

KIC 008416796

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})
008416796-01	OBS	No	510.283353	158.483172	676.3	14.637	8.0	8.0	0.48	3916	1.31	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008416796-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_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.

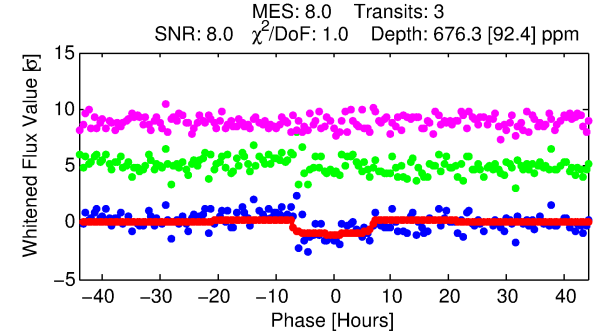
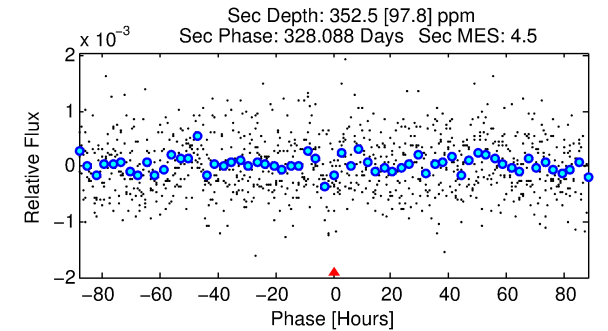
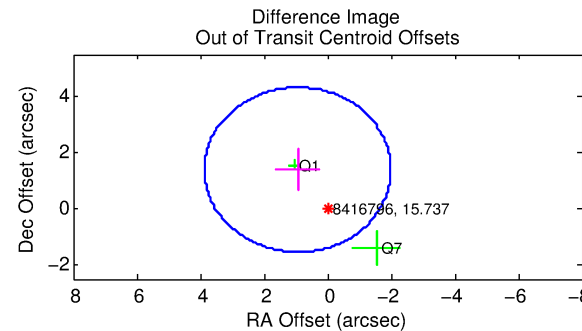
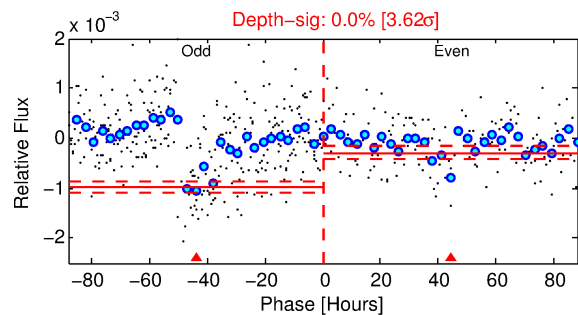
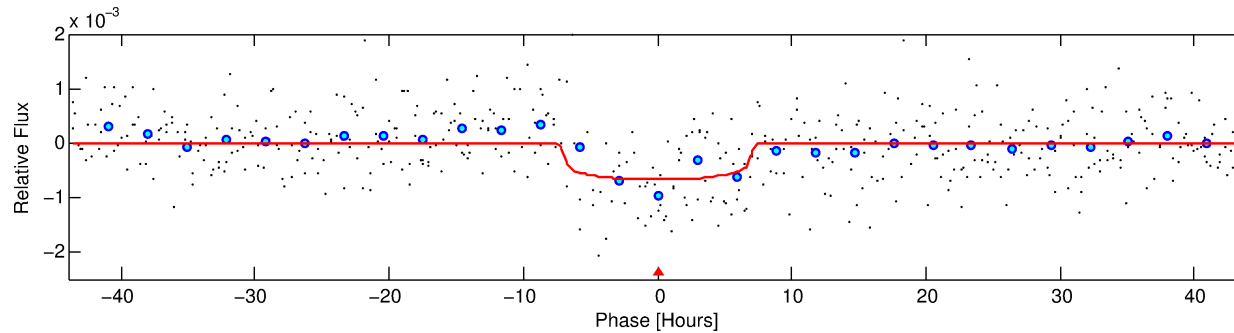
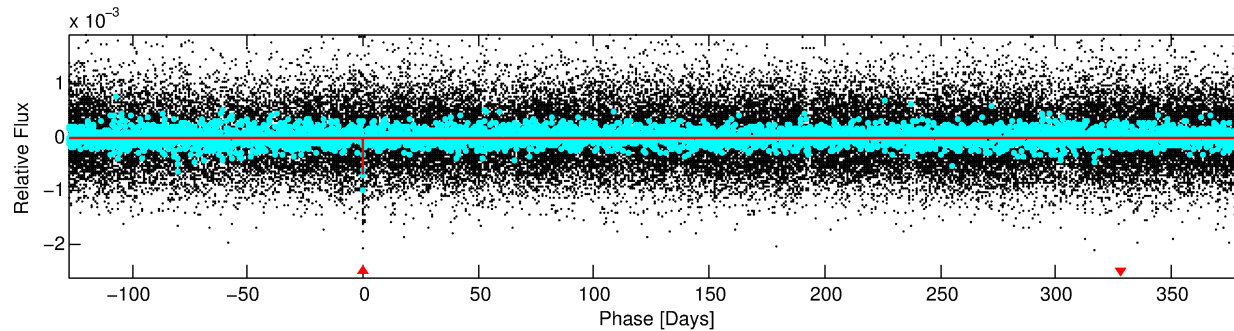
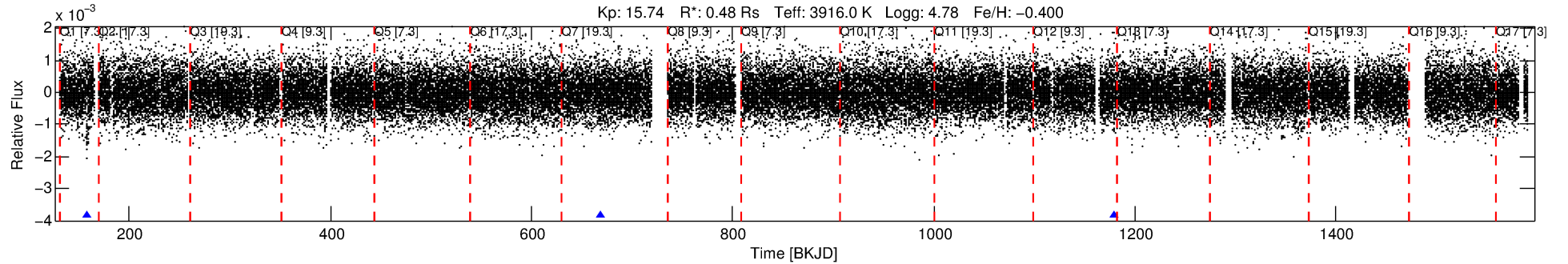
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008416796-01

