

KIC 010978737

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})
010978737-01	OBS	No	403.146269	373.488619	327.6	13.241	19.1	9.2	1.10	6065	2.40	1.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010978737-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

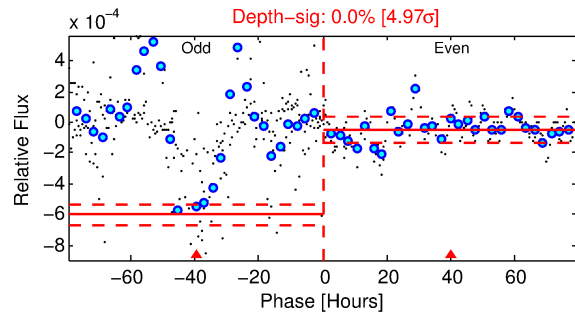
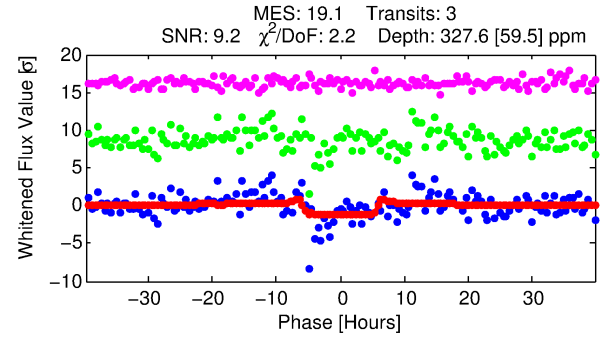
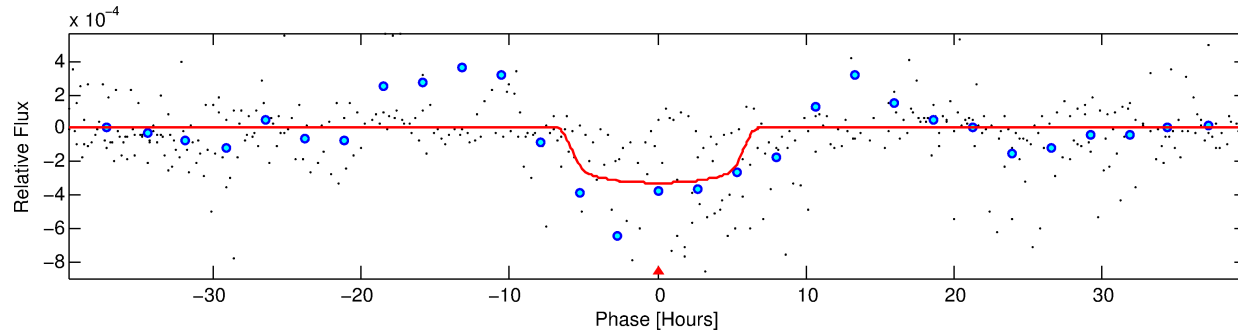
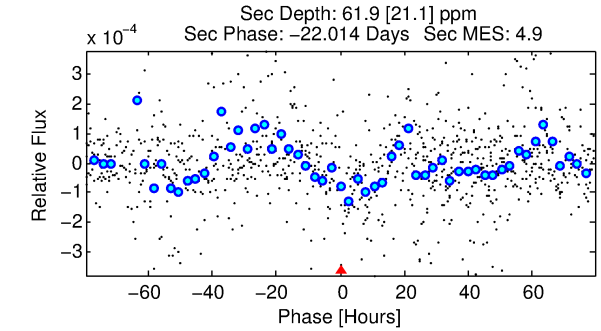
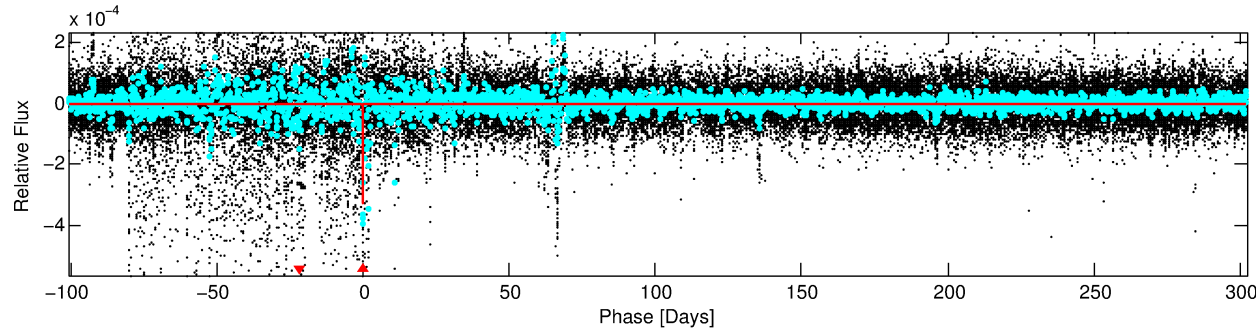
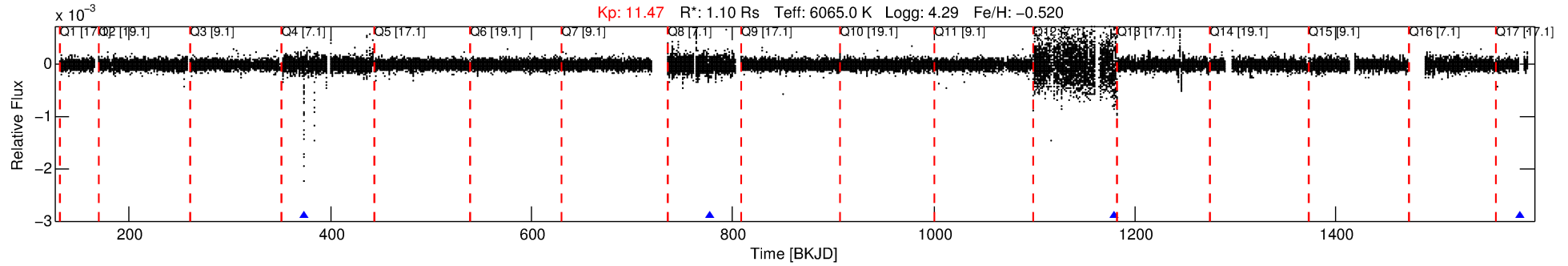
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010978737-01

