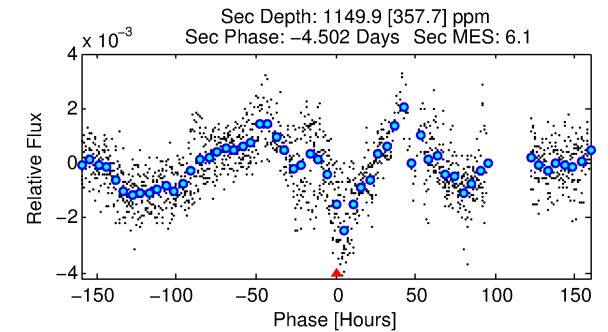
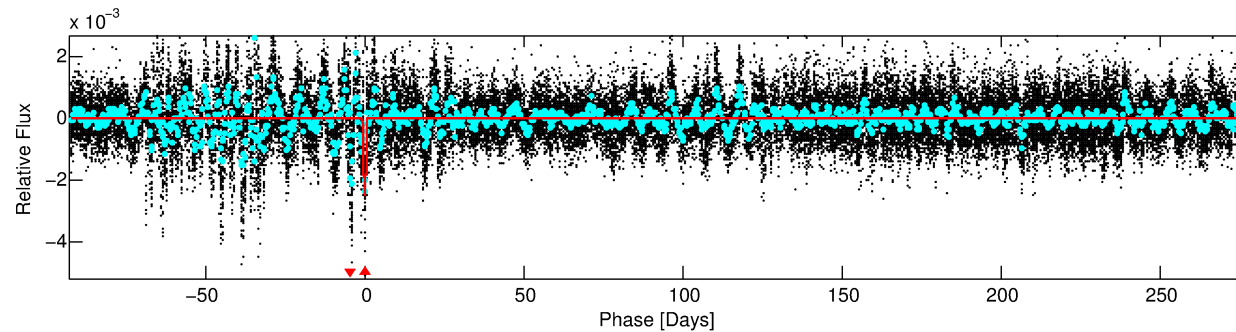
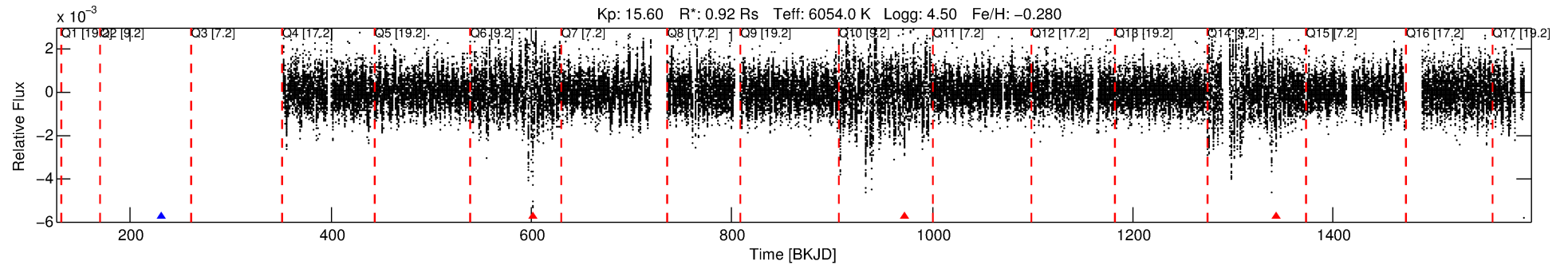
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008439107-01

No Significant Match Found

DV One-Page Summary

KIC: 8439107 Candidate: 1 of 1 Period: 370.767 d



DV Fit Results:

Period = 370.76688 [0.02358] d
Epoch = 230.7358 [0.0518] BKJD
Rp/R* = 0.0556 [0.0041]
a/R* = 53.02 [4.60]
b = 0.93 [0.01]
Seff = 1.01 [0.42]
Teq = 256 [26] K
Rp = 5.58 [1.80] Re
a = 1.0038 [0.2645] AU
Ag = 20470.02 [10524.01] [1.94σ]
Teff = 4726 [445] K [10.02σ]

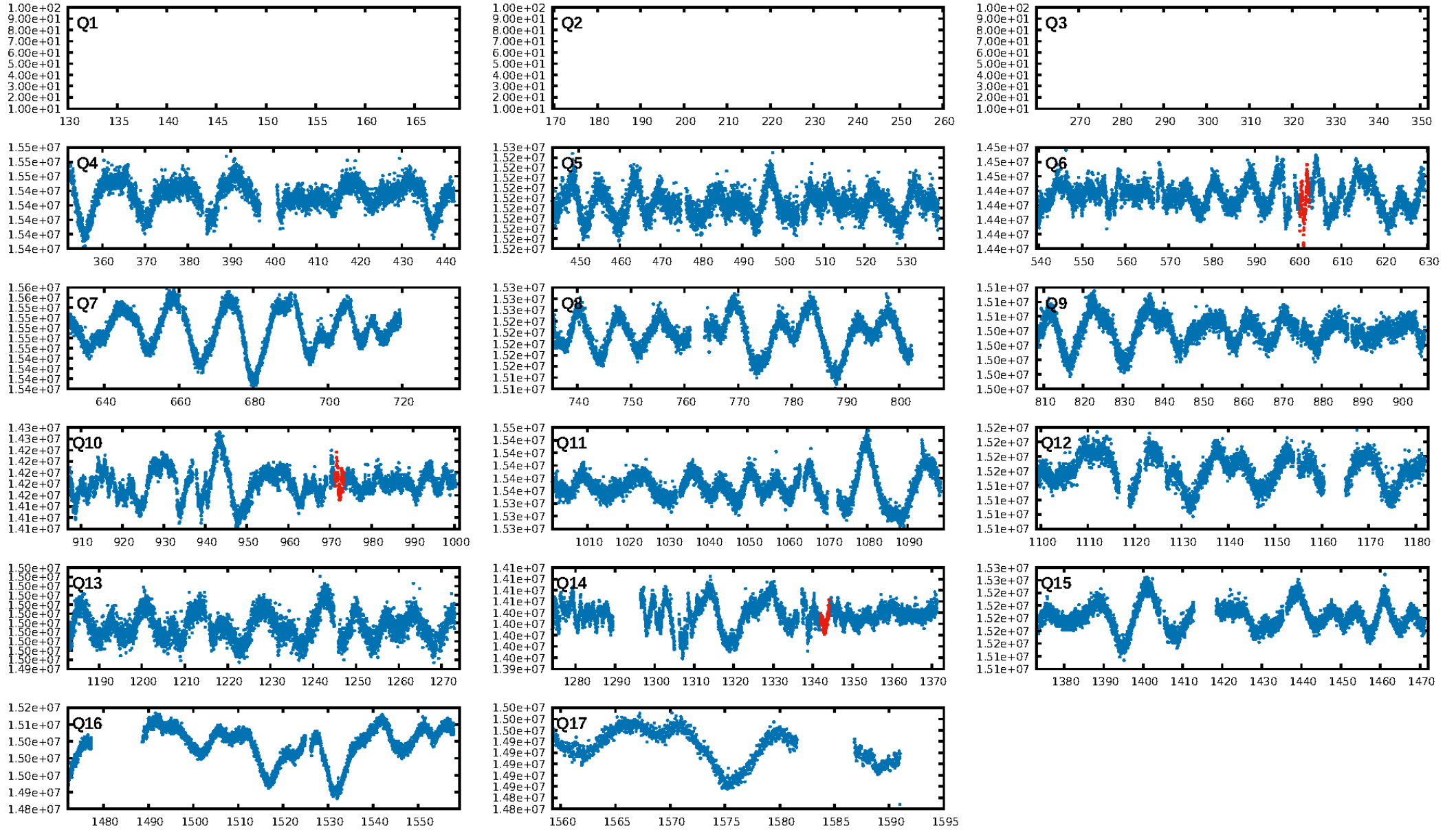
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.63e-10
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 2.093
Centroid-sig: 4.8%
Centroid-so: 2.647 arcsec [1.55σ]
OotOffset-rm: 1.809 arcsec [13.67σ]
KicOffset-rm: 1.495 arcsec [11.25σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