No Significant Match Found

DV One-Page Summary

KIC: 8416796 Candidate: 1 of 1 Period: 510.283 d



DV Fit Results:

Period = 510.28335 [0.02150] d
Epoch = 158.4832 [0.0235] BKJD
Rp/R* = 0.0249 [0.0112]
a/R* = 219.76 [482.73]
b = 0.61 [2.28]
Seff = 0.05 [0.01]
Teq = 120 [4] K
Rp = 1.31 [0.60] Re
a = 0.9968 [0.0670] AU
Ag = 112251.59 [105979.23] [1.06σ]
Teffp = 3400 [802] K [4.09σ]

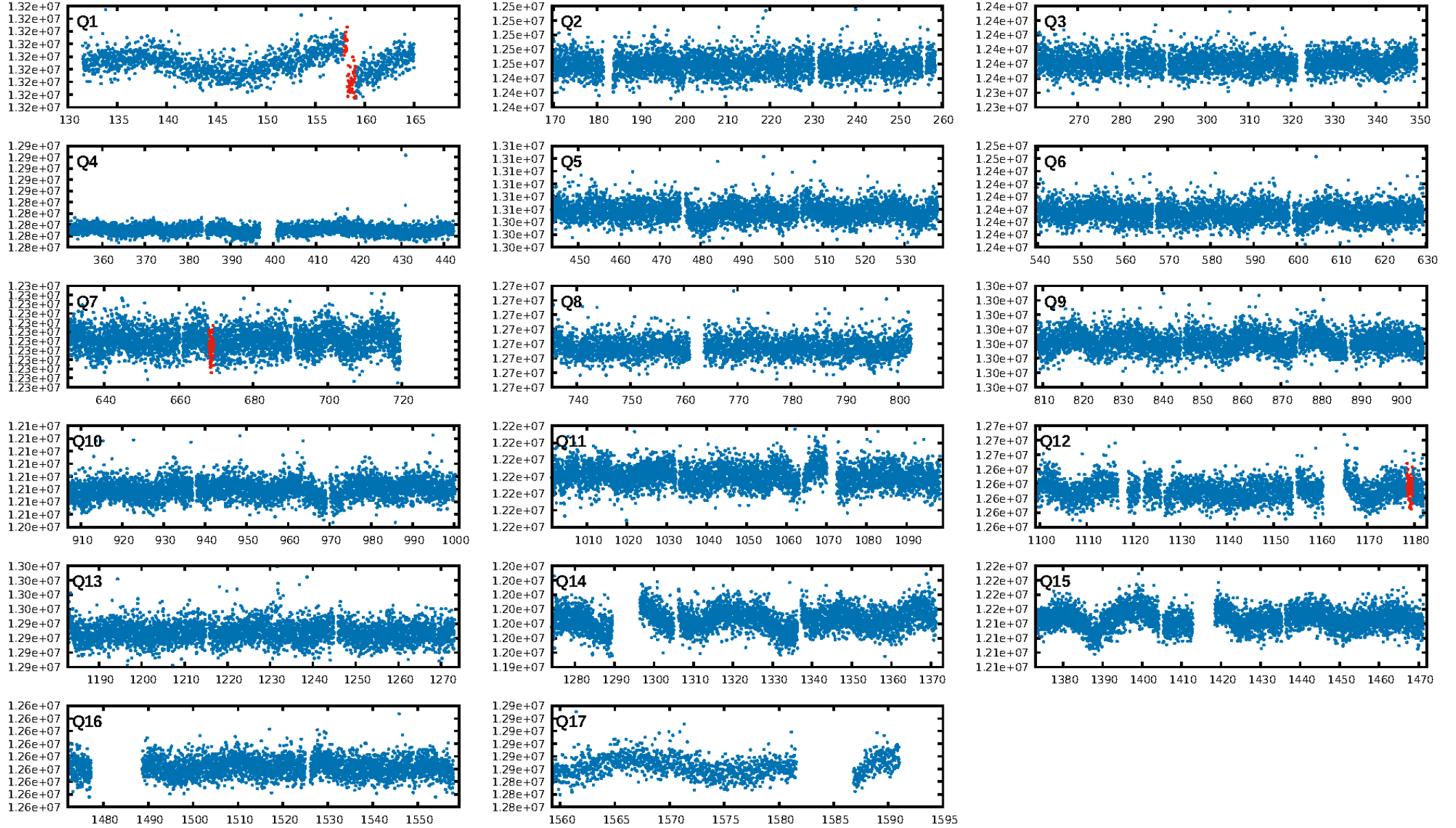
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 97.3%
Bootstrap-pfa: 2.29e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -3.429
Centroid-sig: 20.4%
Centroid-so: 1.538 arcsec [1.16σ]
OotOffset-rm: 1.676 arcsec [1.71σ]
KicOffset-rm: 1.313 arcsec [1.15σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