No Significant Match Found

DV One-Page Summary

KIC: 10978737 Candidate: 1 of 1 Period: 403.146 d



DV Fit Results:

Period = 403.14627 [0.01569] d
Epoch = 373.4886 [0.0180] BKJD
Rp/R* = 0.0200 [0.0022]
a/R* = 98.83 [26.90]
b = 0.93 [0.04]
Seff = 1.41 [0.50]
Teq = 278 [25] K
Rp = 2.40 [0.69] Re
a = 1.0206 [0.2344] AU
Ag = 6152.26 [3257.68] [1.89σ]
Teffp = 3805 [398] K [8.84σ]

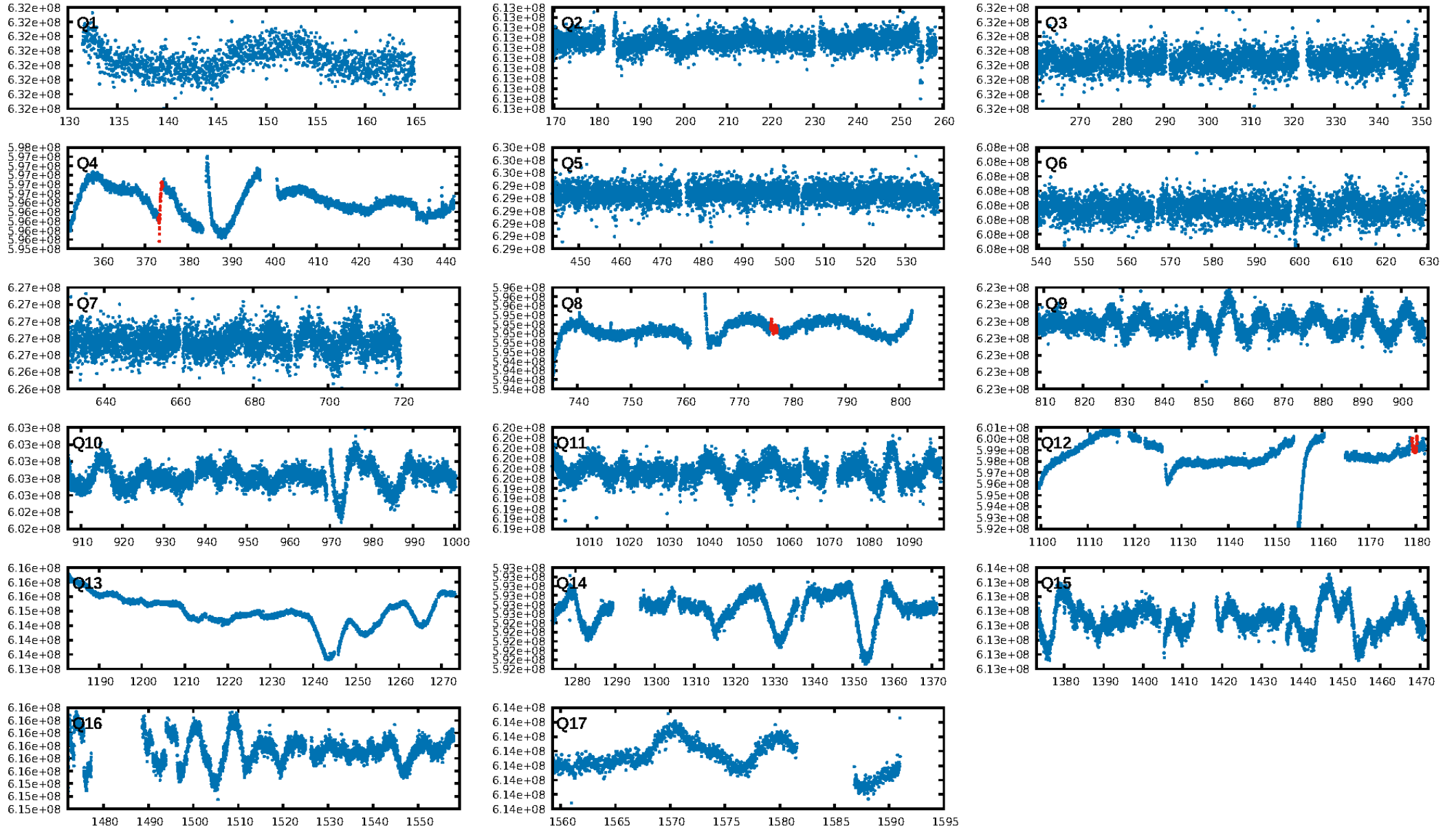
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.1%
Bootstrap-pfa: 4.31e-23
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.609
Centroid-sig: 99.8%
Centroid-so: 0.277 arcsec [0.39σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

