

KIC 005097856

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
005097856-01	OBS	7716.01	483.358818	483.077095	315.3	16.806	7.1	7.4	0.72	5700	1.45	0.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005097856-01	OBS	PC	0.23	0	0	0	0	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.

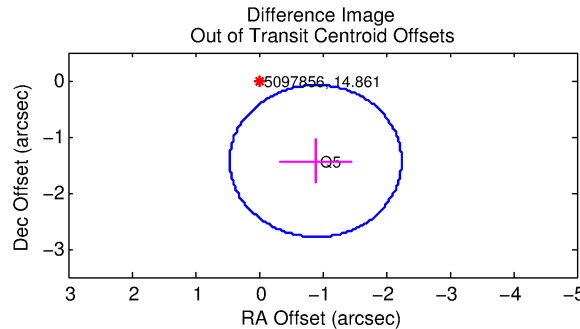
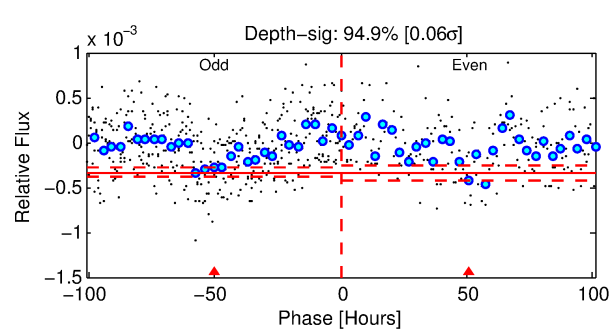
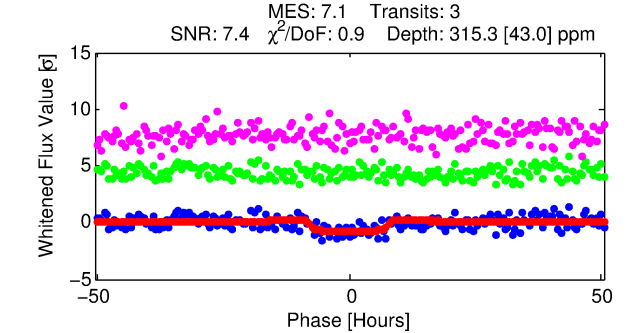
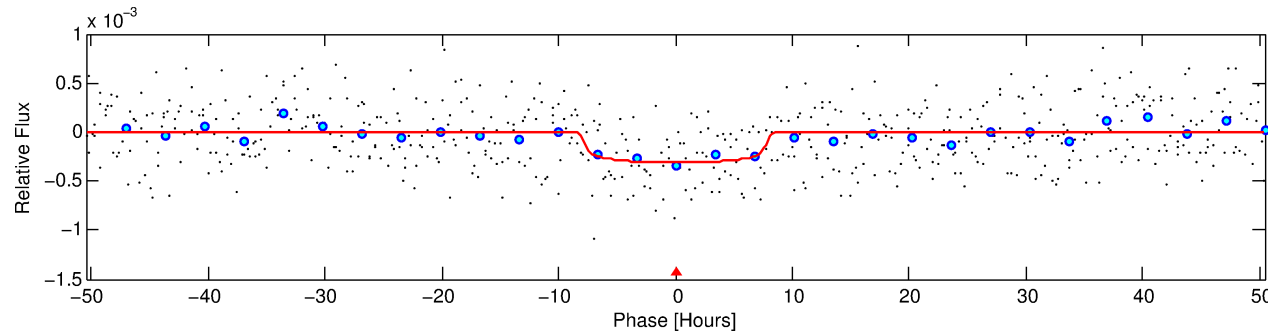
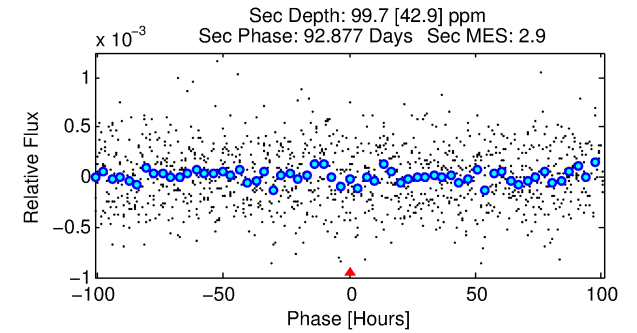
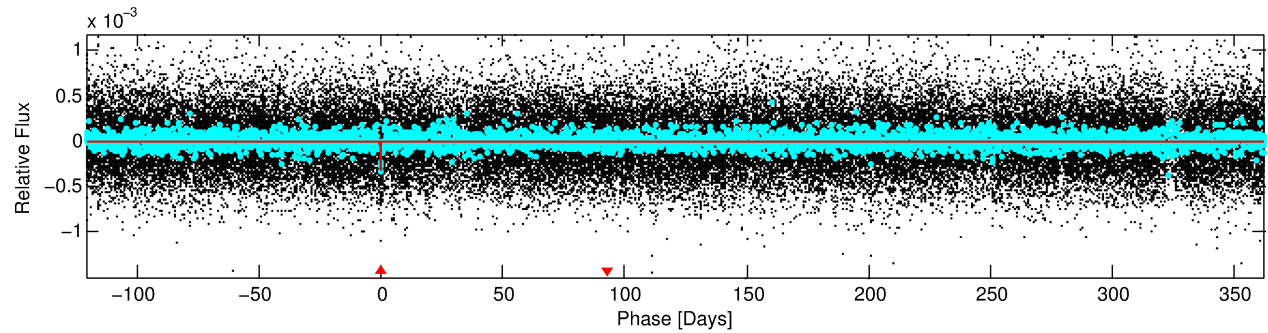
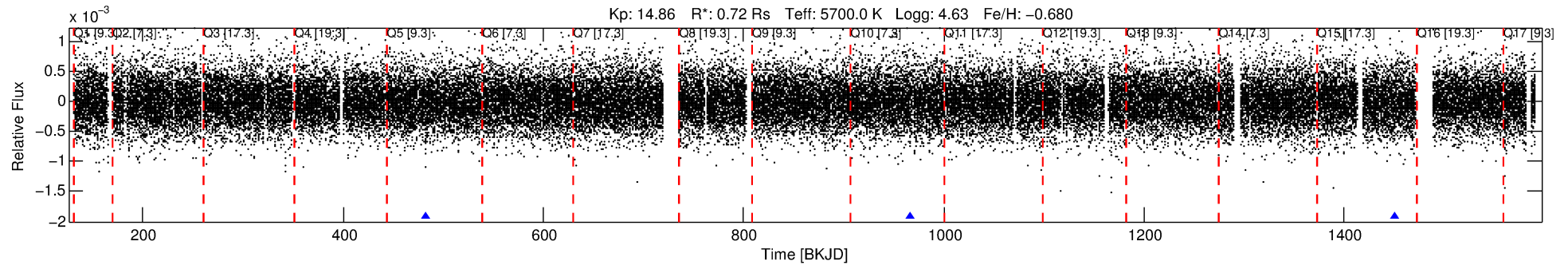
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005097856-01