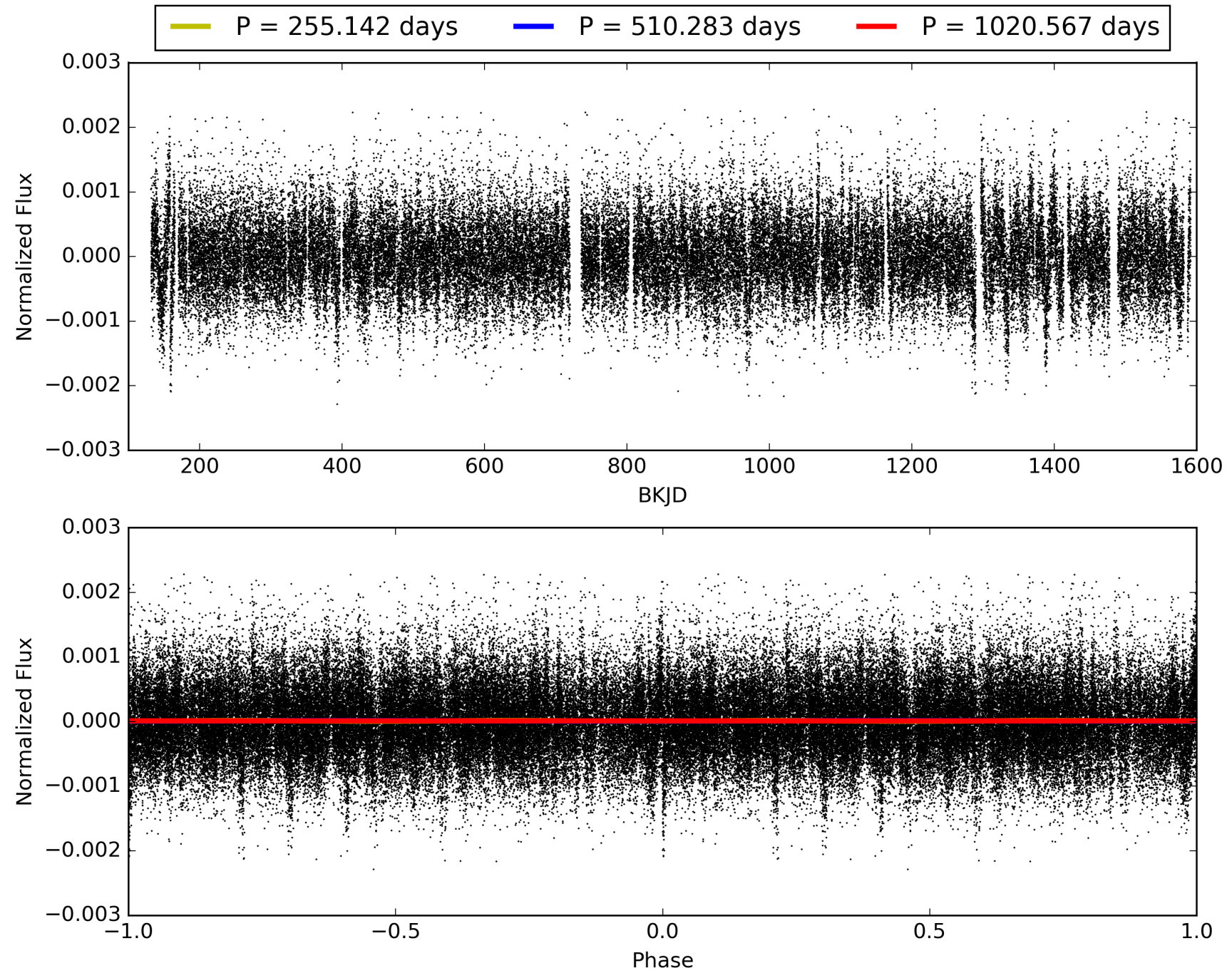
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:46:59 Z