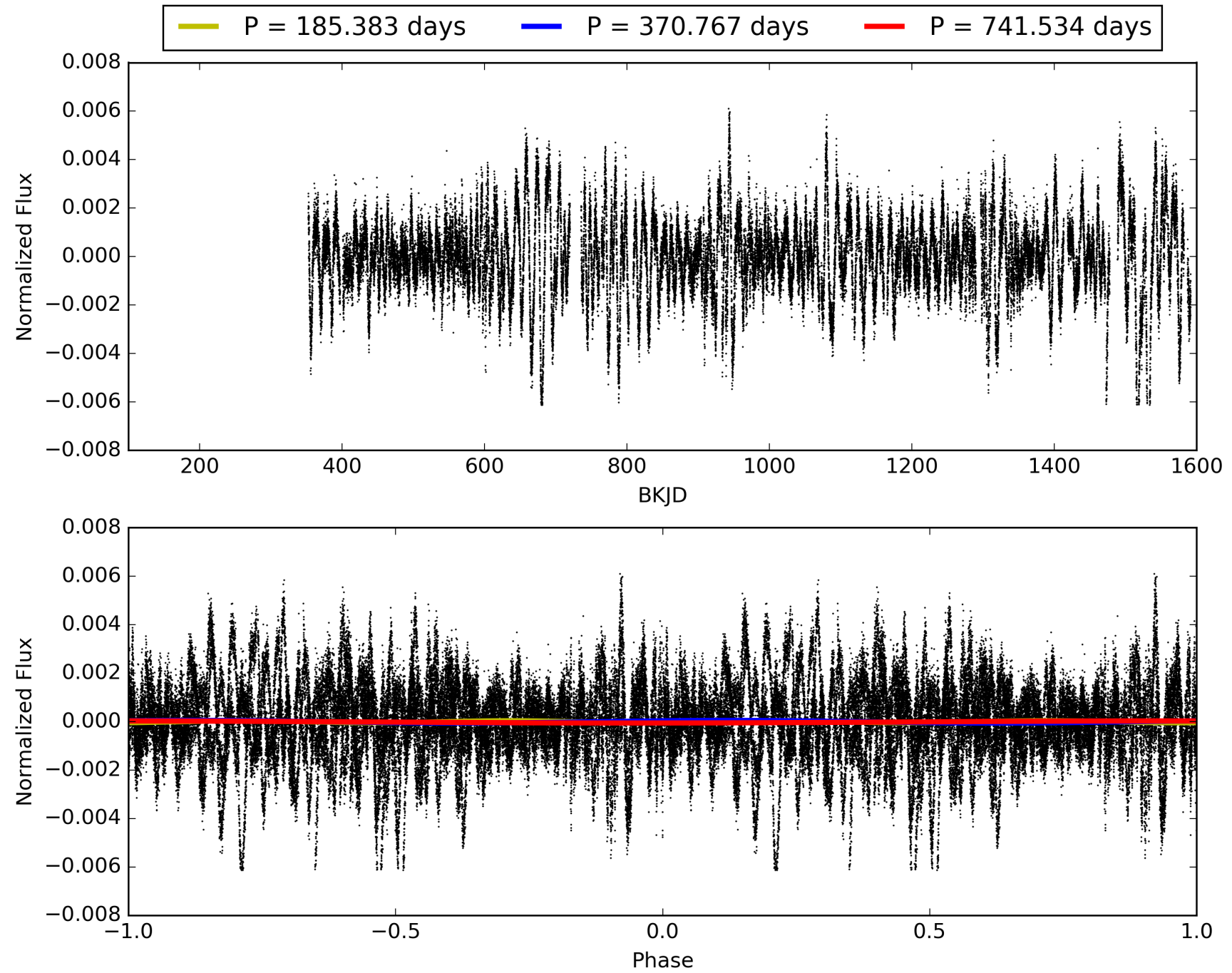
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:38:00 Z