No Significant Match Found

DV One-Page Summary

KIC: 5097856 Candidate: 1 of 1 Period: 483.359 d



DV Fit Results:

Period = 483.35882 [0.02084] d
Epoch = 483.0771 [0.0267] BKJD
Rp/R* = 0.0186 [0.0038]
a/R* = 121.00 [116.58]
b = 0.86 [0.30]
Seff = 0.39 [0.10]
Teq = 202 [13] K
Rp = 1.45 [0.42] Re
a = 1.1168 [0.1845] AU
Ag = 32359.87 [20769.35] [1.56 σ]
Teff = 4181 [636] K [6.26 σ]

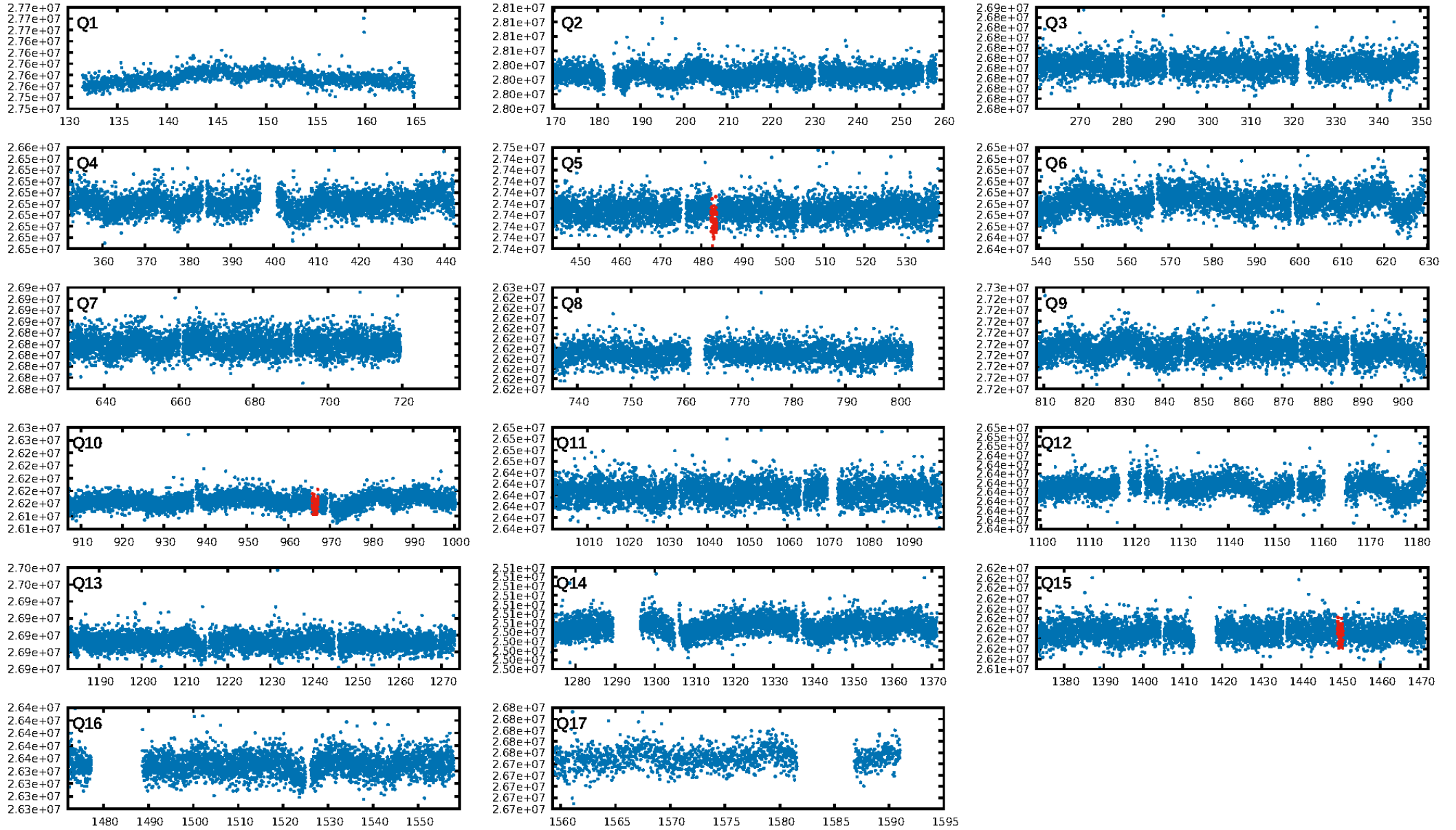
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.45e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.789
Centroid-sig: 9.5%
Centroid-so: 1.993 arcsec [1.10 σ]
OotOffset-rm: 1.692 arcsec [3.75 σ]
KicOffset-rm: 1.445 arcsec [3.30 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

