

KIC 008106973

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})
008106973-02	OBS	No	439.107129	430.505439	18986.4	24.191	180.2	181.5	0.80	5796	12.36	0.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008106973-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—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.

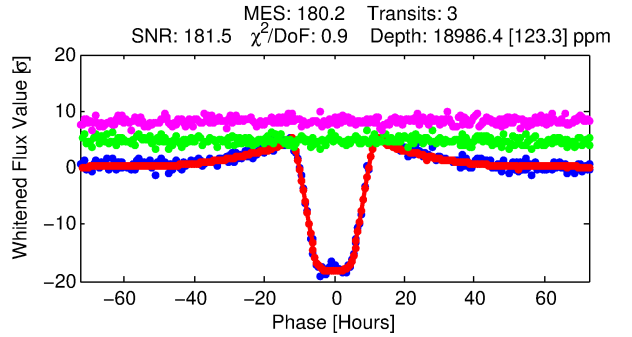
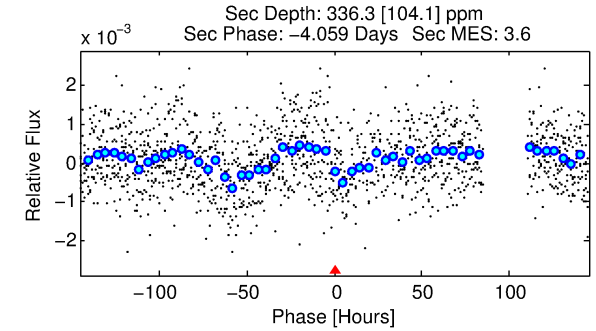
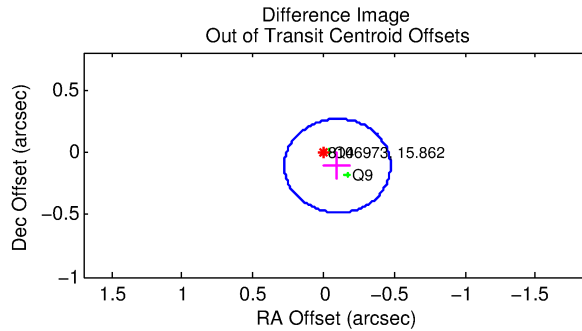
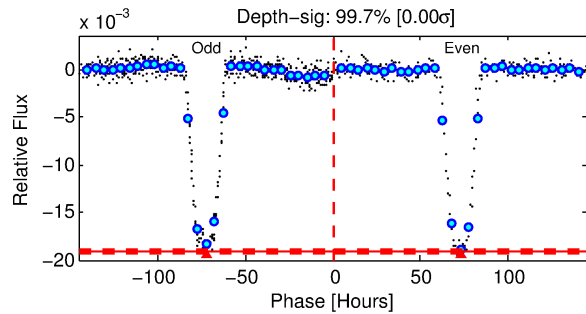
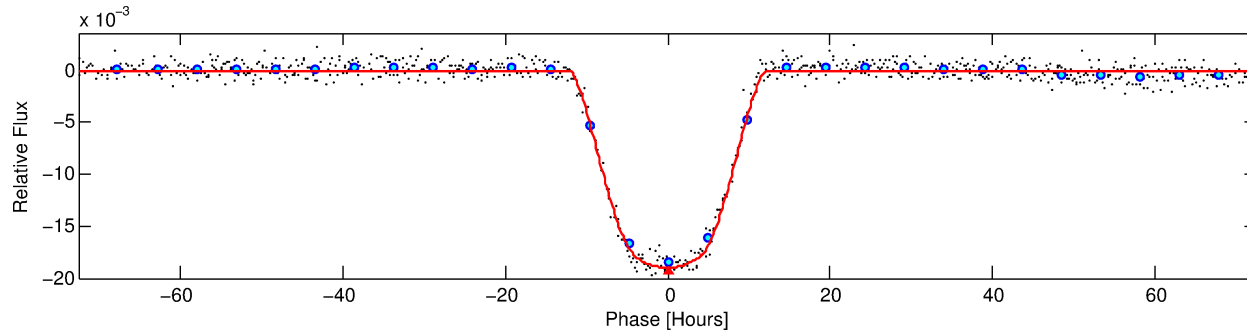
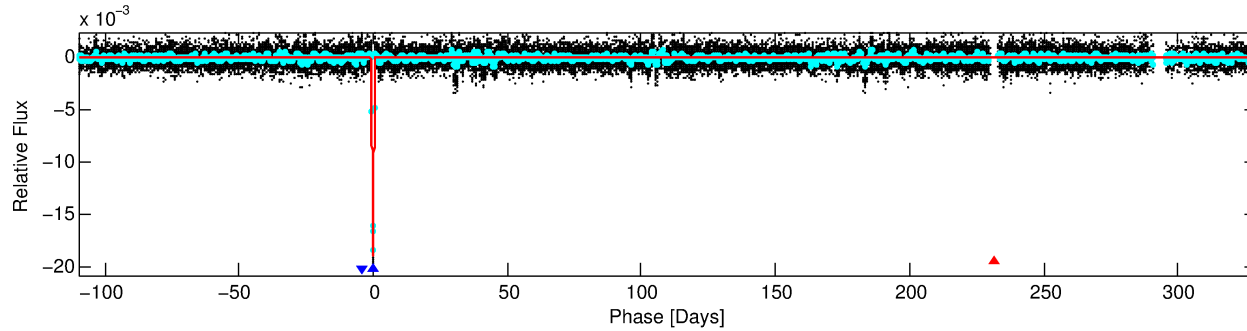
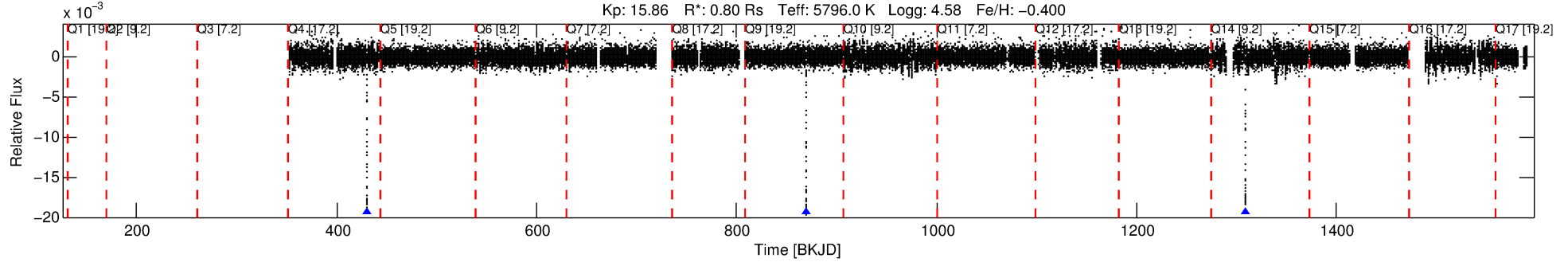
Ephemeris Match Information For 008106973-02

No Significant Match Found

DV One-Page Summary

KIC: 8106973 Candidate: 2 of 2 Period: 439.107 d
KOI: K07588 Corr: No Ephemeris Match

Kp: 15.86 R*: 0.80 Rs Teff: 5796.0 K Logg: 4.58 Fe/H: -0.400



DV Fit Results:

Period = 439.10713 [0.00213] d
Epoch = 430.5054 [0.0025] BKJD
Rp/R* = 0.1416 [0.0007]
a/R* = 111.58 [1.13]
b = 0.81 [0.00]
Seff = 0.55 [0.19]
Teq = 220 [19] K
Rp = 12.36 [3.26] Re
a = 1.0826 [0.2400] AU
Ag = 1419.10 [634.54] [2.23σ]
Teffp = 2086 [176] K [10.55σ]