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

TCE 008439107-01, PDC Light Curves

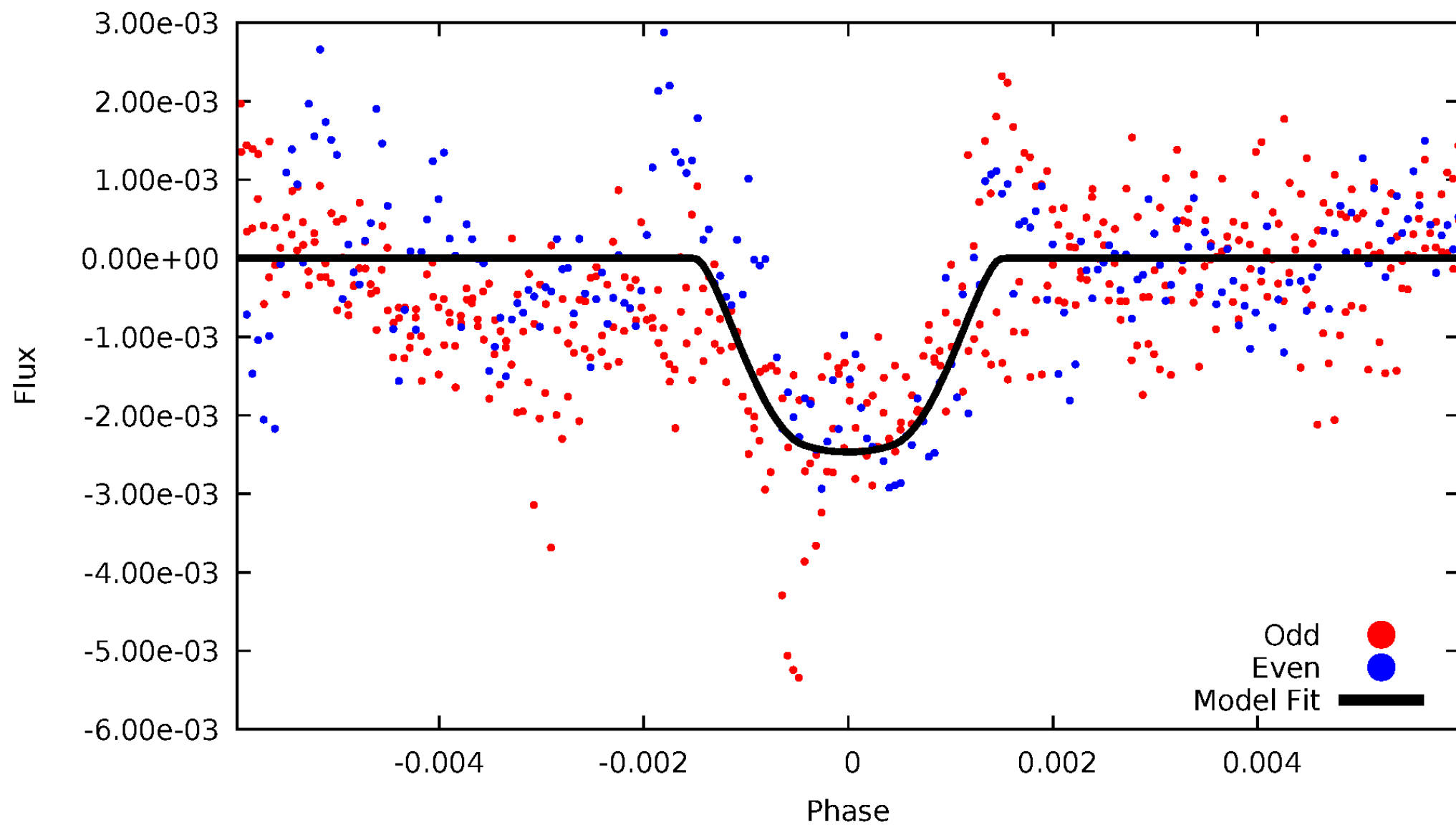


TCE 008439107-01



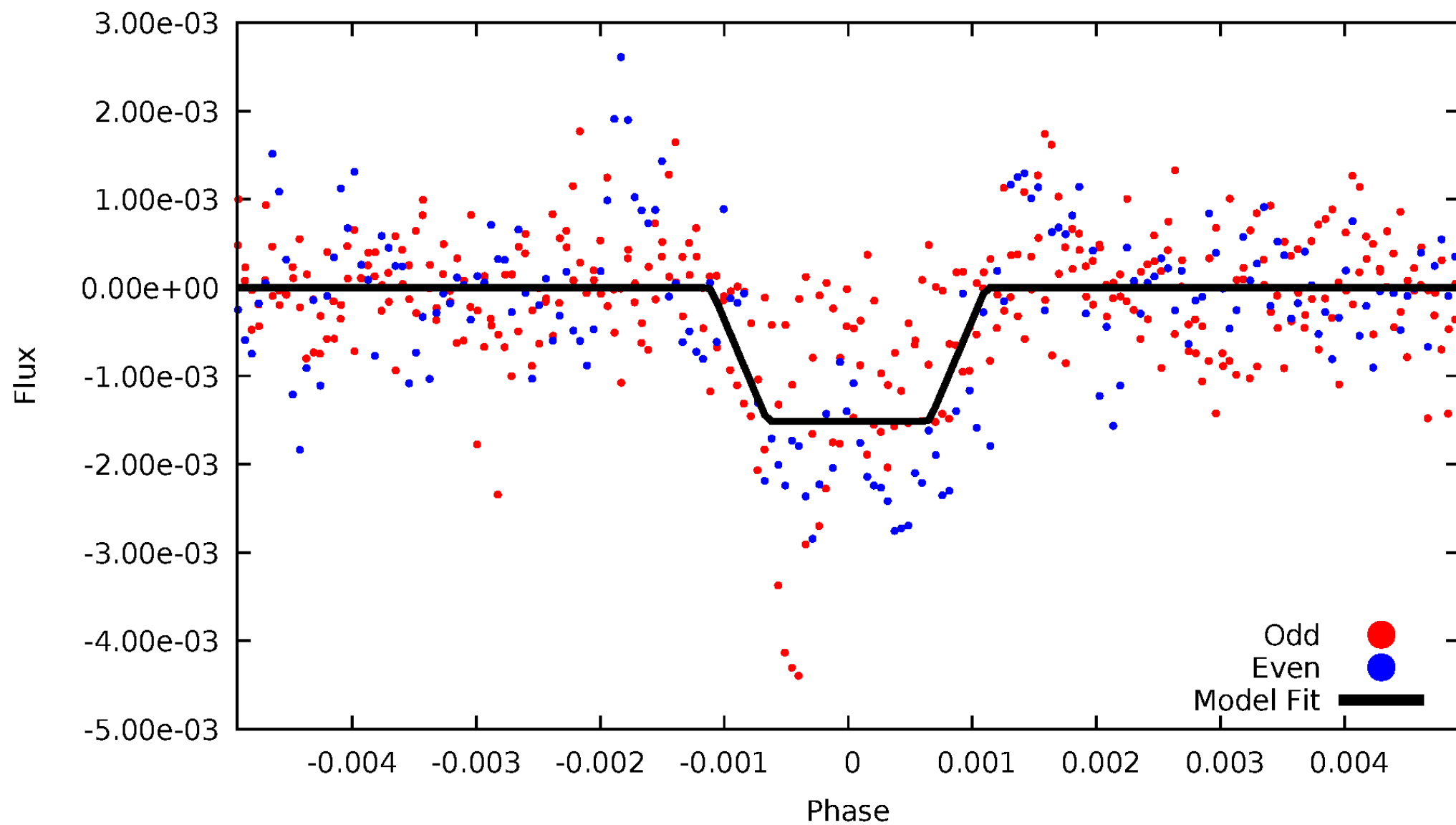
DV Odd/Even

TCE 008439107-01



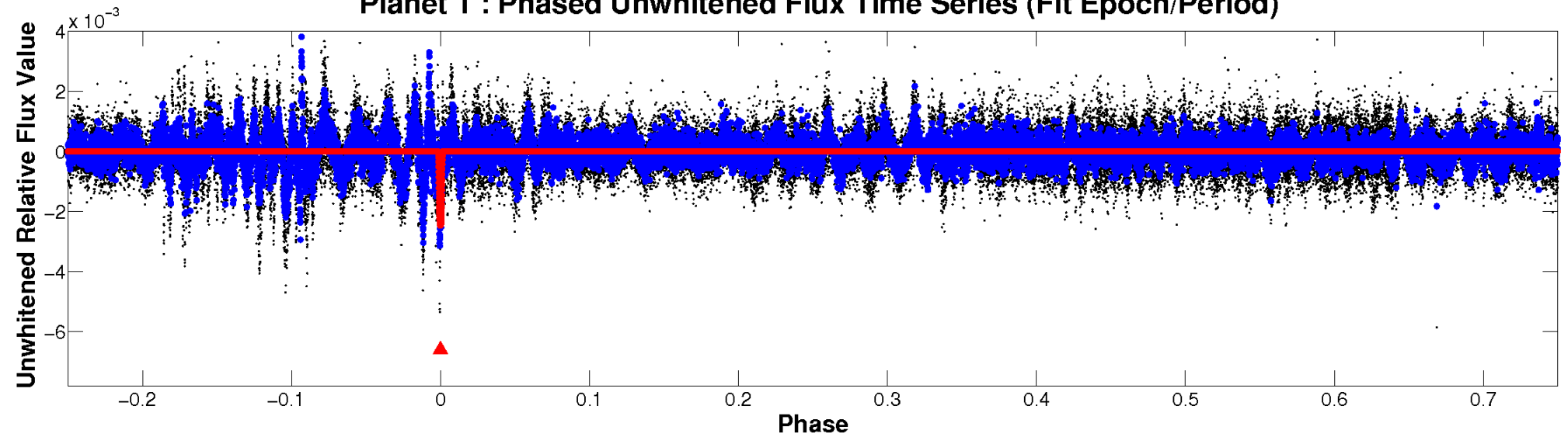
ALT Odd/Even