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

TCE 008416796-01, PDC Light Curves

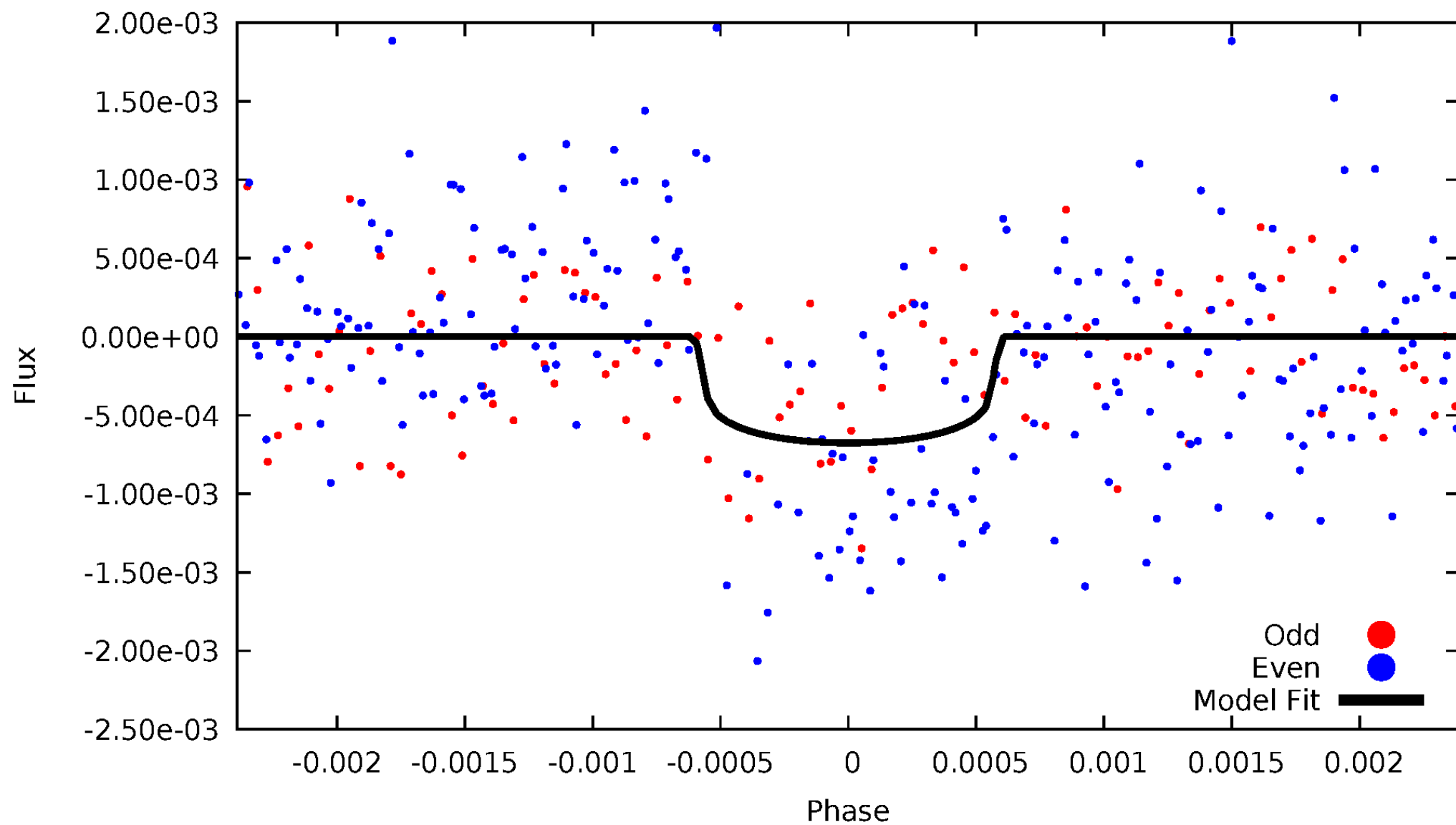


TCE 008416796-01



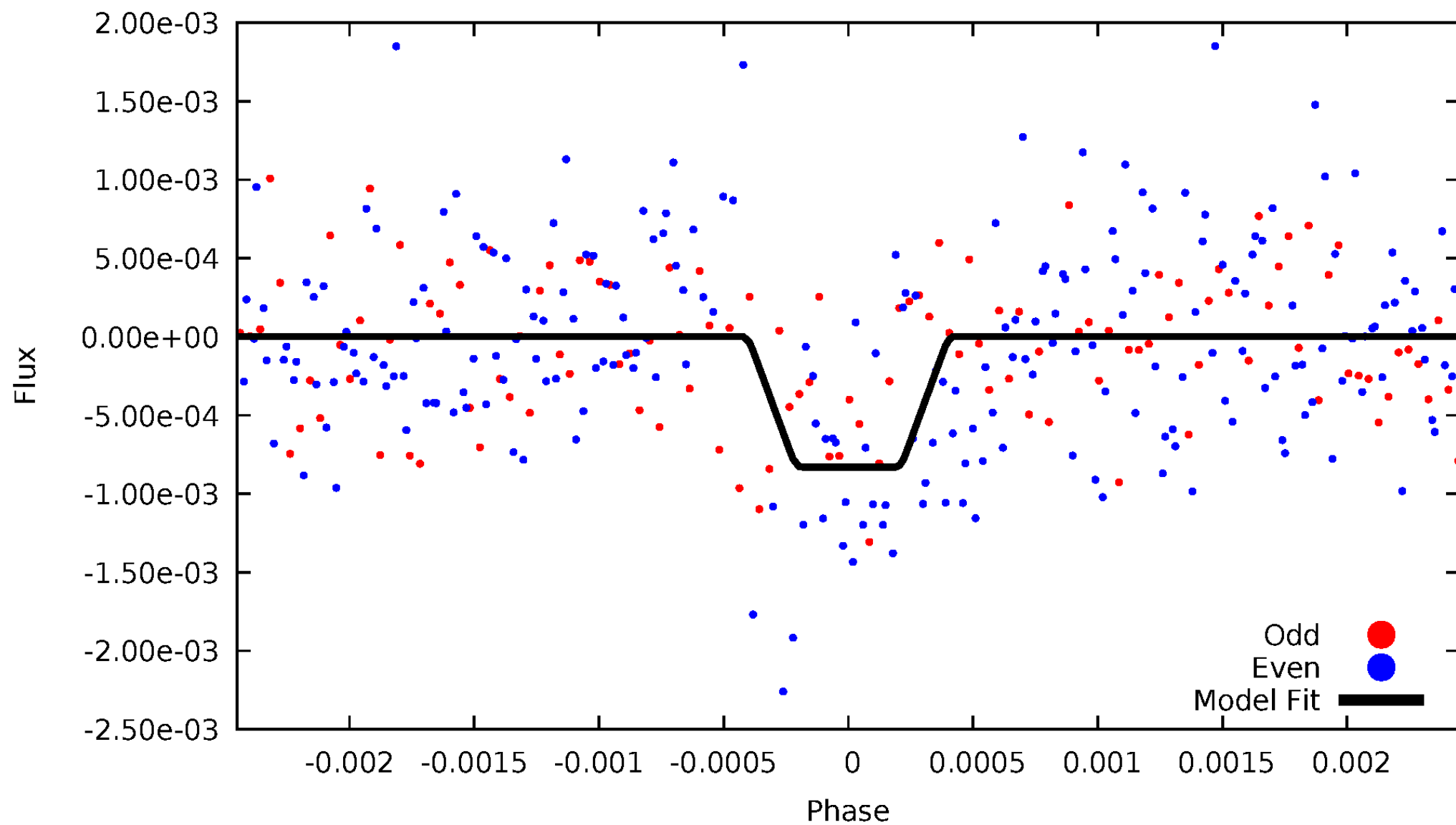
DV Odd/Even

TCE 008416796-01



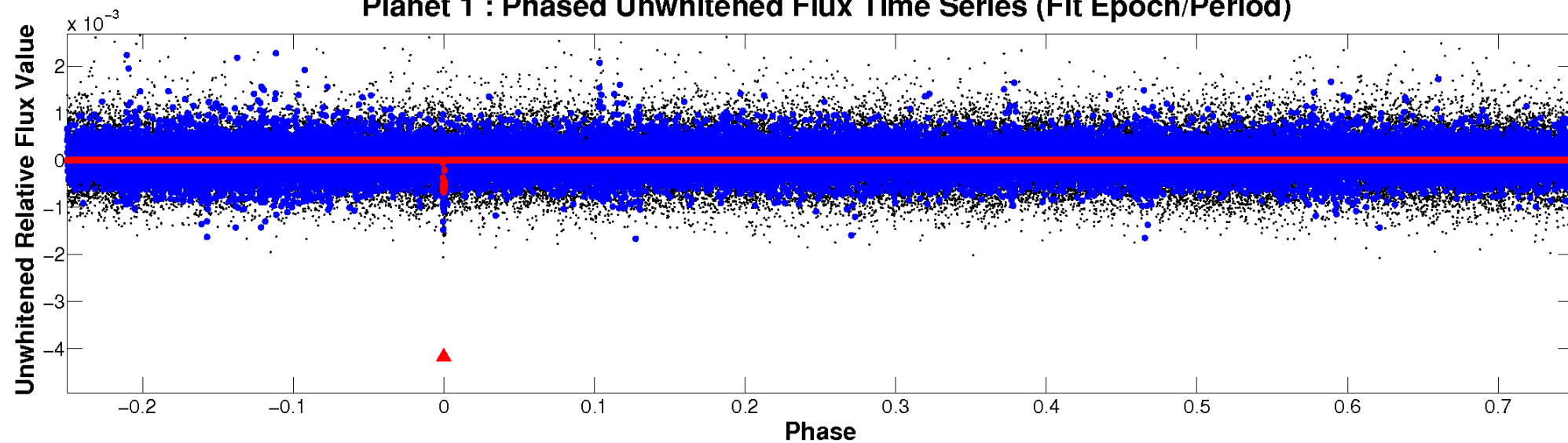
ALT Odd/Even

TCE 008416796-01

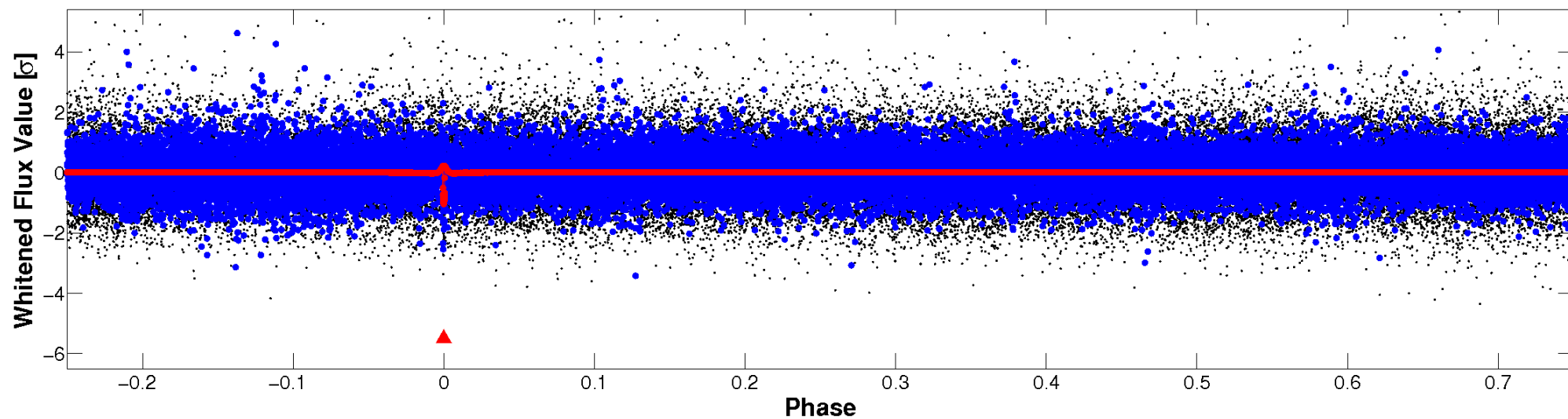


Non-Whitened Vs. Whitened Light Curve

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 008416796-01 P=510.283353 Days $T_0=158.483172$ (BKJD)