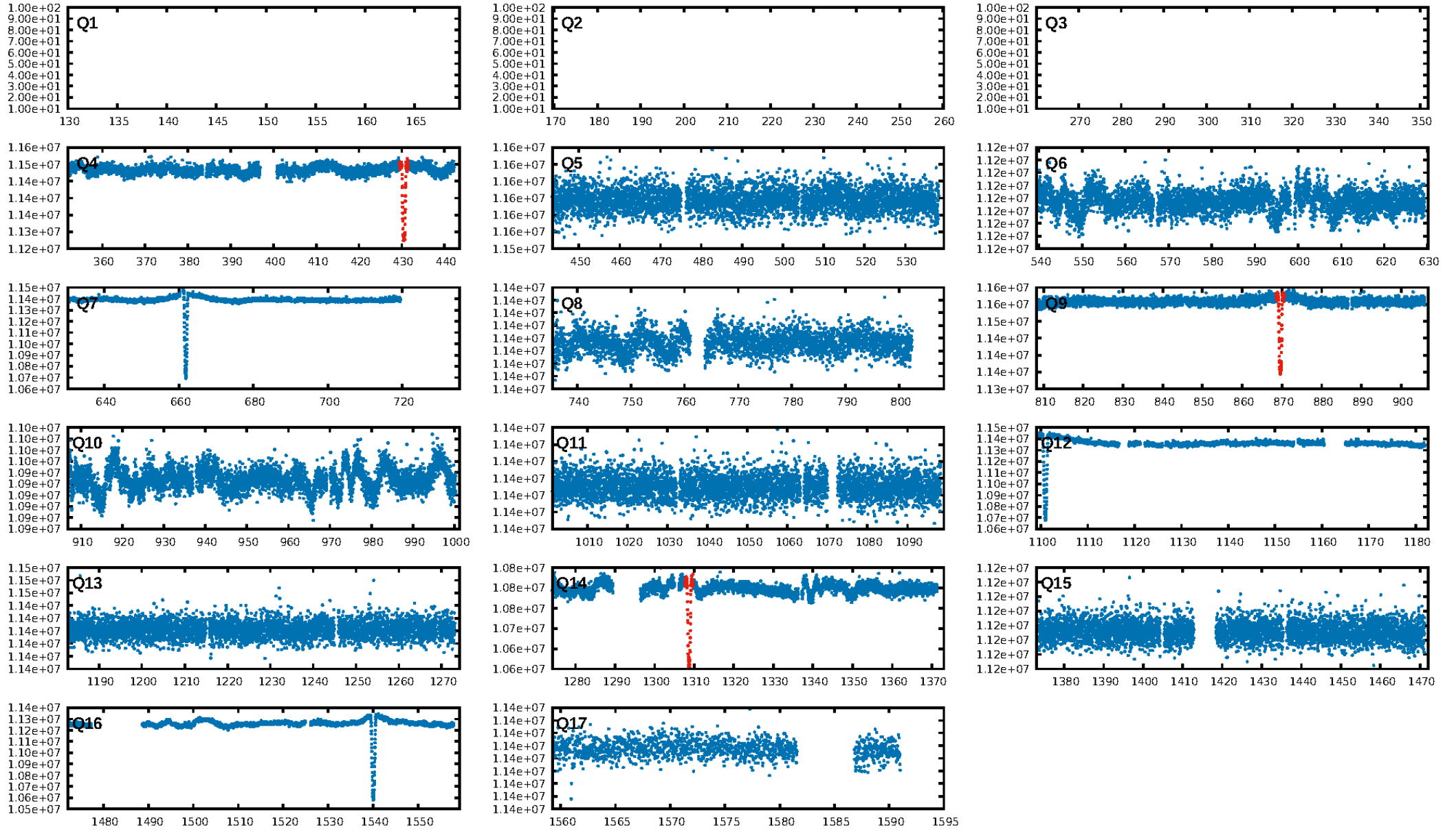
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 86.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 11.94
Centroid-sig: 0.0%
Centroid-so: 0.471 arcsec [4.77σ]
OotOffset-rm: 0.147 arcsec [1.17σ]
KicOffset-rm: 0.267 arcsec [2.90σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

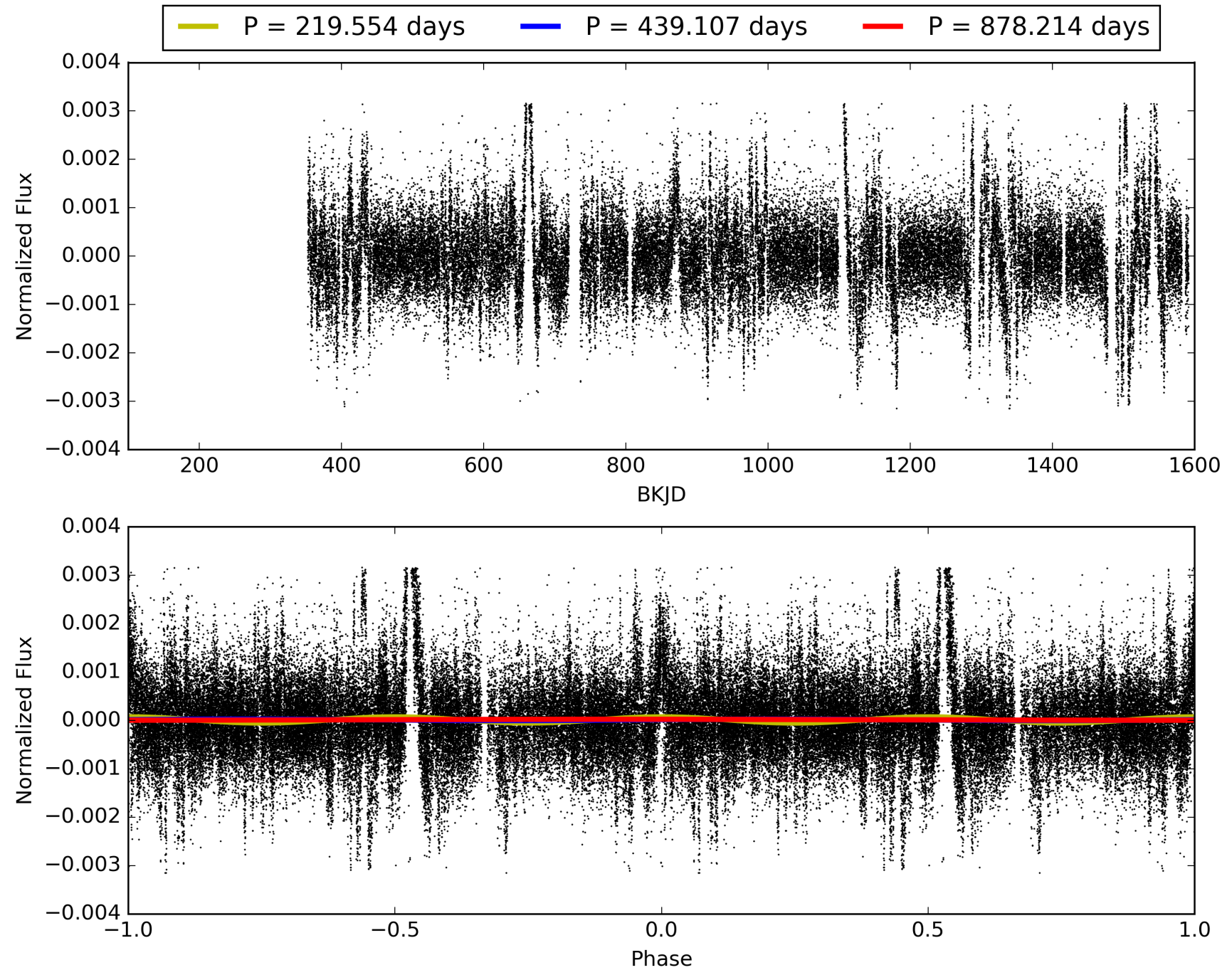
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:53:55 Z