TCE 008439107-01

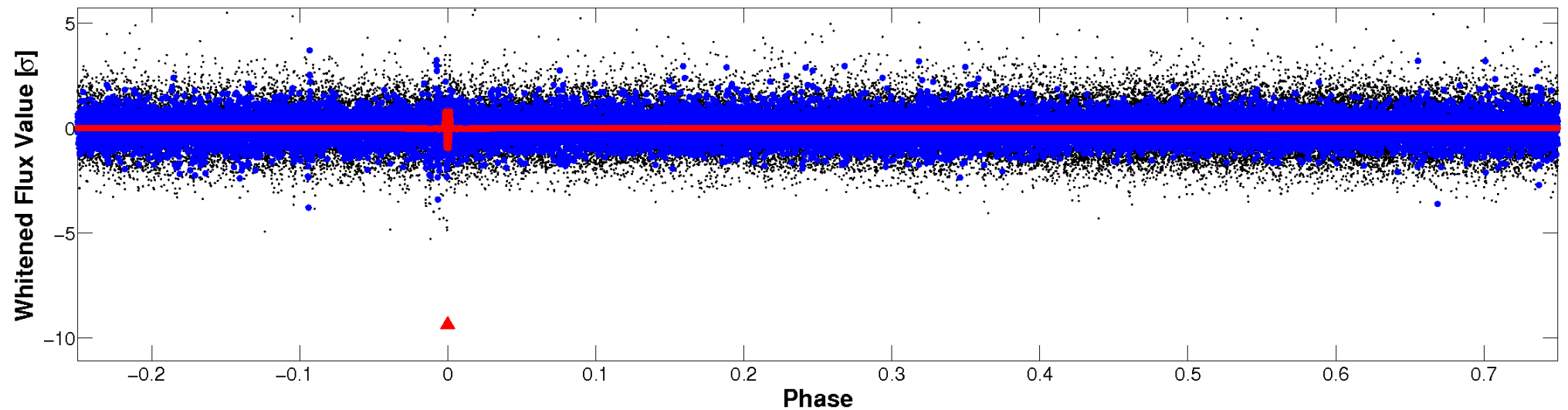


Non-Whitened Vs. Whitened Light Curve

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

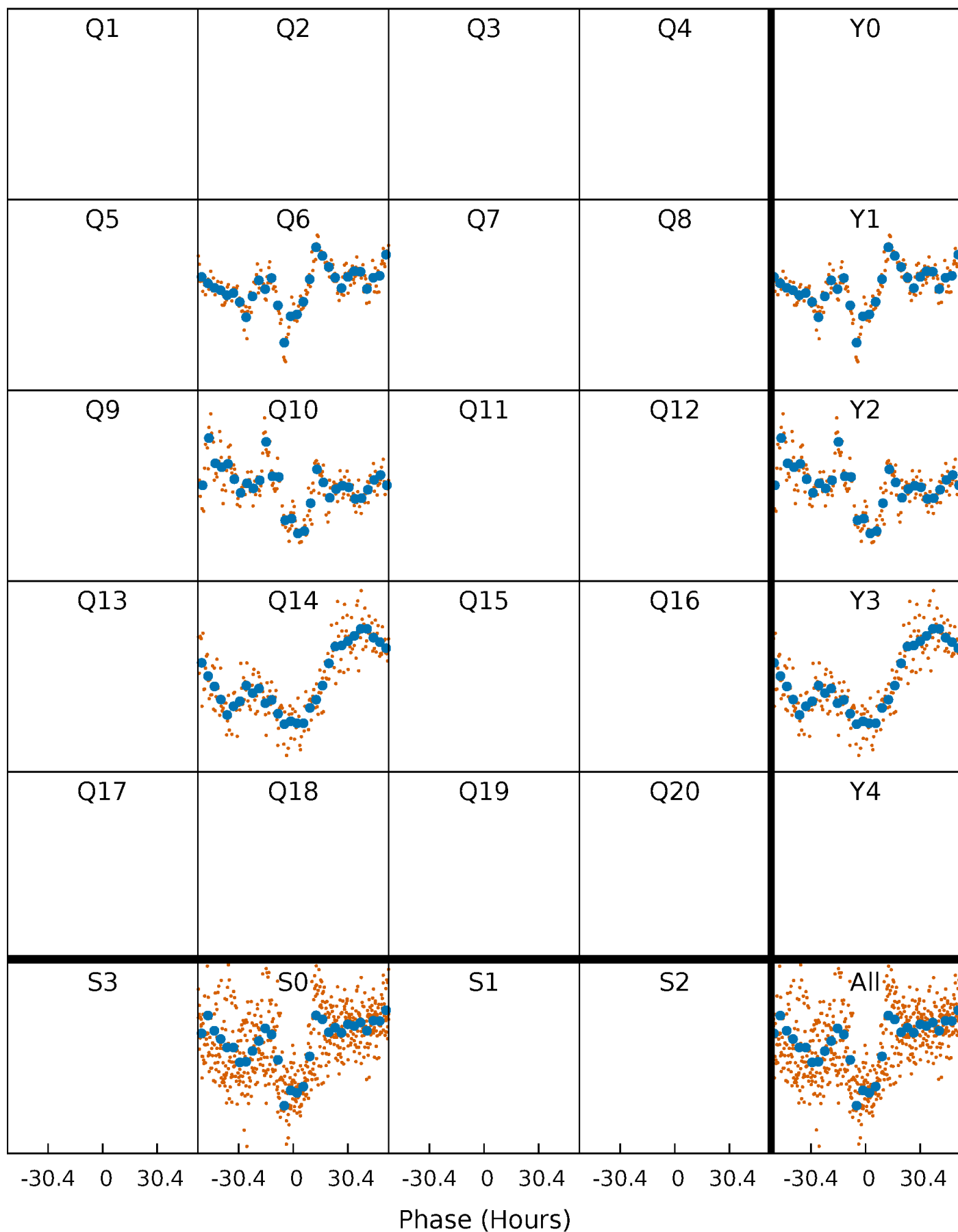


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



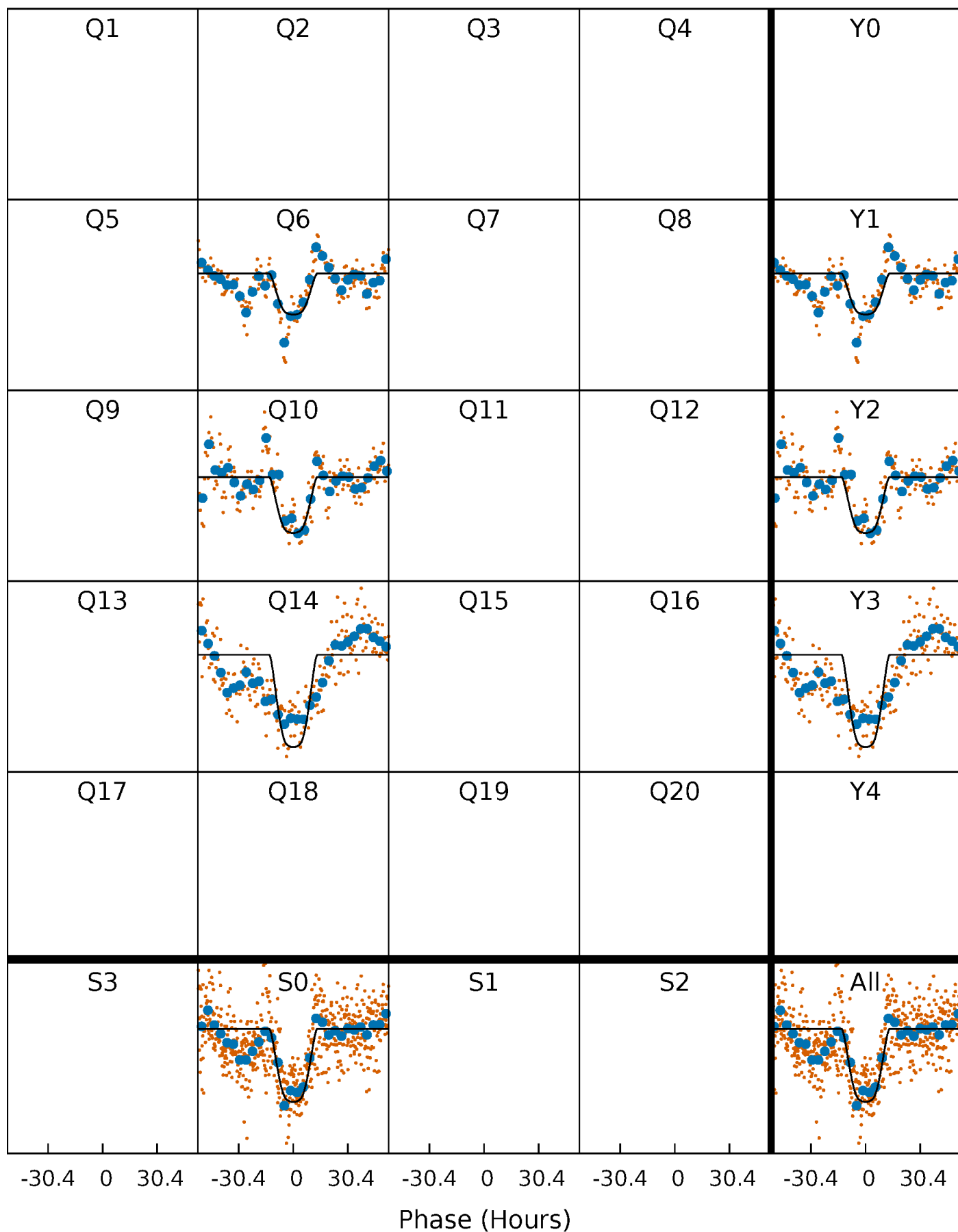