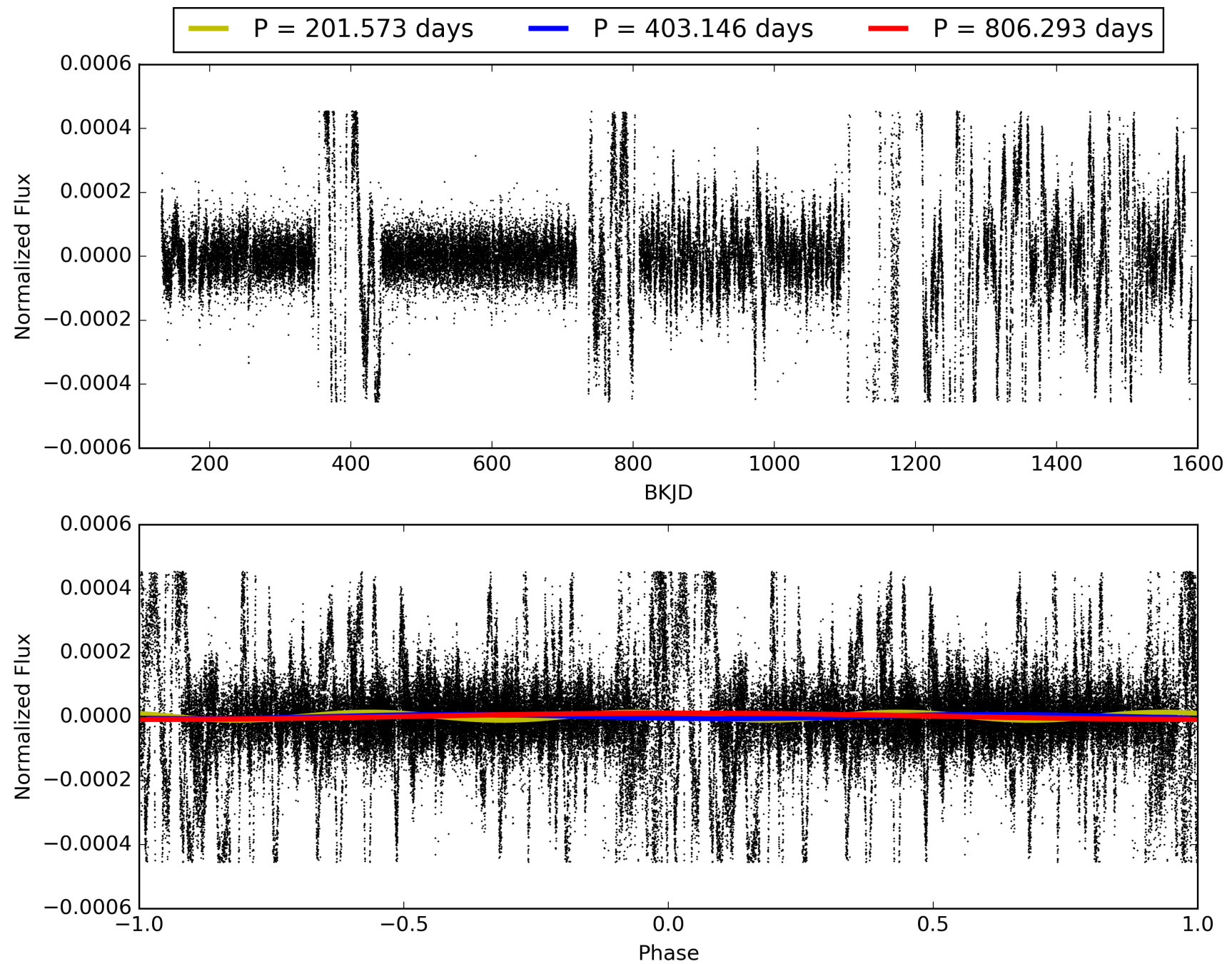
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:19:29 Z