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

TCE 008106973-02, PDC Light Curves

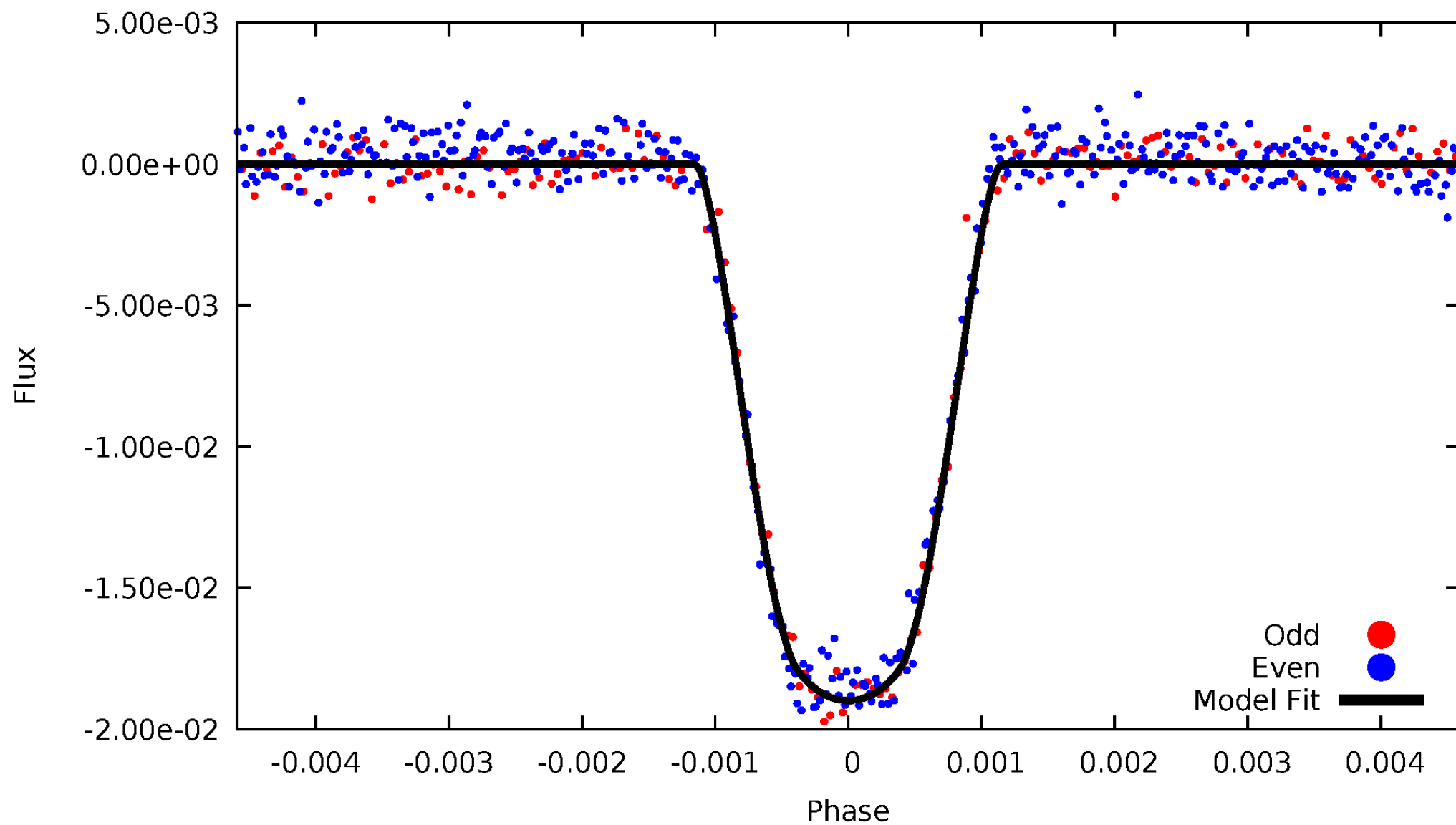


TCE 008106973-02



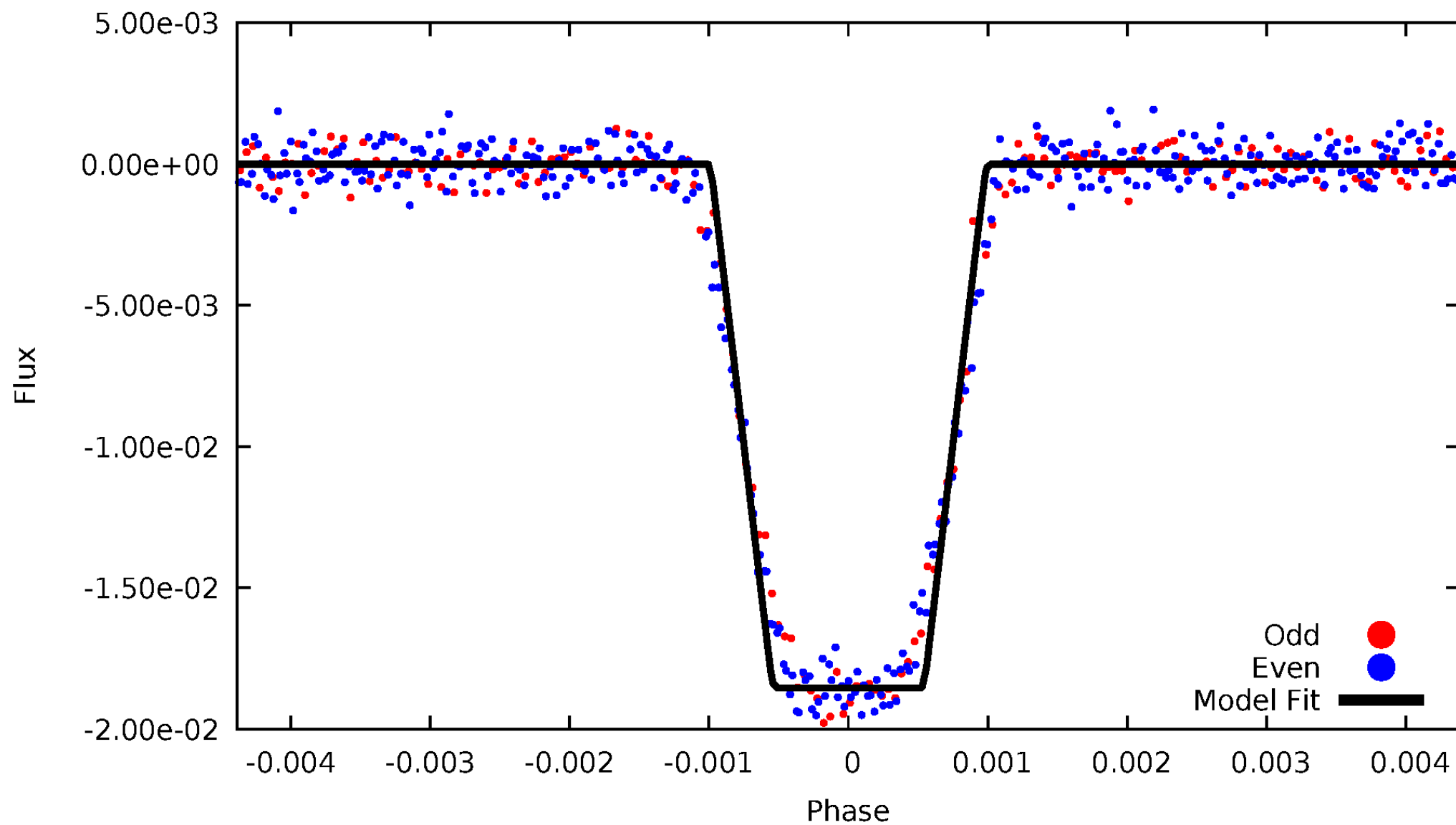
DV Odd/Even

TCE 008106973-02



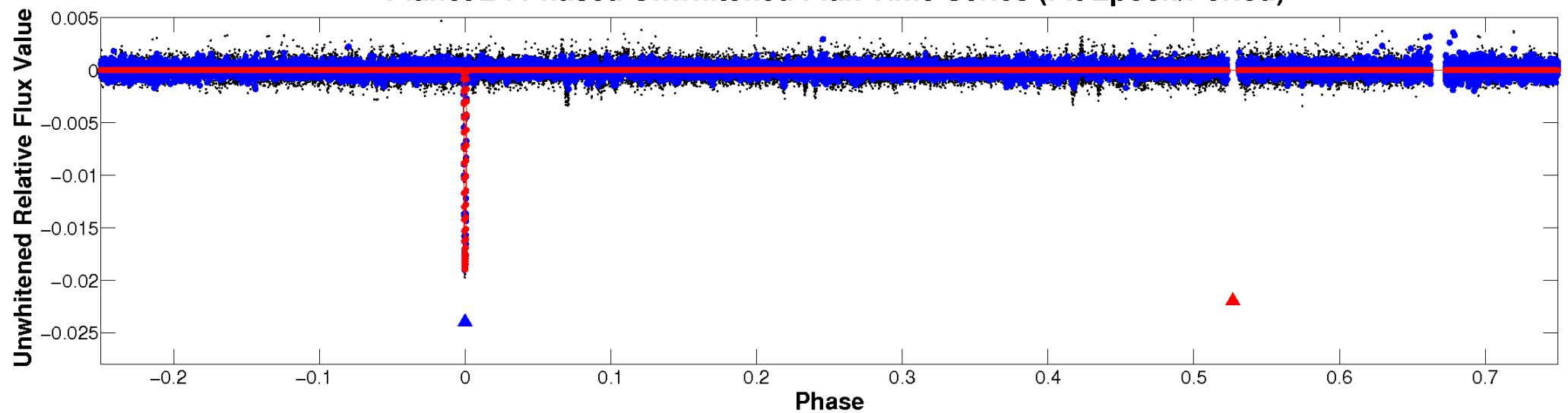