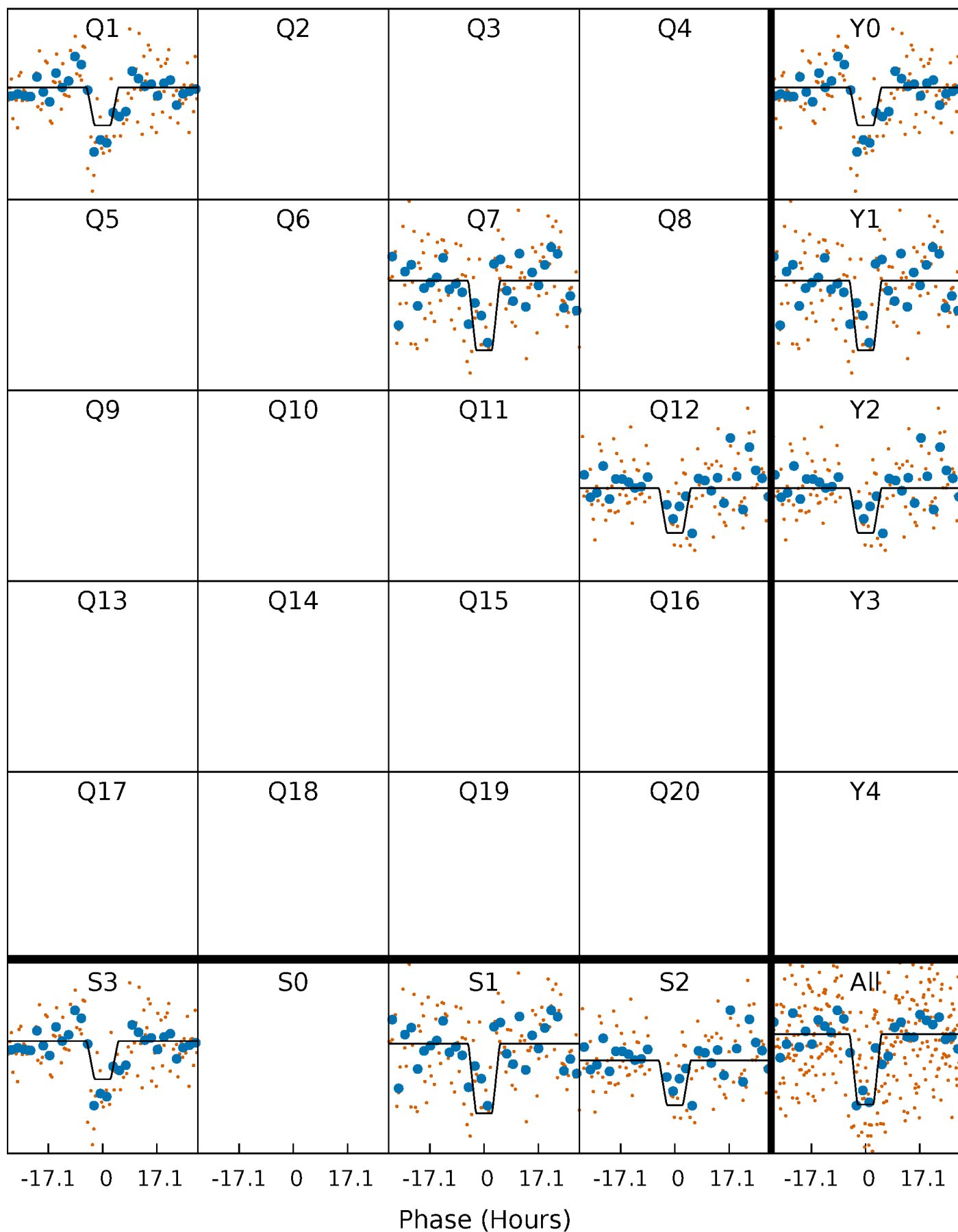
DV Quarter-Phased Transit Curves

TCE 008416796-01 P=510.283353 Days $T_0=158.483172$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