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

TCE 010978737-01, PDC Light Curves

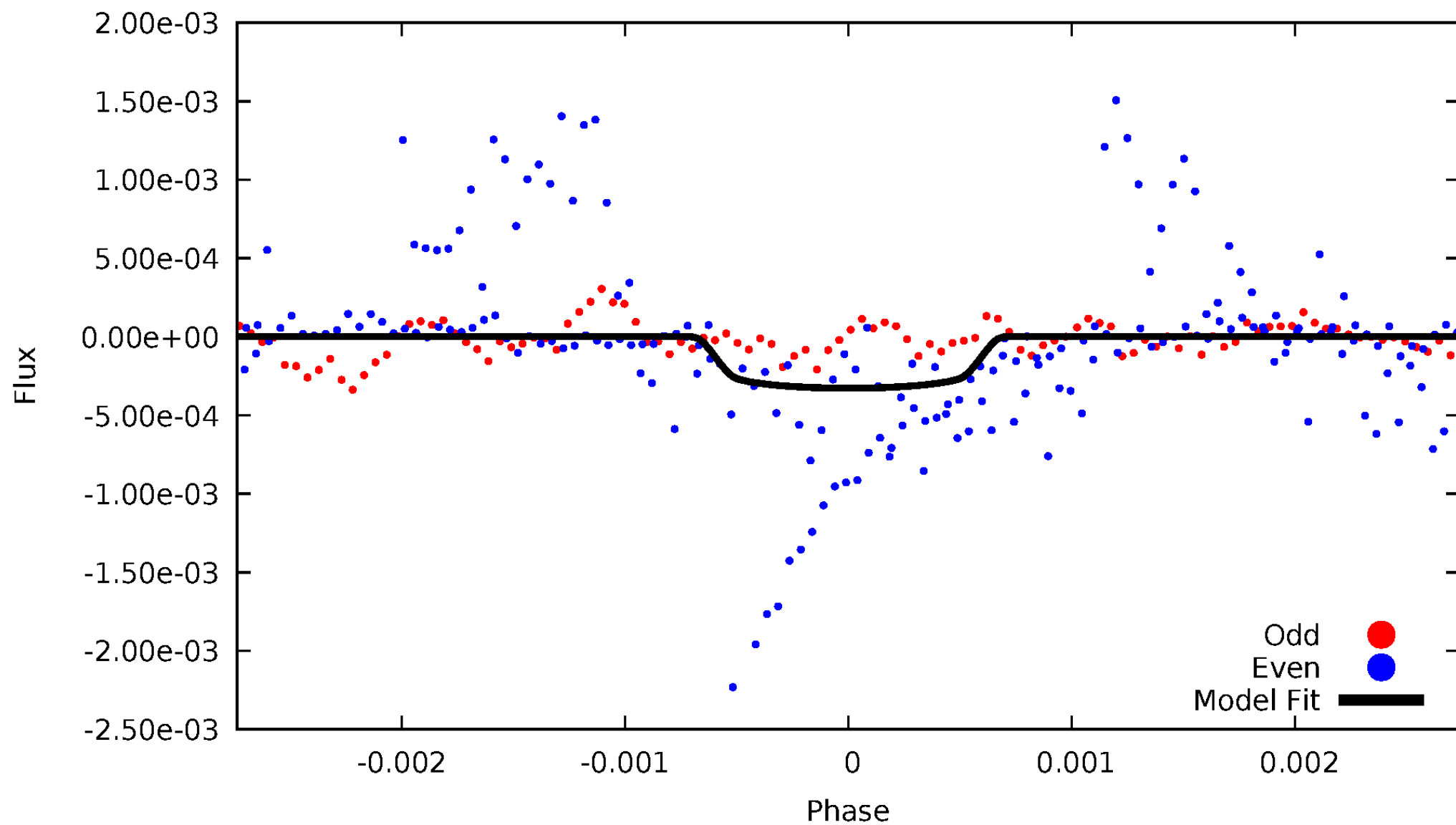