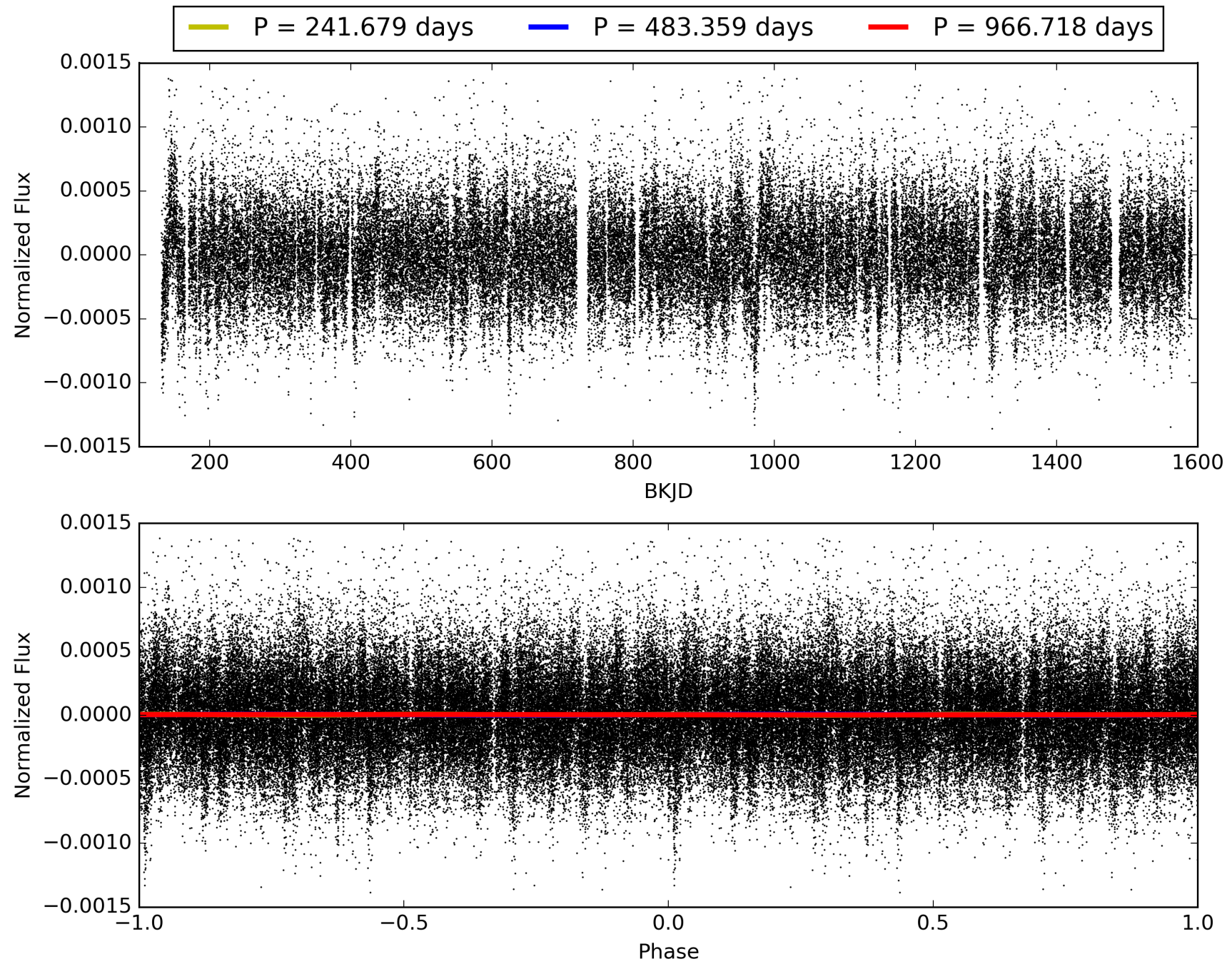
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:34:12 Z