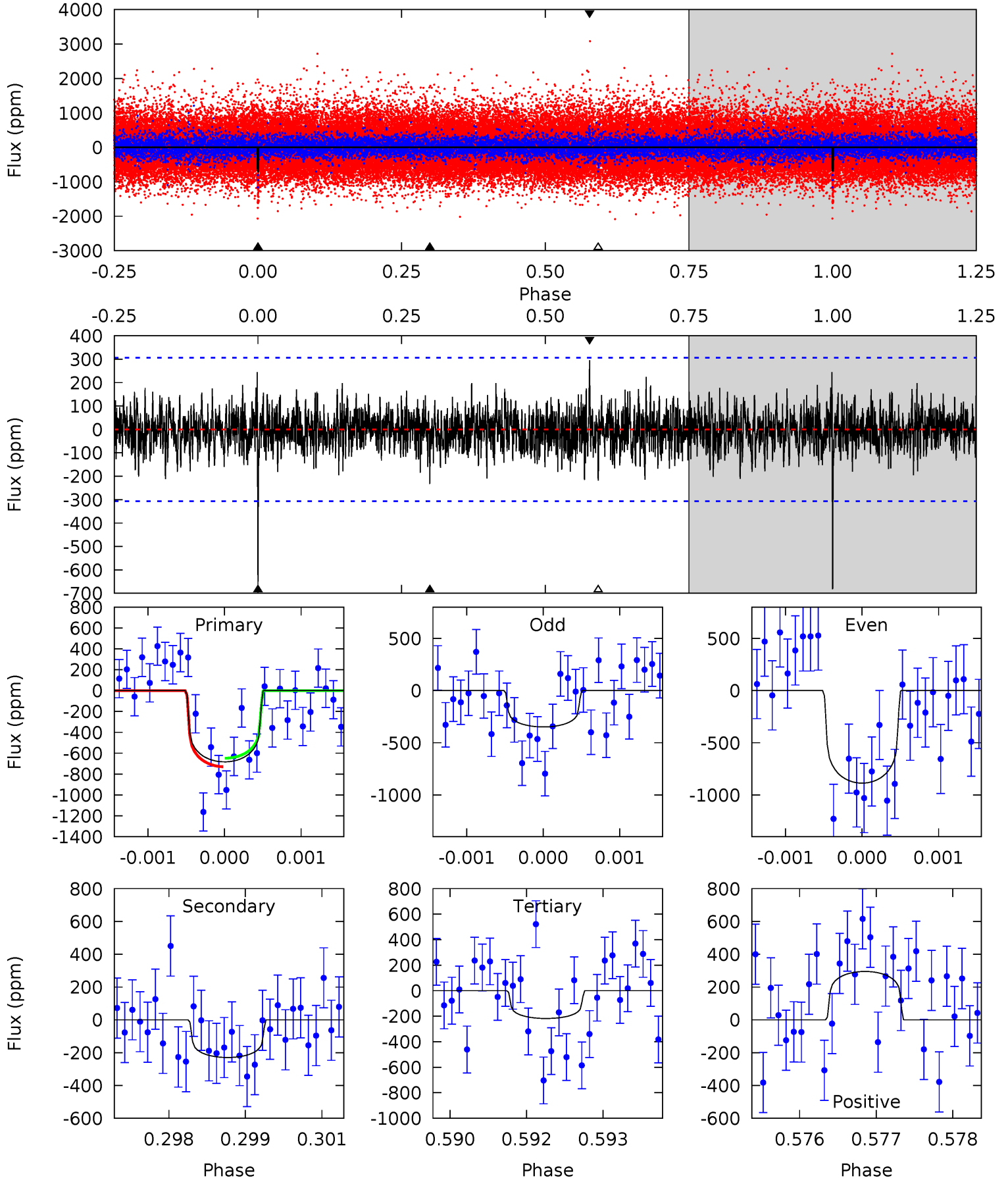
TCE 008416796-01 P=510.314539 Days $T_0=158.435397$ (BKJD)



DV Model-Shift Uniqueness Test

008416796-01, P = 510.283353 Days, E = 158.483172 Days

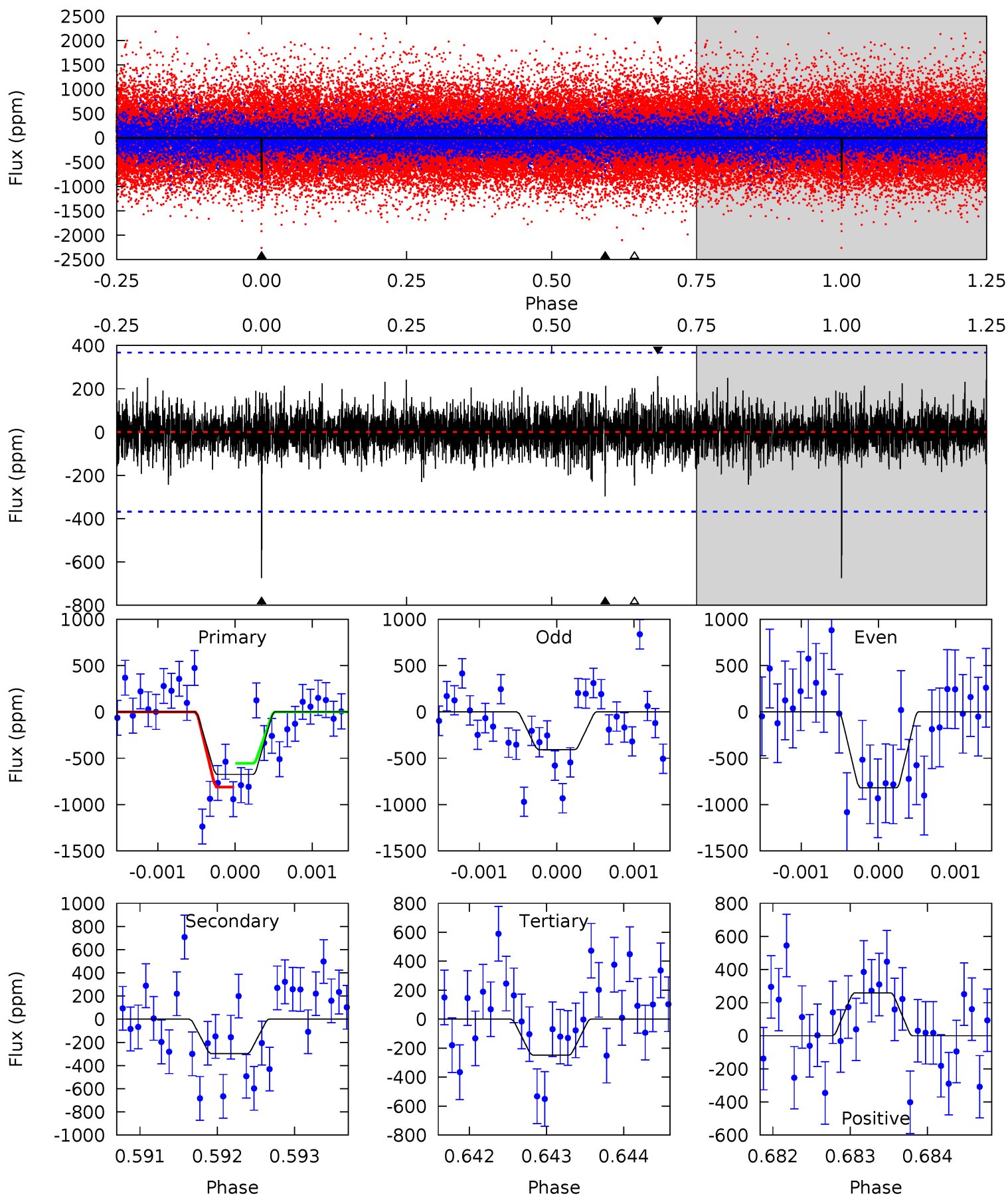
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	4.06	3.85	5.21	5.42	3.24	1.14	8.22	6.85	0.21	-1.16	4.64	1.22	0.30	0.71



Alt Model-Shift Uniqueness Test

008416796-01, P = 510.314539 Days, E = 158.435397 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	4.44	3.70	3.87	5.49	3.35	0.98	6.37	6.21	0.74	0.57	2.99	1.62	0.28	1.89