PDC Quarter-Phased Transit Curves

TCE 008439107-01 $P=370.766878$ Days $T_0=230.735767$ (BKJD)



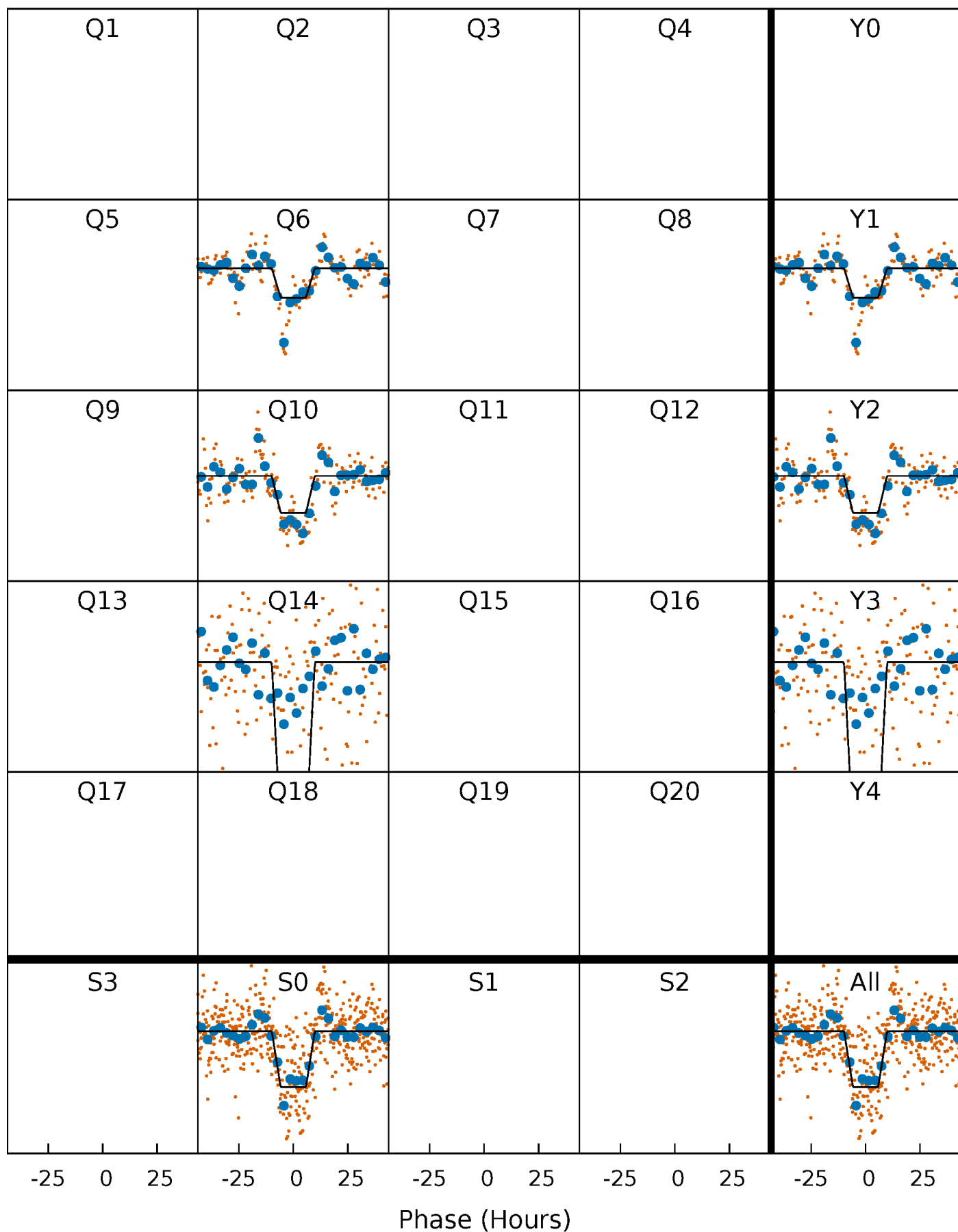
DV Quarter-Phased Transit Curves

TCE 008439107-01 $P=370.766878$ Days $T_0=230.735767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