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

TCE 005097856-01, PDC Light Curves

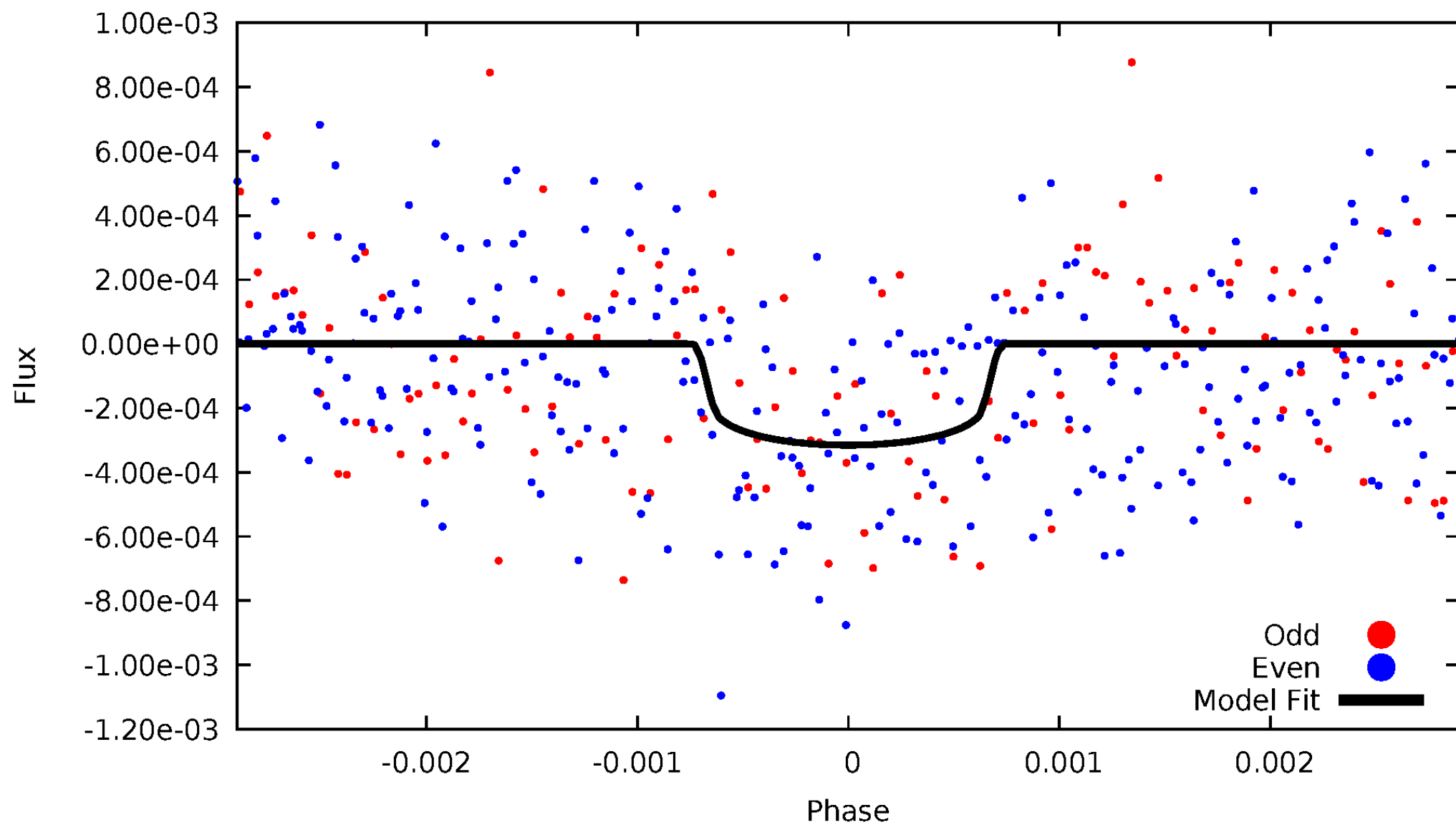


TCE 005097856-01



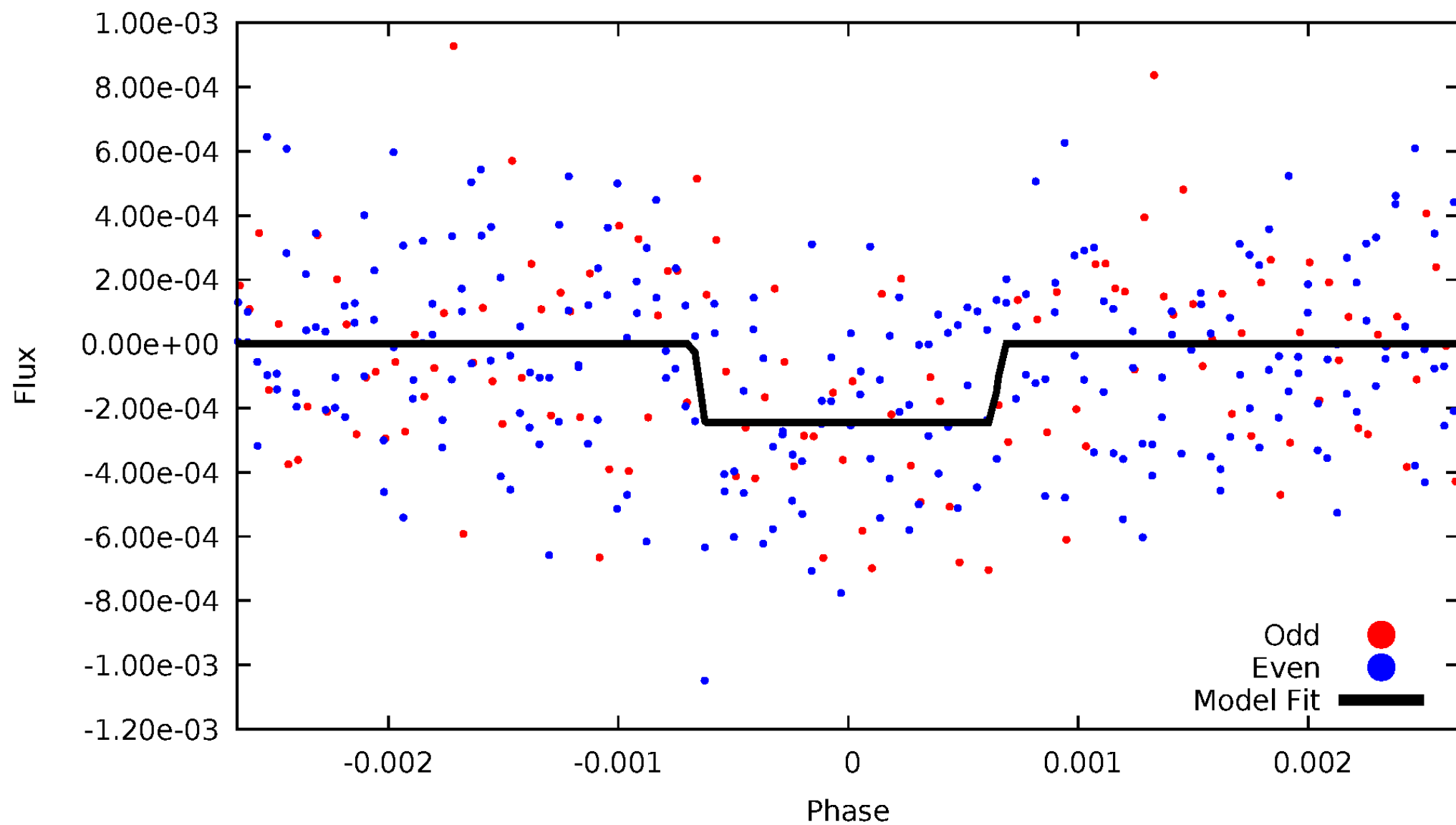
DV Odd/Even

TCE 005097856-01



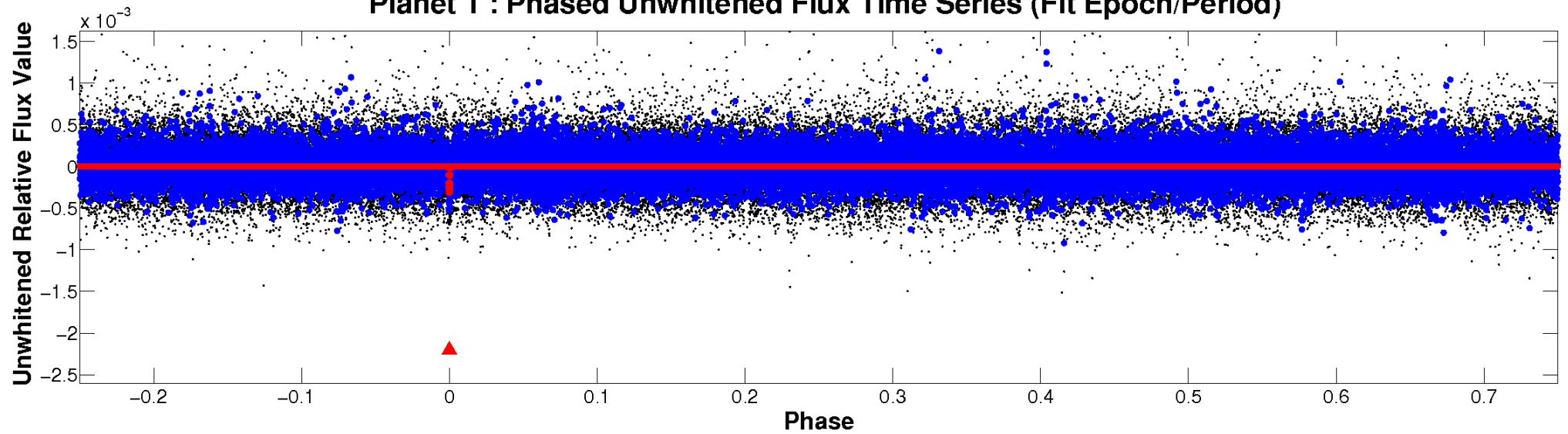
ALT Odd/Even

TCE 005097856-01

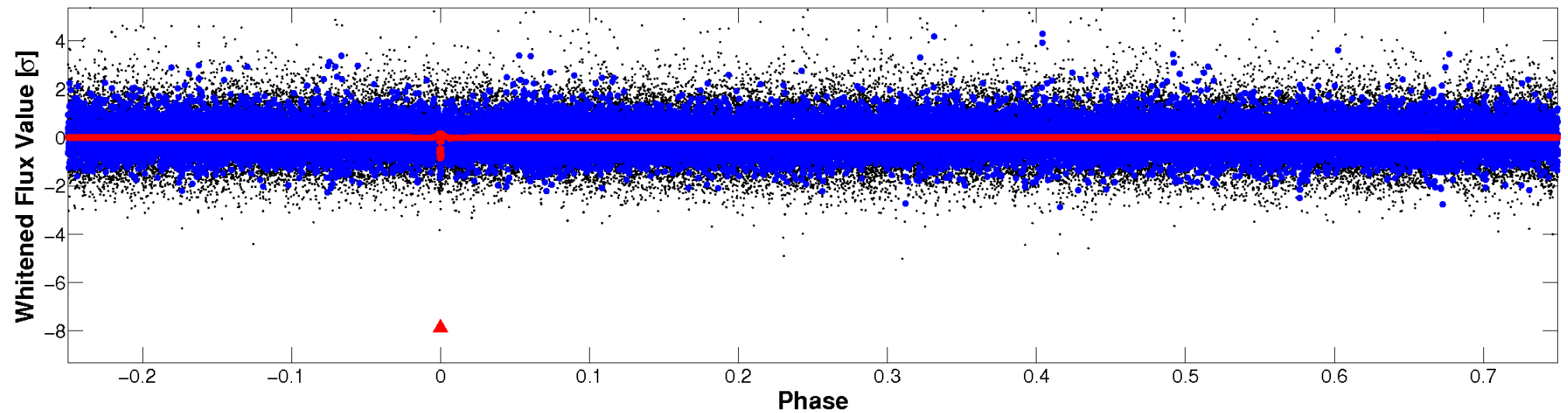