Stellar Parameters For KIC 008416796

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3916^{+70}_{-77}	$4.777^{+0.040}_{-0.044}$	$-0.400^{+0.200}_{-0.200}$	$0.482^{+0.038}_{-0.042}$	$0.507^{+0.032}_{-0.044}$	$6.379^{+1.194}_{-1.005}$
	+2%/-2%	+1%/-1%	+50%/-50%	+8%/-9%	+6%/-9%	+19%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008416796-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-229 ± 57	$1.32^{+0.56}_{-0.57}$	168^{+4}_{-4}	3327^{+684}_{-367}	$71528^{+150472}_{-38580}$
Alt.	-297 ± 67	$1.51^{+0.62}_{-0.60}$	168^{+4}_{-4}	3312^{+600}_{-330}	$68501^{+129196}_{-34254}$

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 $A_{obs} \gg 1.0$

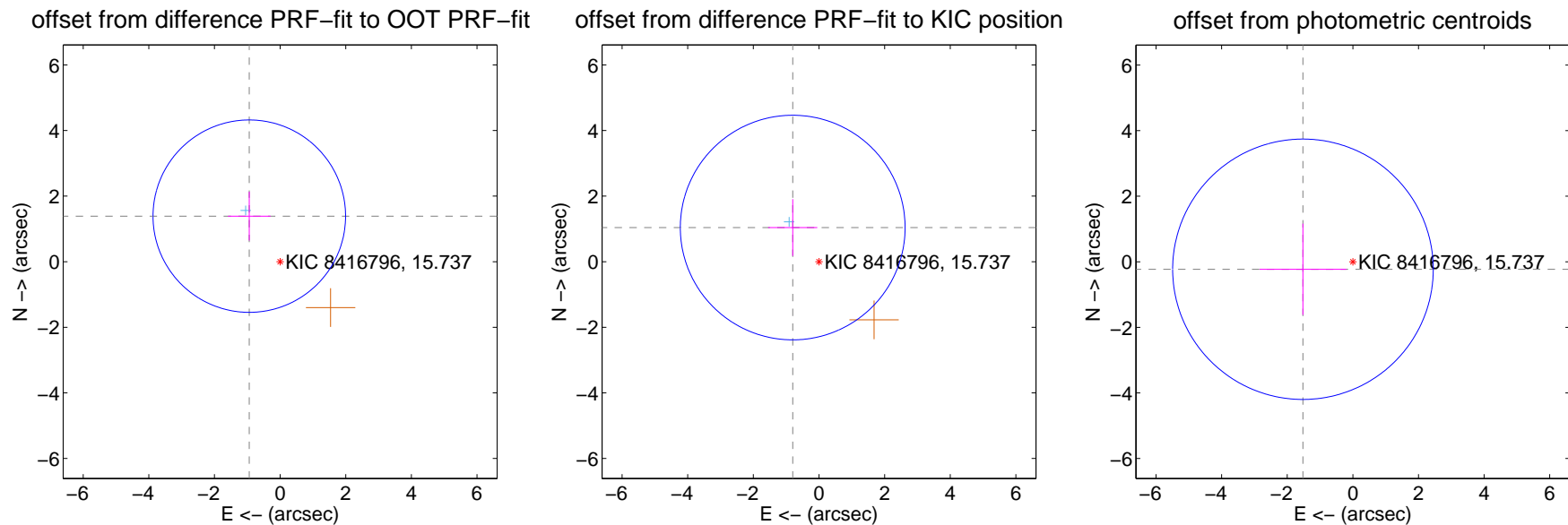
DV Centroid Data

Supplemental centroid analysis for 008416796-01. Kepler magnitude: 15.74. Transit SNR 8.03

There are 1 quarters with good PRF difference image offsets

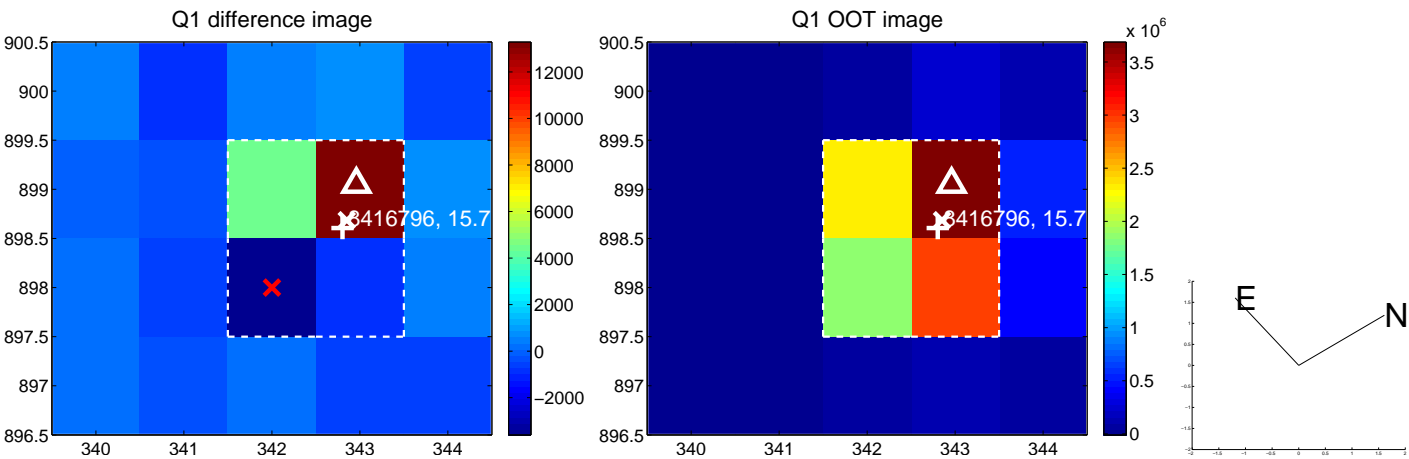
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.676 ± 0.978	1.71	0.939 ± 0.650	1.388 ± 0.743
PRF-fit source offset from KIC position	1.313 ± 1.141	1.15	0.801 ± 0.750	1.041 ± 0.865
photometric centroid source offset	1.54 ± 1.32	1.16	1.52 ± 1.32	-0.23 ± 1.39