ALT Odd/Even

TCE 008106973-02

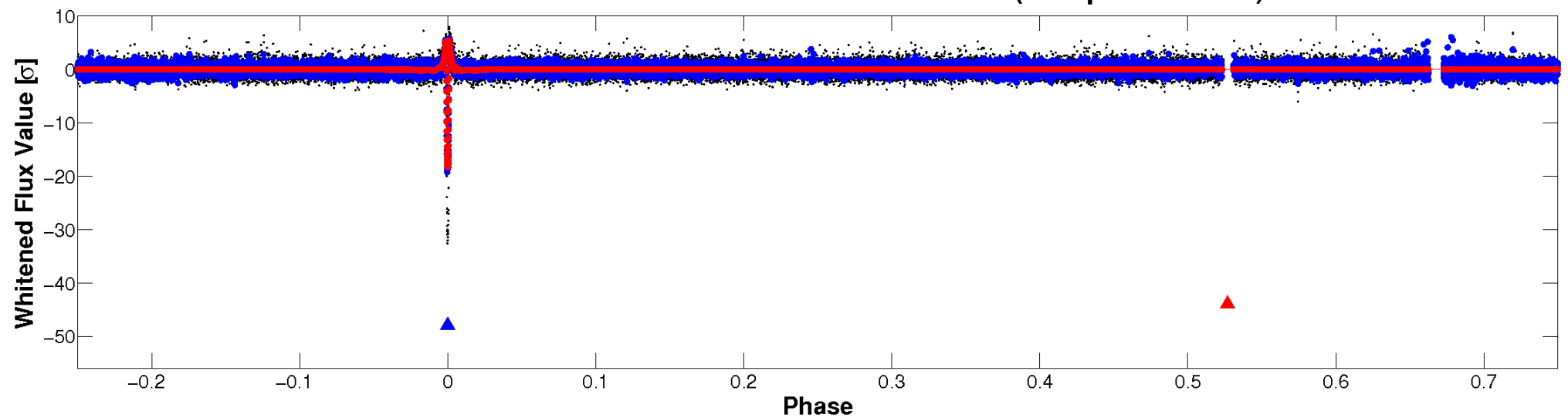


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

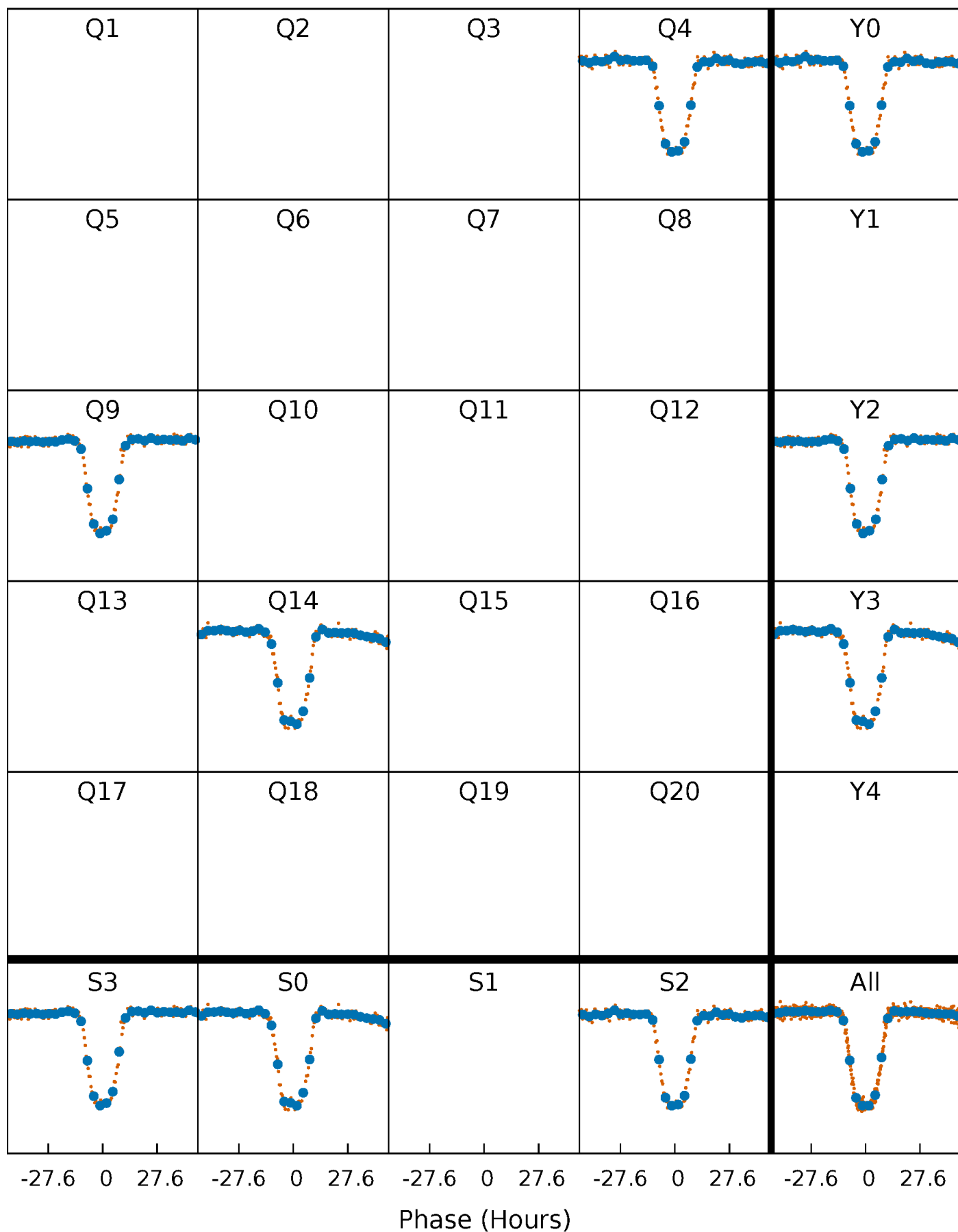


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



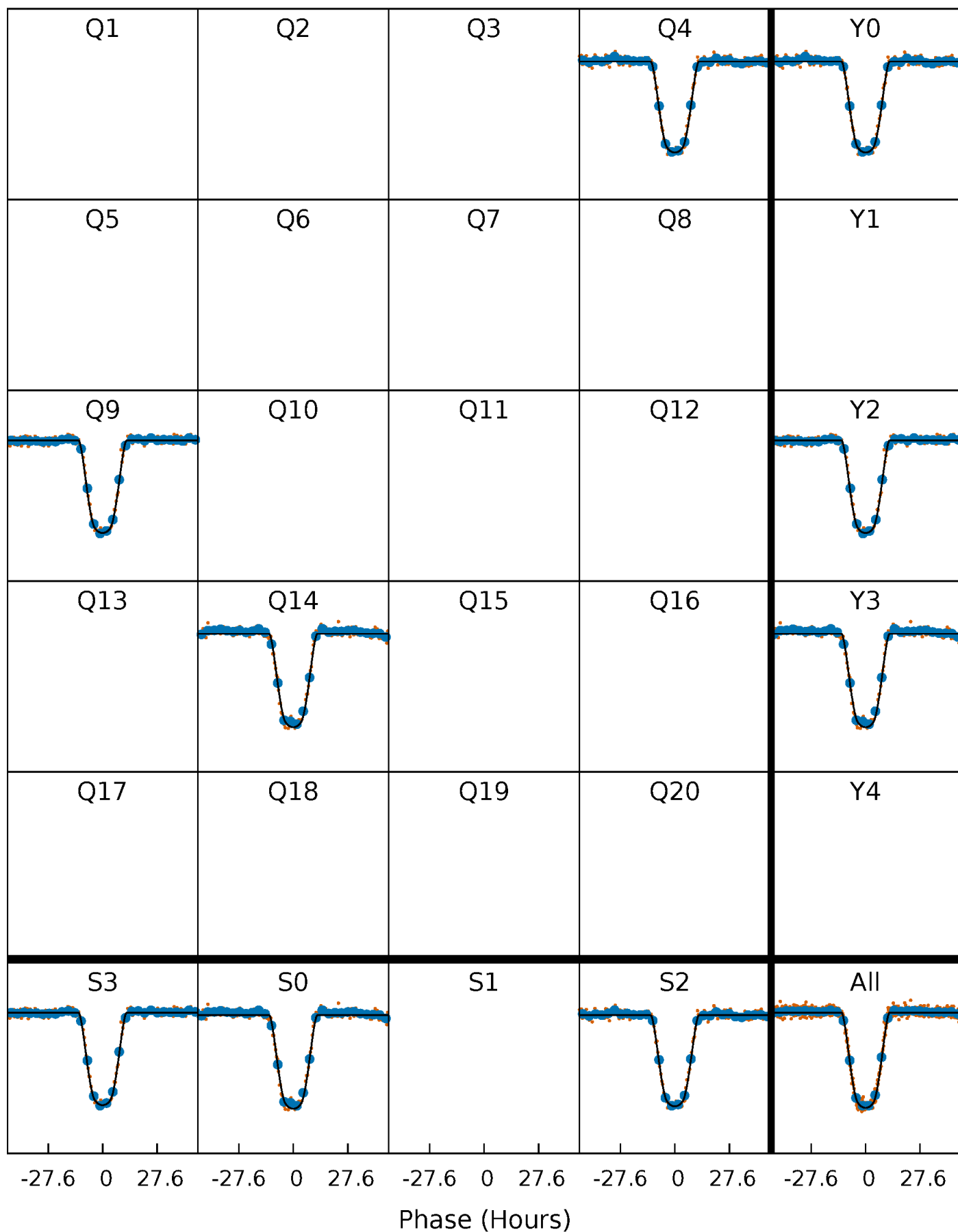