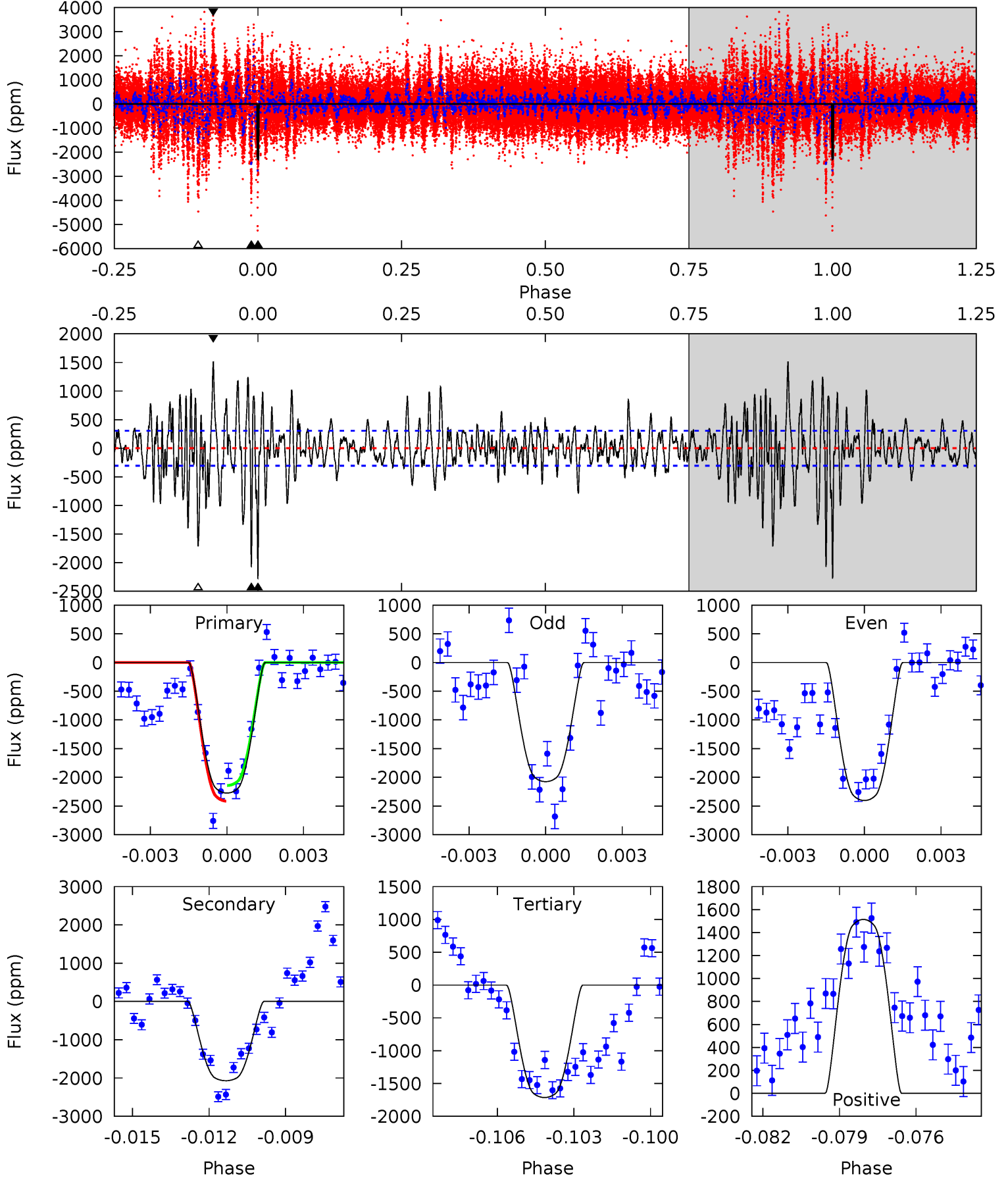
TCE 008439107-01 P=370.807813 Days $T_0=230.664474$ (BKJD)



DV Model-Shift Uniqueness Test

008439107-01, $P = 370.766878$ Days, $E = 230.735767$ Days

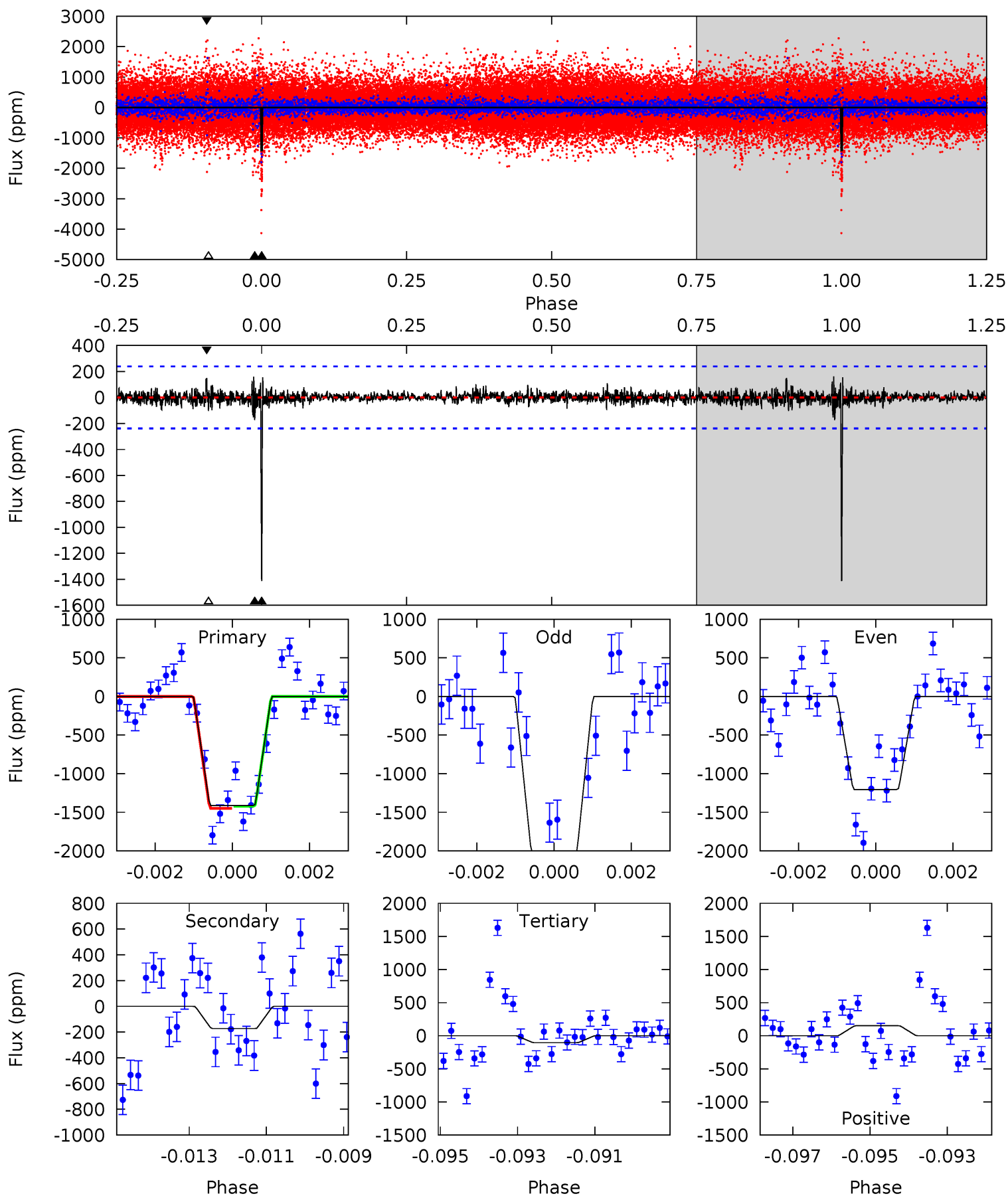
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	35.7	29.5	26.1	5.25	2.96	6.22	9.67	13.1	6.15	9.58	2.71	1.11	0.40	2.34