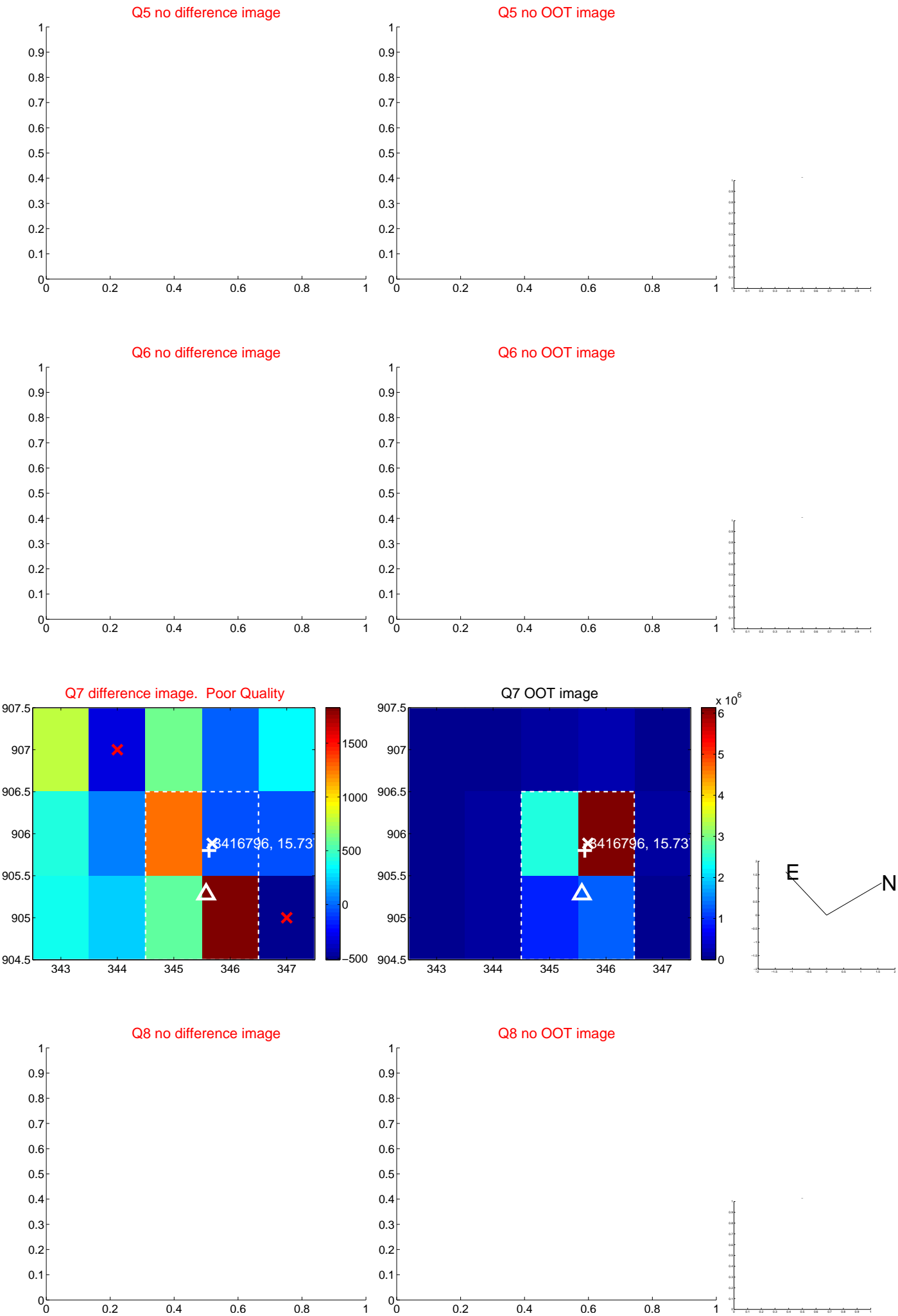


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



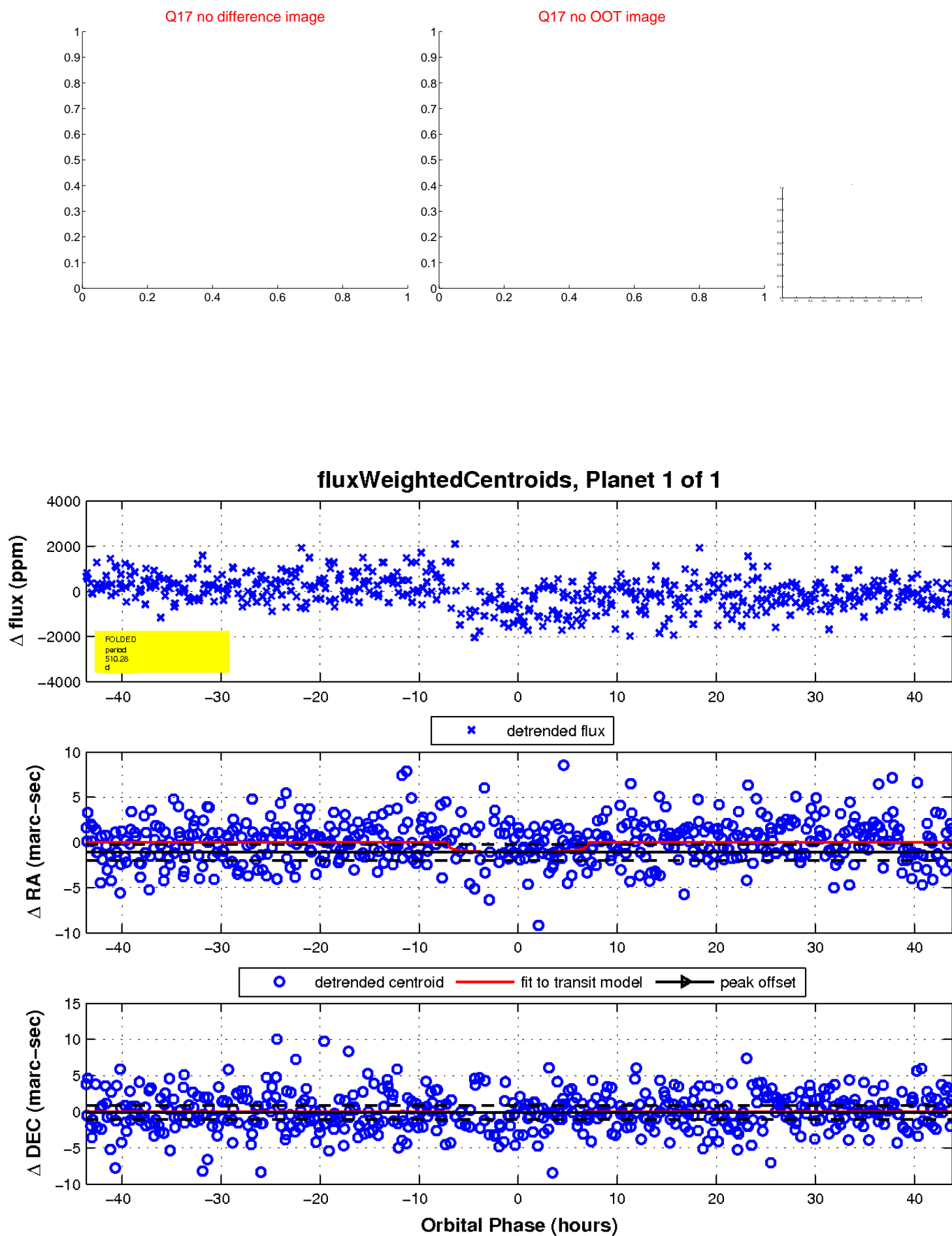
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