Non-Whitened Vs. Whitened Light Curve

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 005097856-01 P=483.358818 Days $T_0=483.077095$ (BKJD)



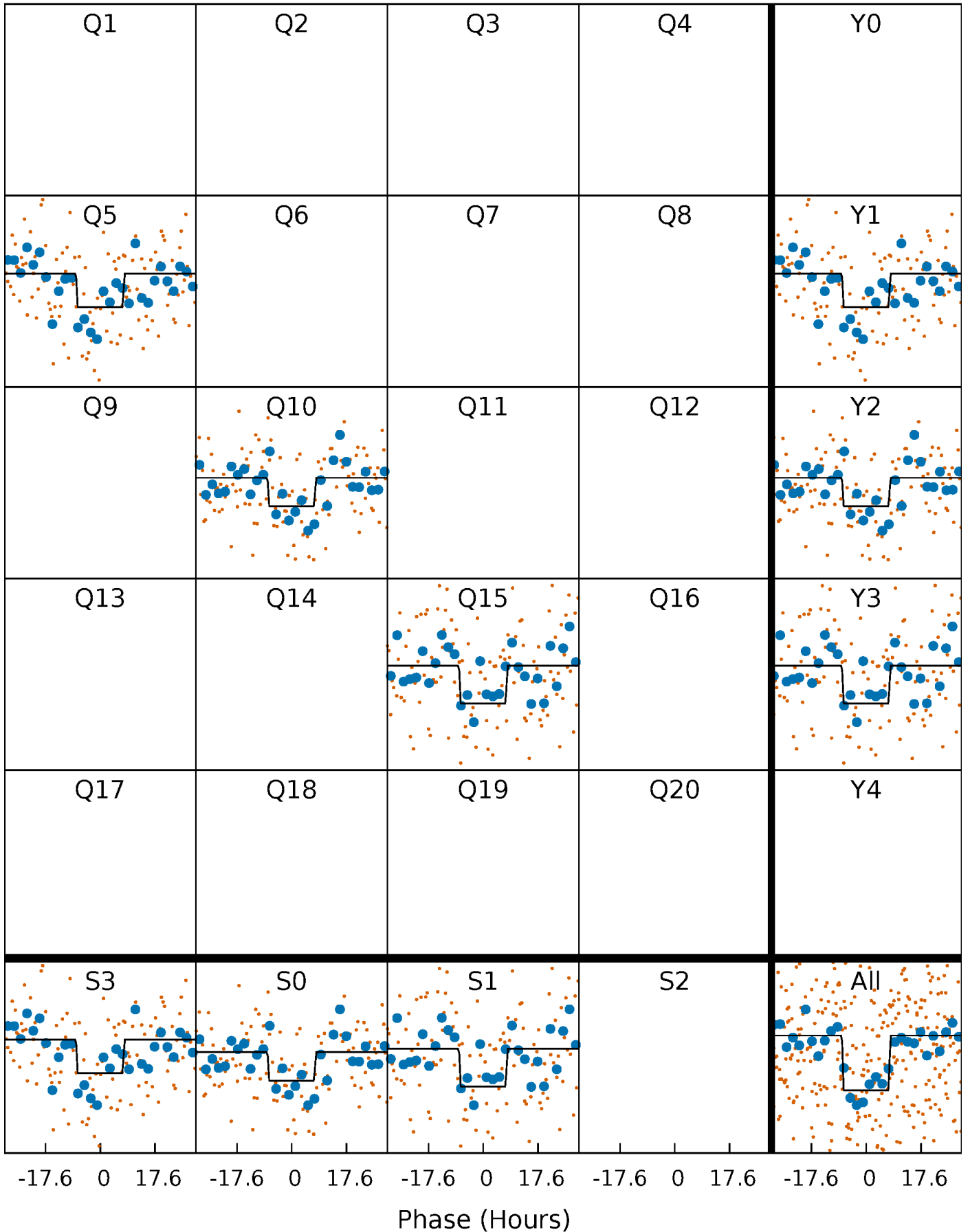
DV Quarter-Phased Transit Curves

TCE 005097856-01 P=483.358818 Days $T_0=483.077095$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