TCE 010978737-01



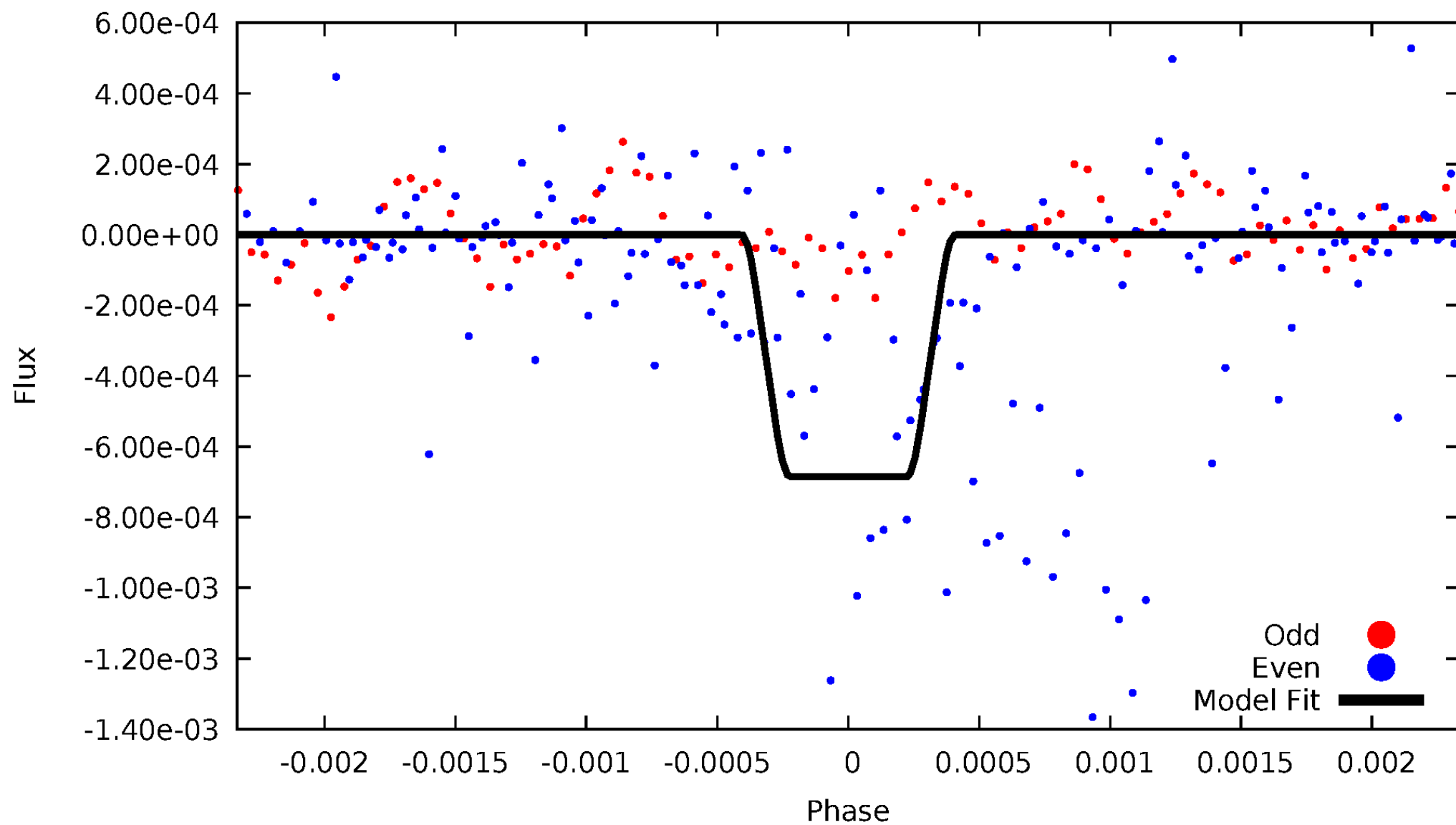
DV Odd/Even

TCE 010978737-01