PDC Quarter-Phased Transit Curves

TCE 008106973-02 P=439.107129 Days $T_0=430.505439$ (BKJD)



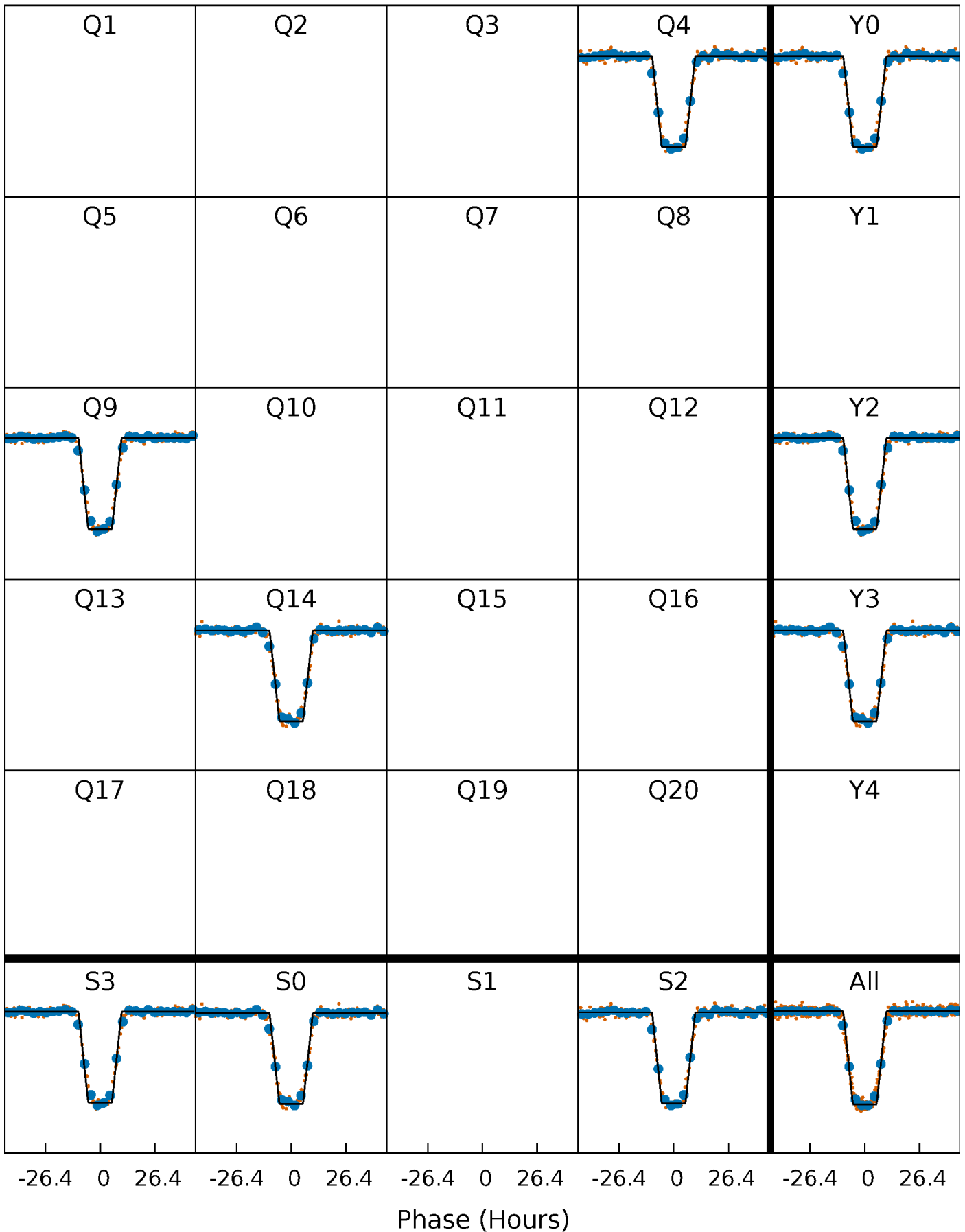
DV Quarter-Phased Transit Curves

TCE 008106973-02 P=439.107129 Days $T_0=430.505439$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