Alt Model-Shift Uniqueness Test

008439107-01, $P = 370.807813$ Days, $E = 230.664474$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	3.84	2.31	3.34	5.31	3.06	0.58	29.1	28.0	1.53	0.49	8.74	0.73	0.10	0.32



Stellar Parameters For KIC 008439107

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6054^{+190}_{-233}	$4.503^{+0.052}_{-0.208}$	$-0.280^{+0.300}_{-0.300}$	$0.919^{+0.289}_{-0.096}$	$0.982^{+0.129}_{-0.129}$	$1.781^{+0.502}_{-0.937}$
	+3%/-4%	+1%/-5%	+107%/-107%	+31%/-10%	+13%/-13%	+28%/-53%
Source	KIC0	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 008439107-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2070 ± 58	$5.72^{+1.01}_{-0.64}$	364^{+27}_{-18}	5509^{+277}_{-275}	34353^{+8256}_{-9174}
Alt.	-173 ± 45	$4.07^{+0.72}_{-0.56}$	364^{+27}_{-18}	3871^{+256}_{-245}	5664^{+2614}_{-2052}

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

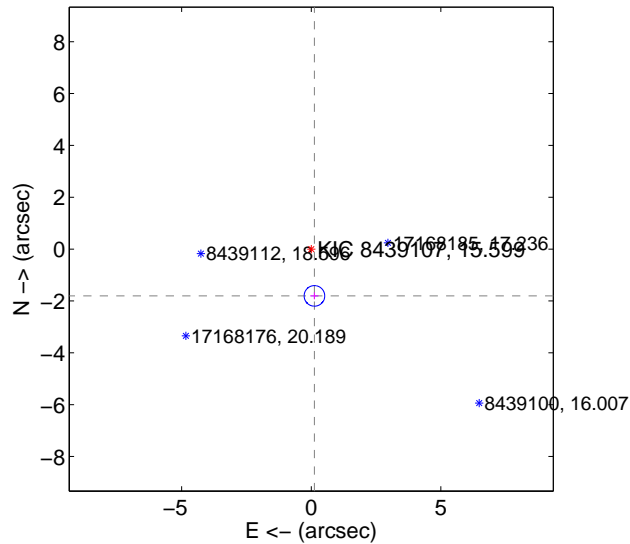
Supplemental centroid analysis for 008439107-01. Kepler magnitude: 15.60. Transit SNR 9.25

There are 1 quarters with good PRF difference image offsets

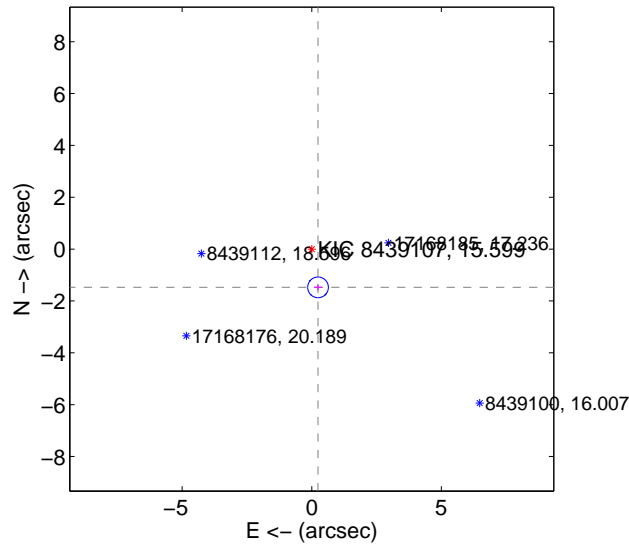
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.809 ± 0.132	13.67	-0.123 ± 0.159	-1.805 ± 0.132
PRF-fit source offset from KIC position	1.495 ± 0.133	11.25	-0.243 ± 0.159	-1.475 ± 0.132
photometric centroid source offset	2.65 ± 1.71	1.55	1.15 ± 1.77	-2.38 ± 1.70

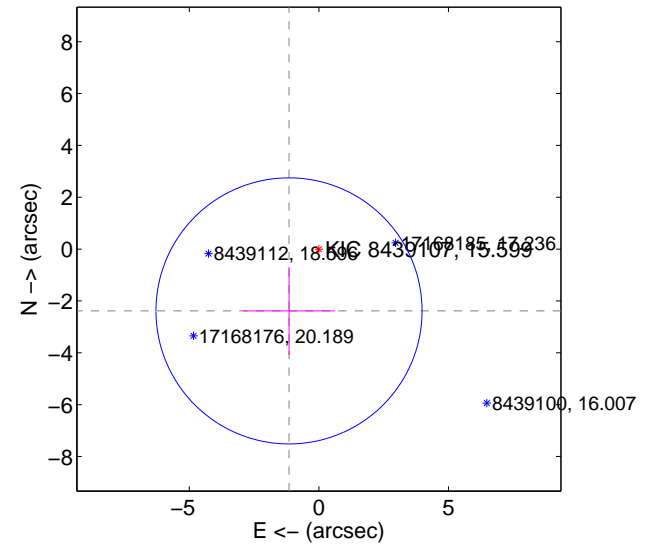
offset from difference PRF-fit to OOT PRF-fit



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.