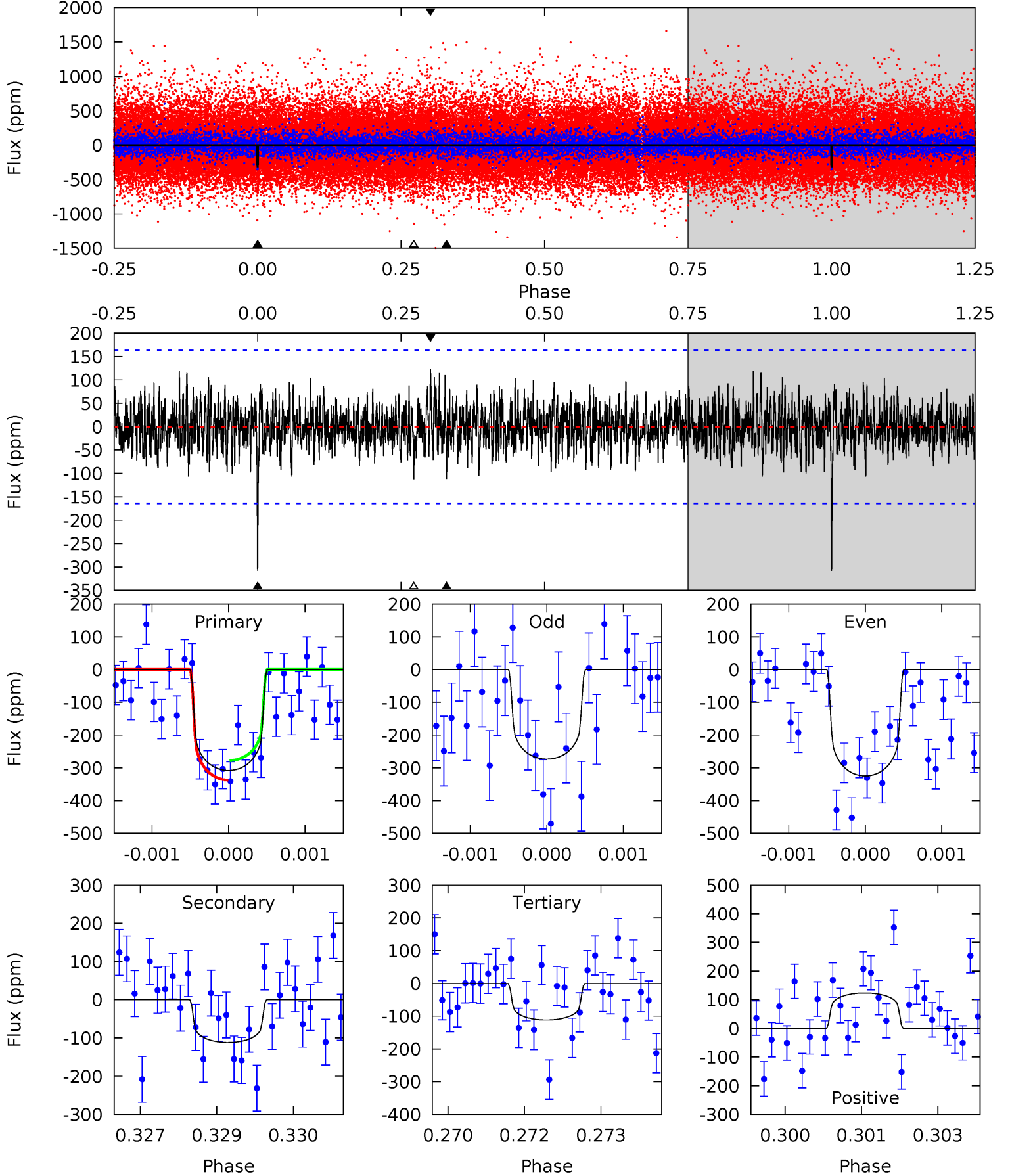
TCE 005097856-01 P=483.355862 Days $T_0=483.087282$ (BKJD)