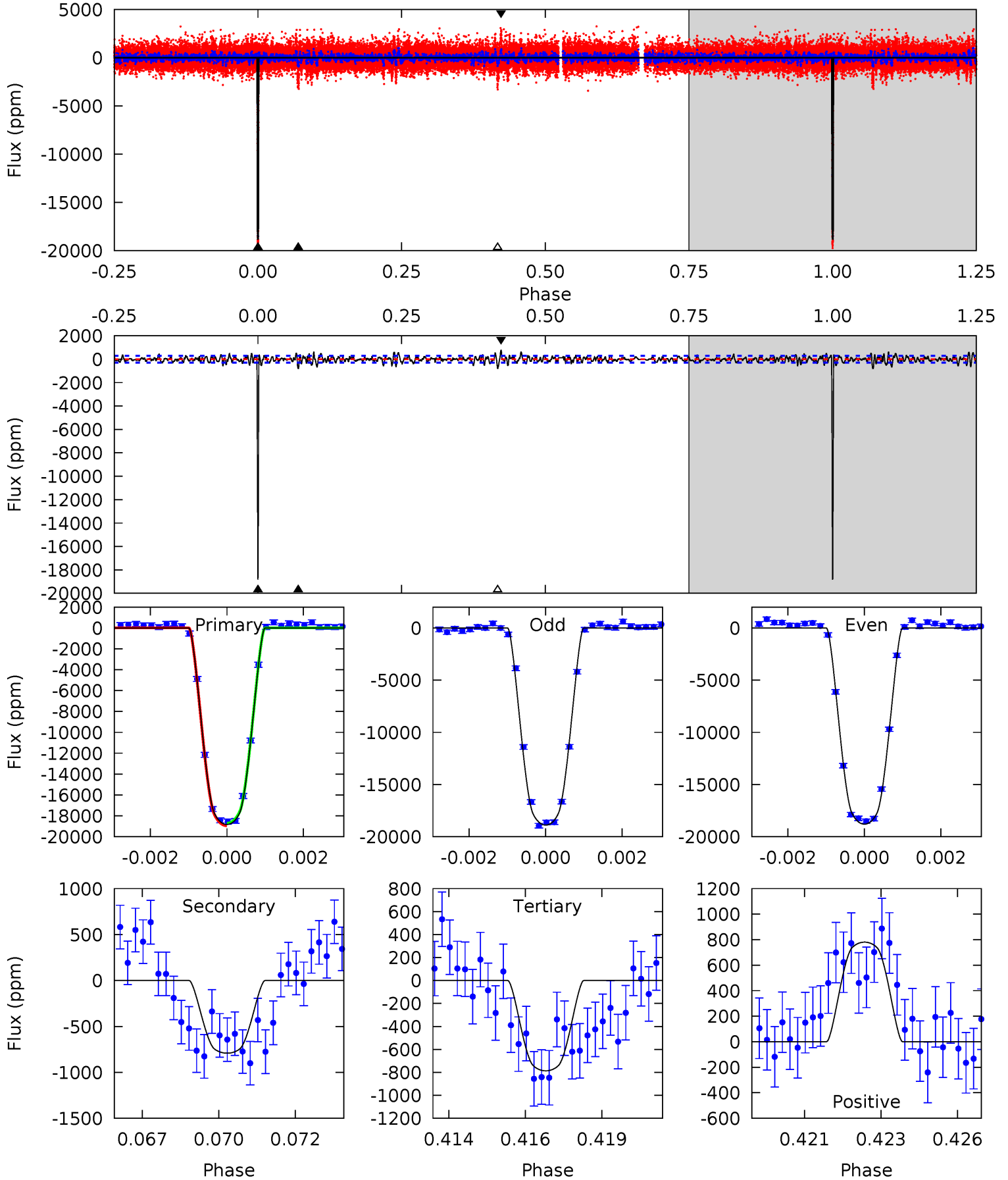
TCE 008106973-02 P=439.103582 Days $T_0=430.506328$ (BKJD)



DV Model-Shift Uniqueness Test

008106973-02, P = 439.107129 Days, E = 430.505439 Days

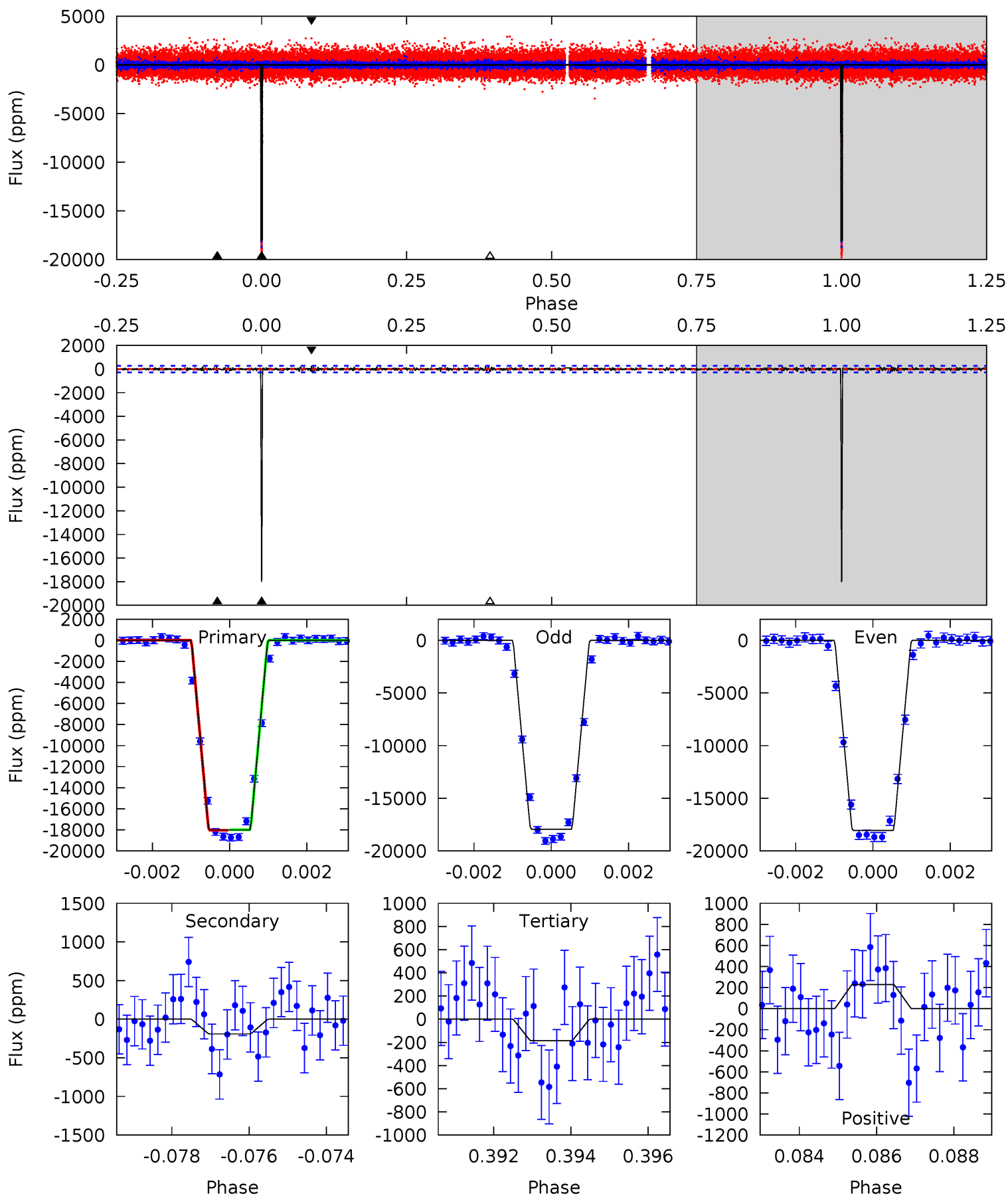
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
344.1	14.5	14.4	14.3	5.30	3.05	3.41	329.7	329.8	0.09	0.19	0.76	1.00	0.04	2.14



Alt Model-Shift Uniqueness Test

008106973-02, $P = 439.103582$ Days, $E = 430.506328$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
339.2	3.60	3.50	4.33	5.33	3.09	0.87	335.7	334.9	0.09	-0.73	1.05	1.00	0.01	0.38