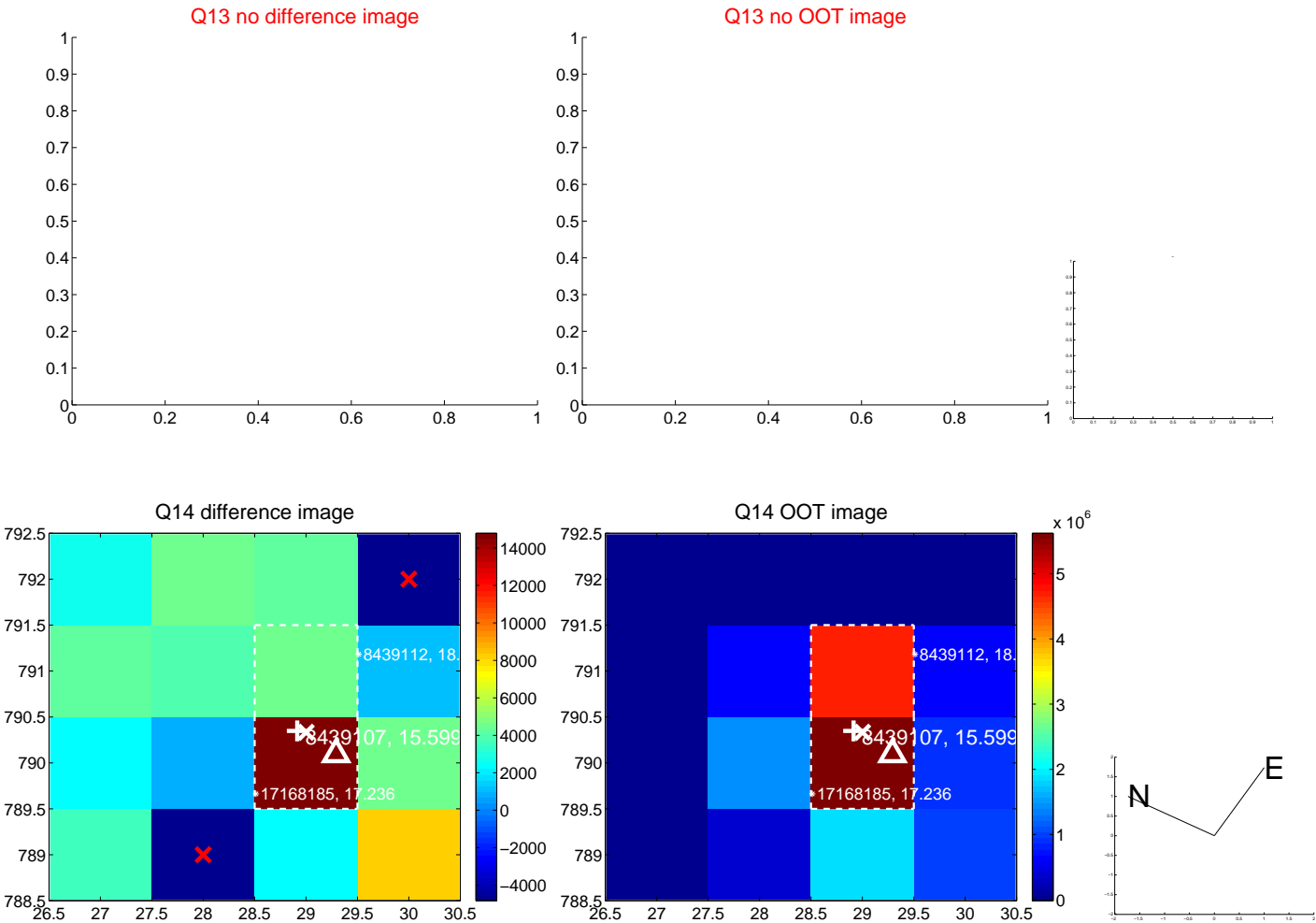
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



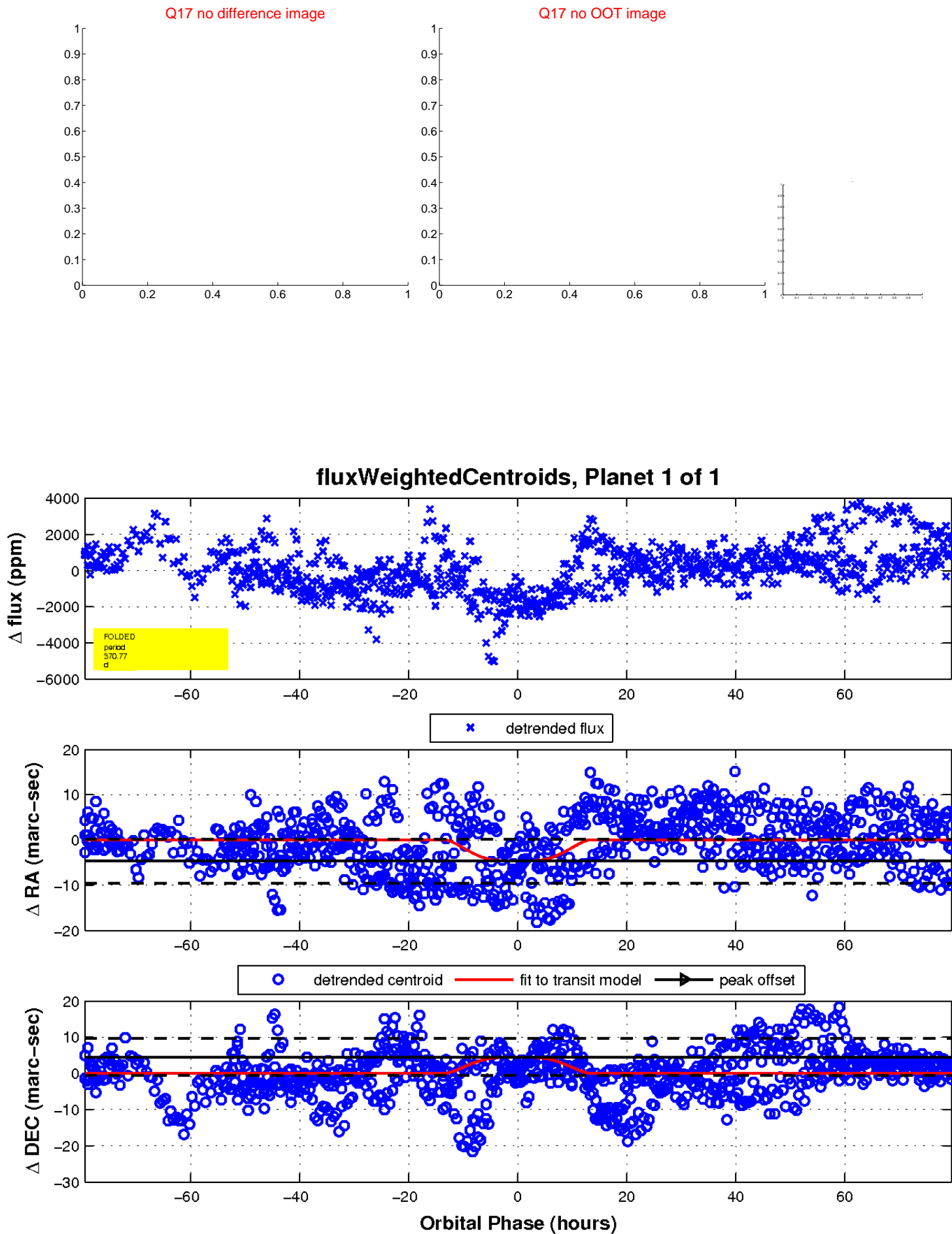
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