DV Model-Shift Uniqueness Test

005097856-01, P = 483.358818 Days, E = 483.077095 Days

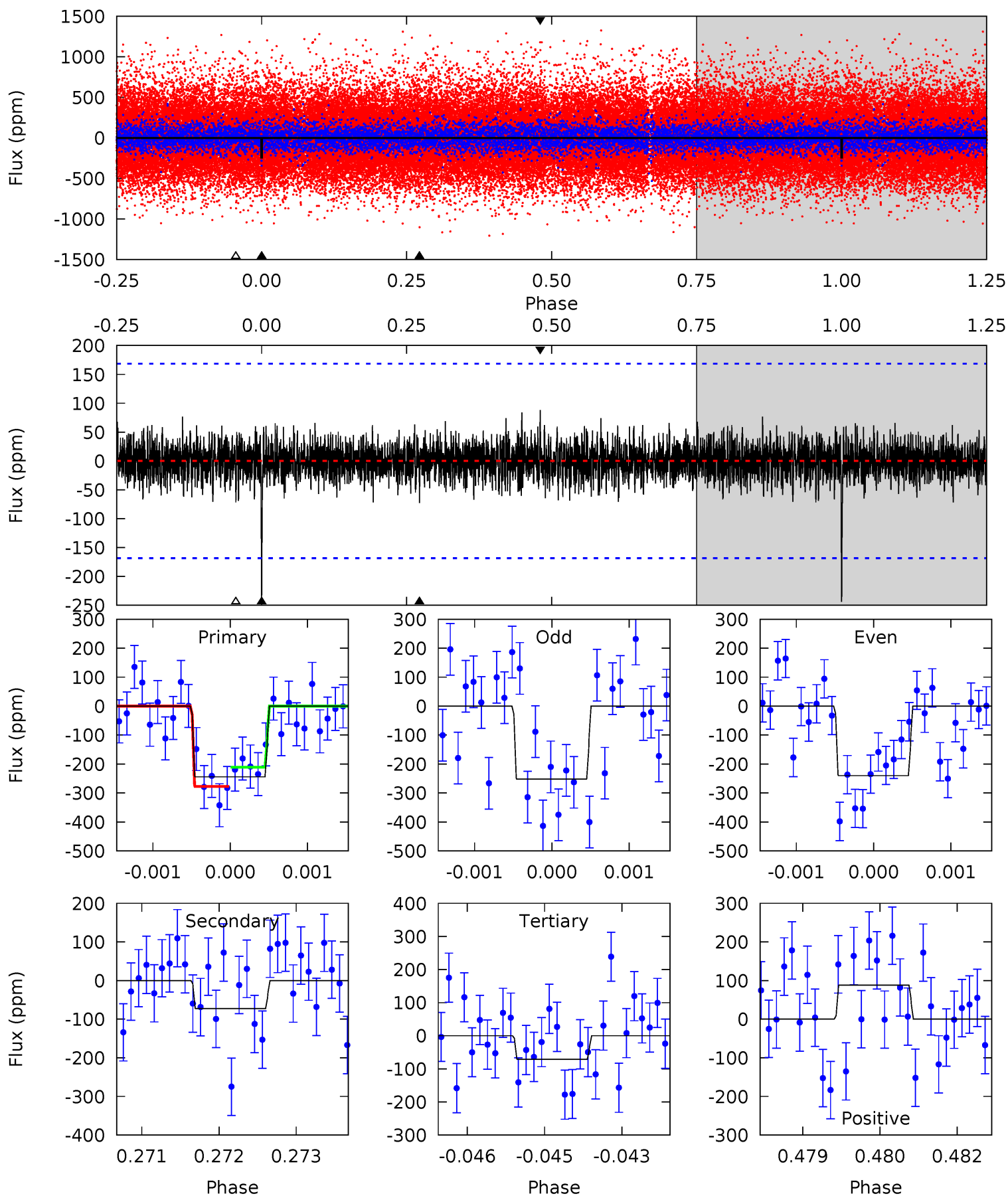
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	3.67	3.67	4.05	5.38	3.18	1.17	6.43	6.05	0.00	-0.38	0.79	1.12	0.29	0.98



Alt Model-Shift Uniqueness Test

005097856-01, P = 483.355862 Days, E = 483.087282 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.83	2.33	2.29	2.83	5.40	3.20	0.70	5.54	5.00	0.04	-0.49	0.18	0.97	0.27	1.07



Stellar Parameters For KIC 005097856

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5700^{+171}_{-153}	$4.626^{+0.032}_{-0.128}$	$-0.680^{+0.300}_{-0.300}$	$0.718^{+0.143}_{-0.054}$	$0.806^{+0.070}_{-0.078}$	$3.069^{+0.404}_{-1.137}$
	+3%/-3%	+1%/-3%	+44%/-44%	+20%/-8%	+9%/-10%	+13%/-37%
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 005097856-01 / KOI 7716.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-112 ± 31	$1.52^{+0.35}_{-0.32}$	287^{+14}_{-11}	4474^{+476}_{-392}	32383^{+22327}_{-12100}
Alt.	-73 ± 31	$1.28^{+0.31}_{-0.33}$	287^{+14}_{-13}	4382^{+652}_{-532}	29540^{+28544}_{-15568}

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

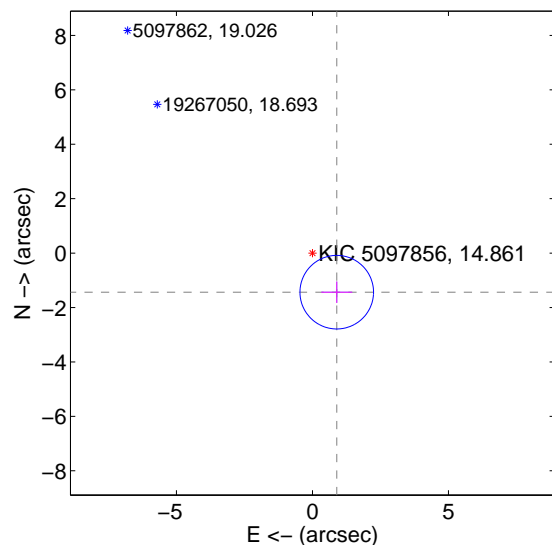
Supplemental centroid analysis for 005097856-01. Kepler magnitude: 14.86. Transit SNR 7.40

There are 1 quarters with good PRF difference image offsets

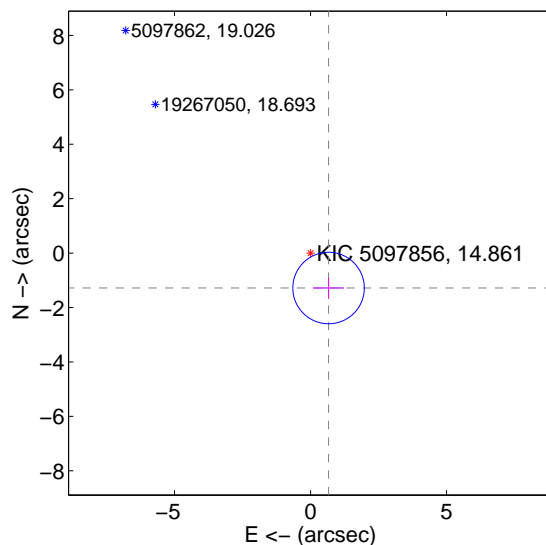
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.692 ± 0.451	3.75	-0.893 ± 0.568	-1.436 ± 0.396
PRF-fit source offset from KIC position	1.445 ± 0.438	3.30	-0.664 ± 0.568	-1.284 ± 0.396
photometric centroid source offset	1.99 ± 1.81	1.10	-1.58 ± 1.78	-1.22 ± 1.84

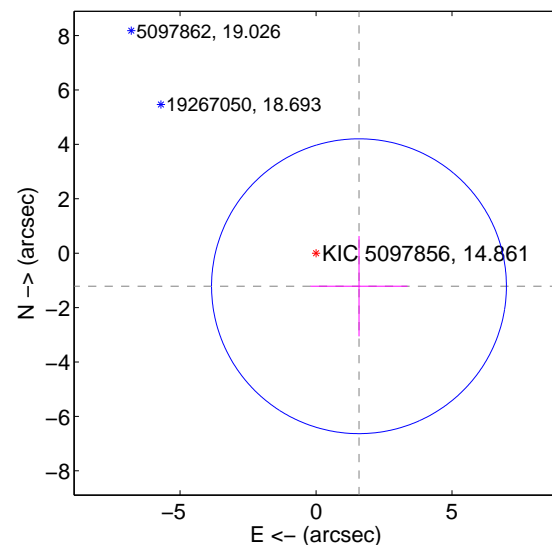
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