Stellar Parameters For KIC 008106973

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5796^{+175}_{-193}	$4.575^{+0.044}_{-0.176}$	$-0.400^{+0.300}_{-0.300}$	$0.800^{+0.211}_{-0.070}$	$0.882^{+0.099}_{-0.099}$	$2.429^{+0.439}_{-1.179}$
	+3%/-3%	+1%/-4%	+75%/-75%	+26%/-9%	+11%/-11%	+18%/-49%
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 008106973-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-791 ± 55	$12.60^{+1.73}_{-0.77}$	313^{+20}_{-15}	3183^{+70}_{-78}	3112^{+487}_{-610}
Alt.	-191 ± 53	$12.18^{+1.72}_{-0.84}$	313^{+19}_{-14}	2645^{+94}_{-116}	795^{+264}_{-251}

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 $A_{obs} \gg 1.0$

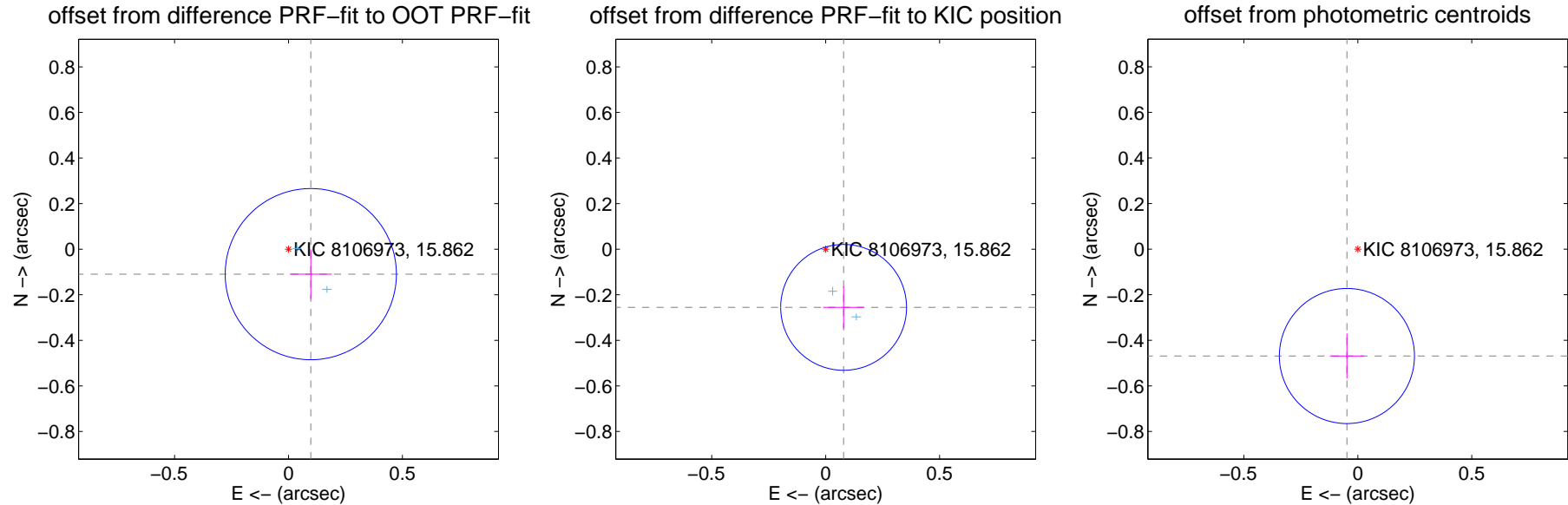
DV Centroid Data

Supplemental centroid analysis for 008106973-02. Kepler magnitude: 15.86. Transit SNR 181.48

There are 2 quarters with good PRF difference image offsets

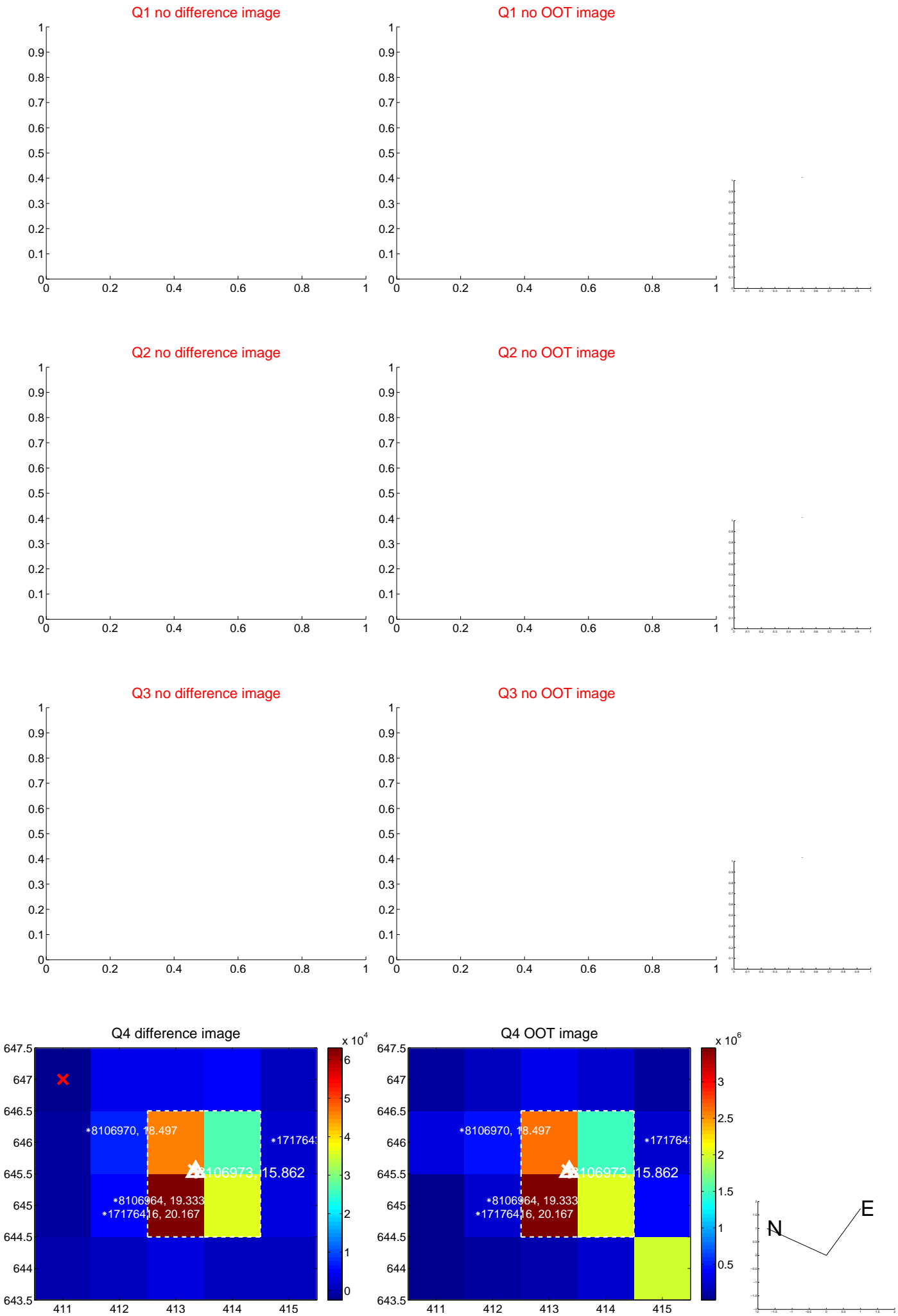
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.147 ± 0.125	1.17	-0.098 ± 0.092	-0.110 ± 0.109
PRF-fit source offset from KIC position	0.267 ± 0.092	2.90	-0.079 ± 0.090	-0.255 ± 0.092
photometric centroid source offset	0.47 ± 0.10	4.77	0.05 ± 0.07	-0.47 ± 0.10



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.

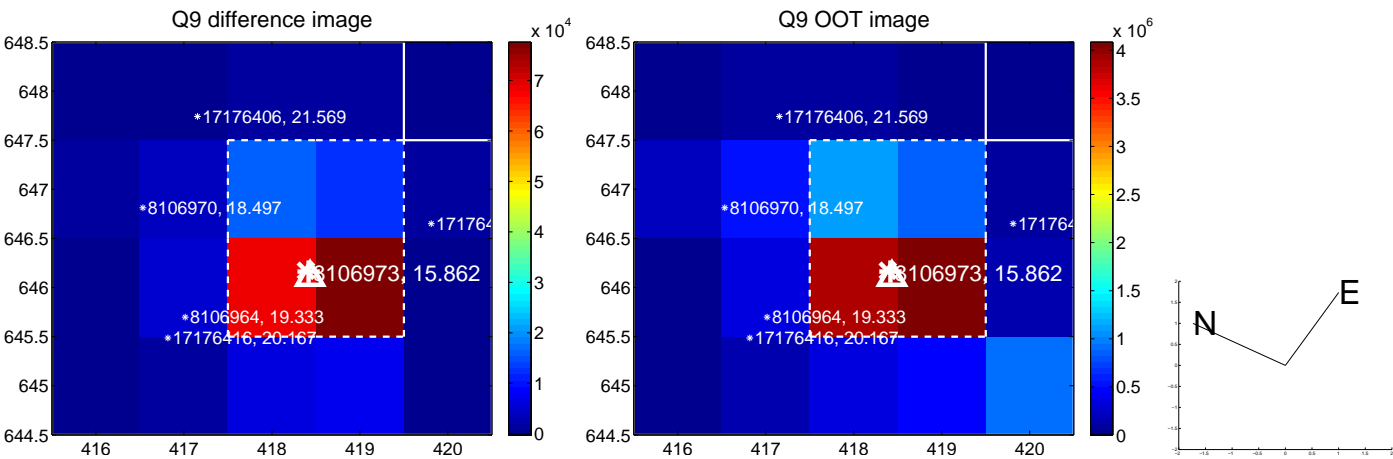
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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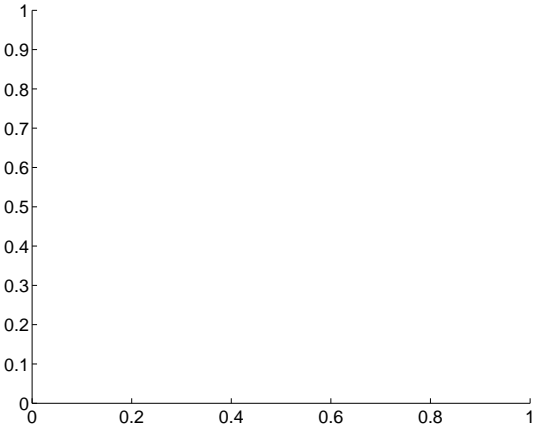


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

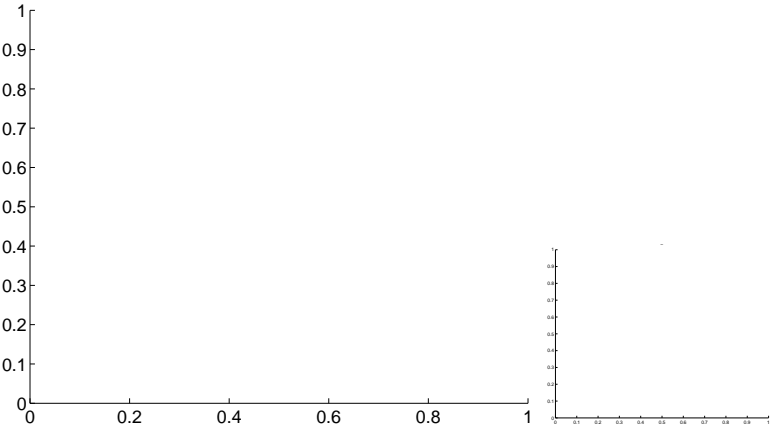


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

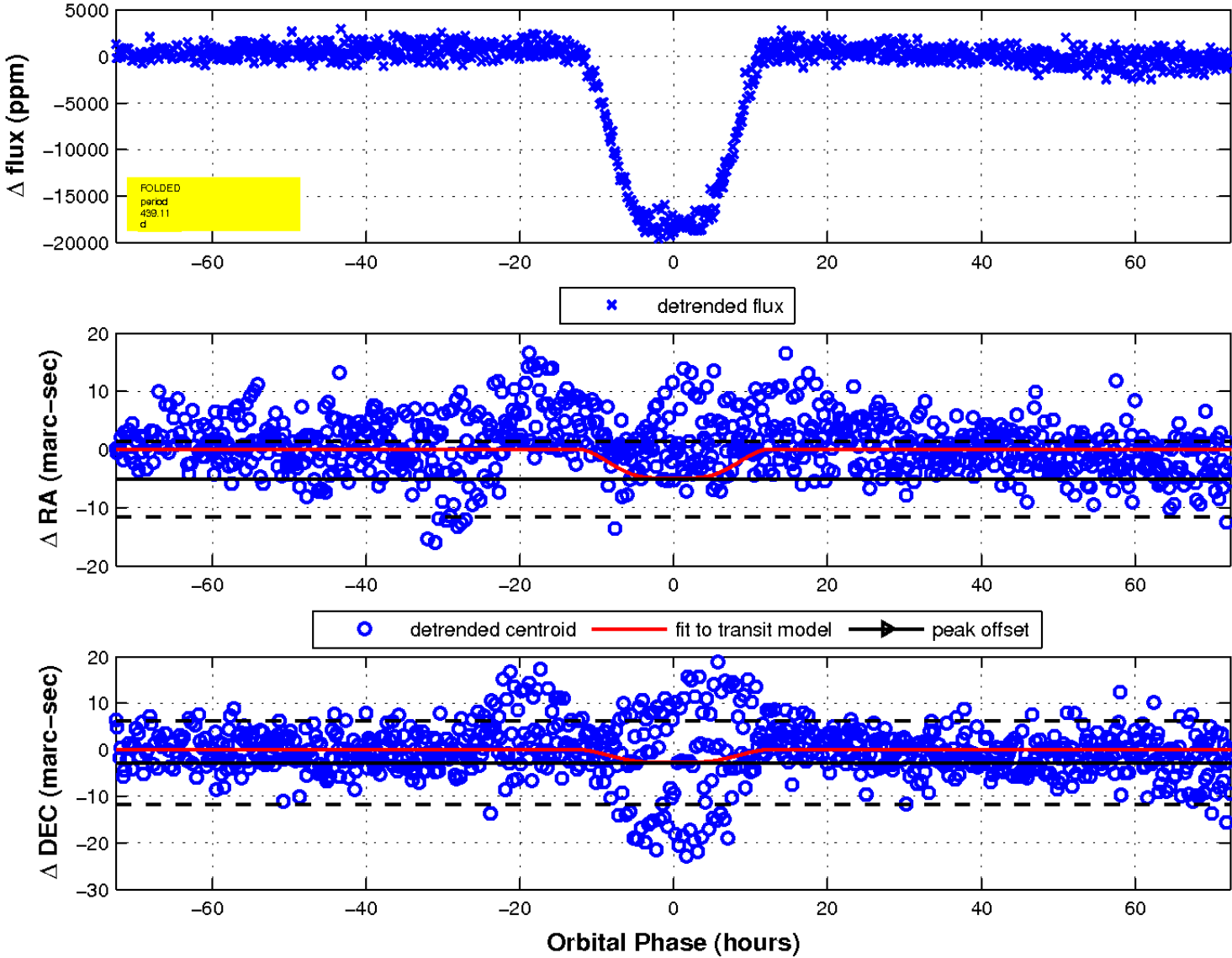
Q17 no difference image



Q17 no OOT image



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