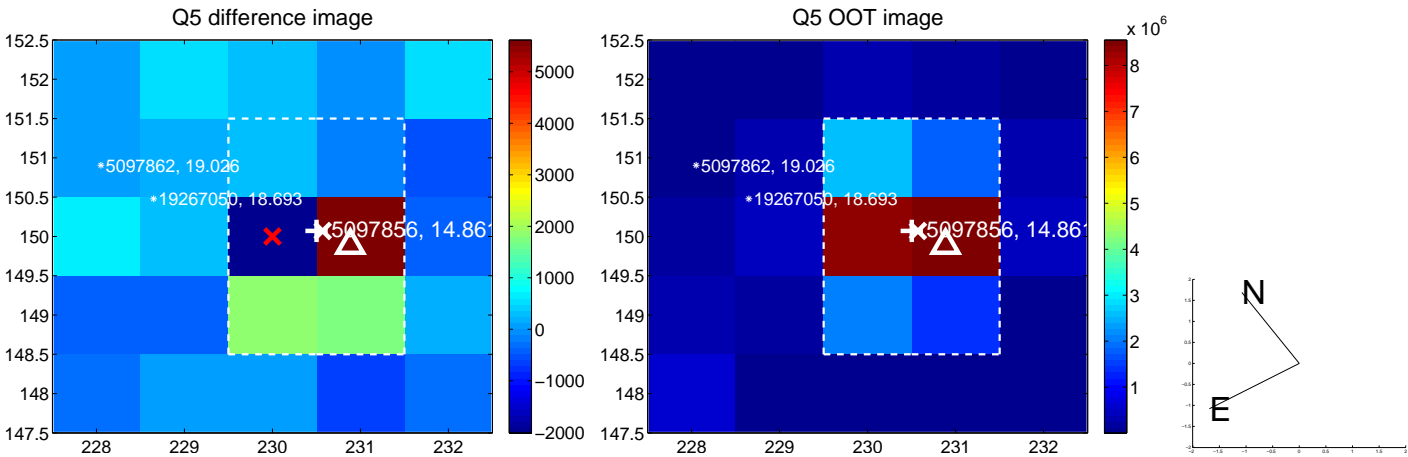


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



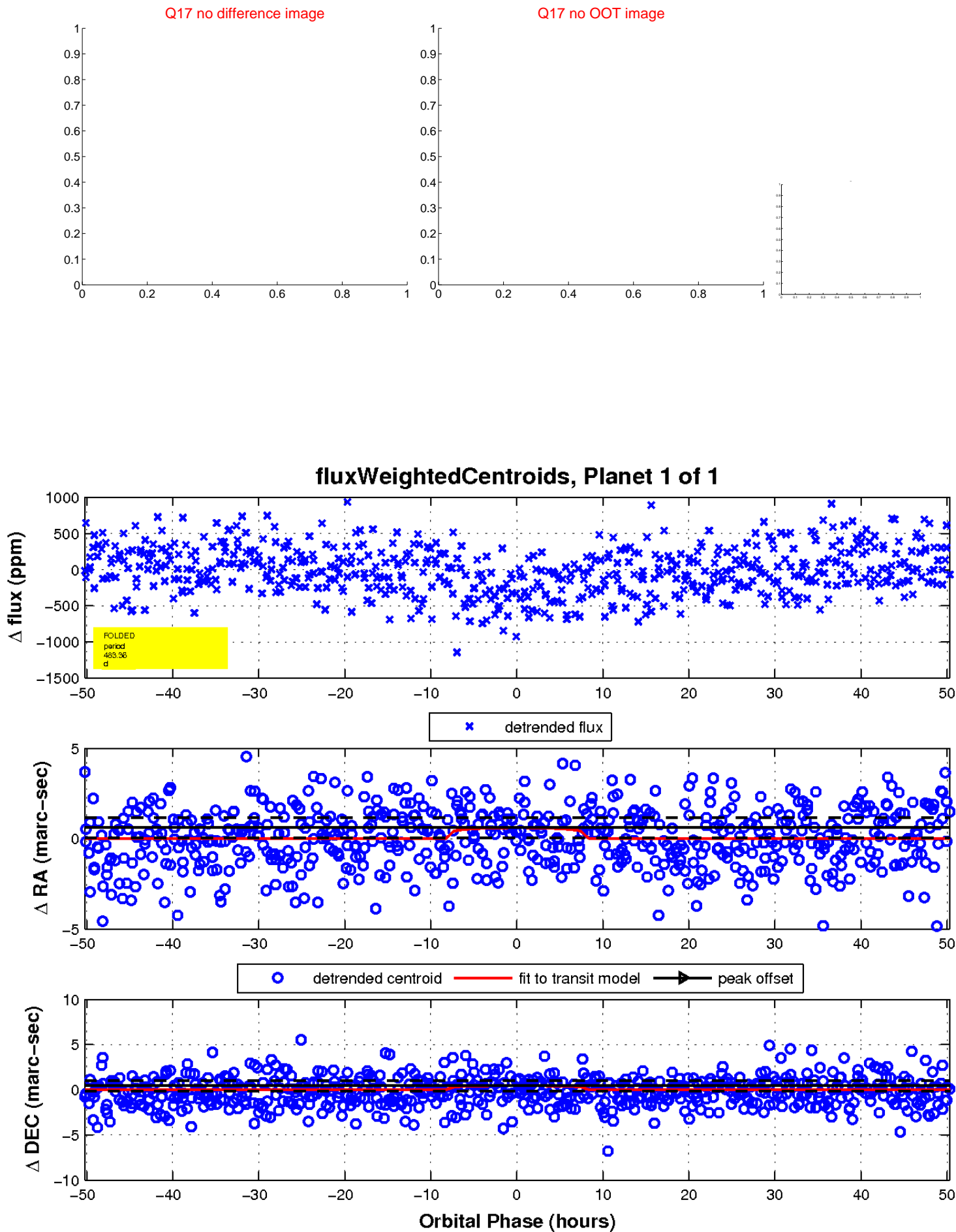
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