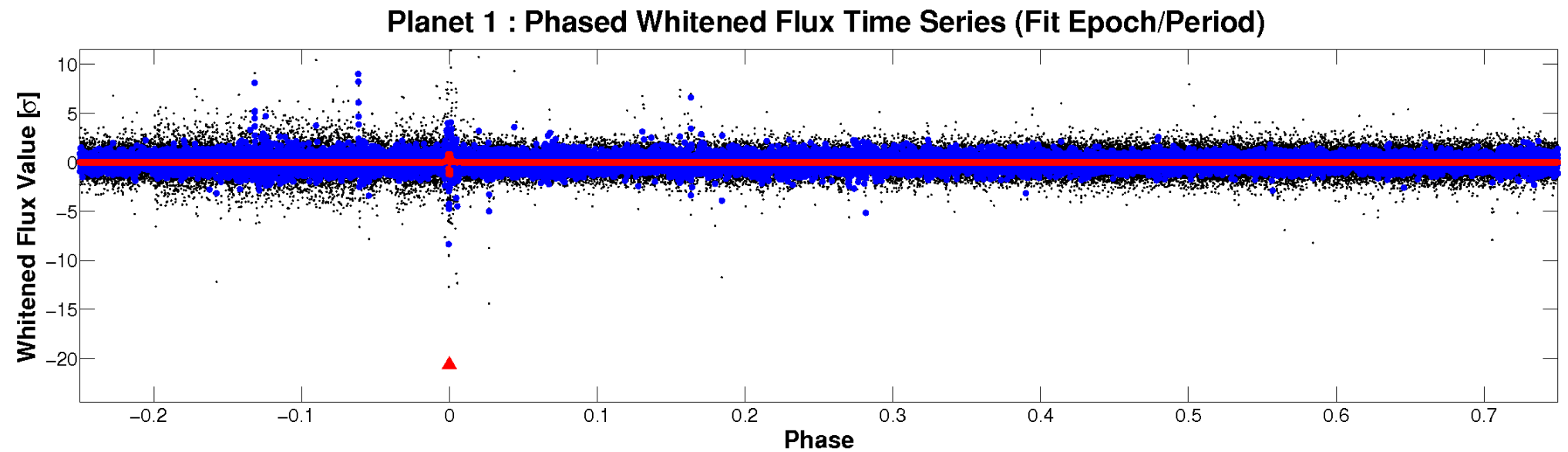
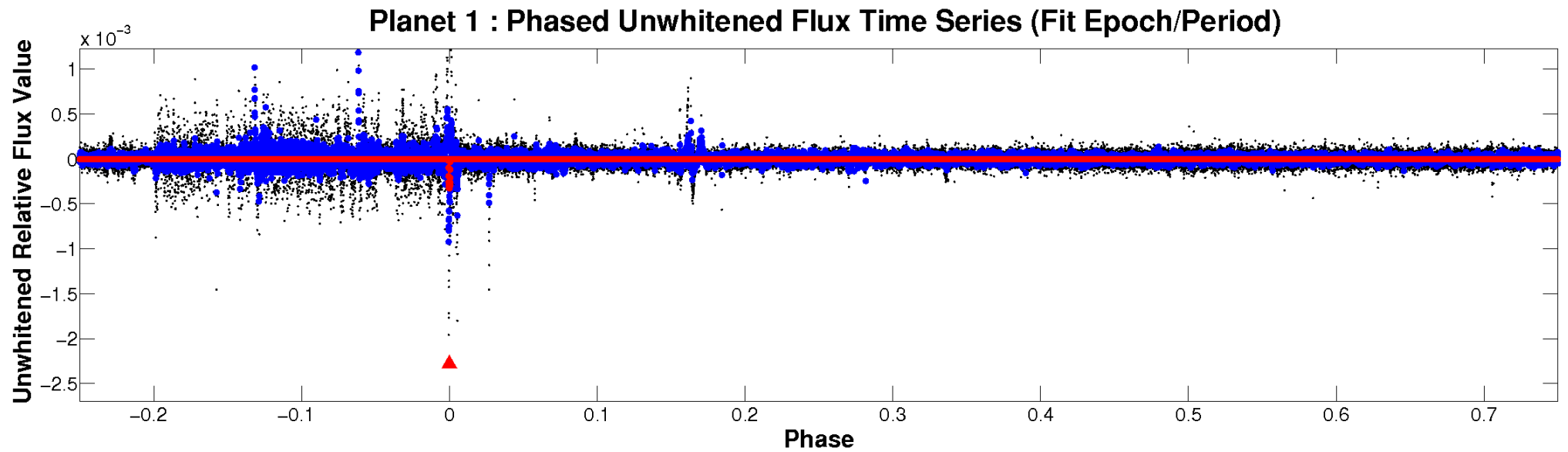


ALT Odd/Even

TCE 010978737-01



Non-Whitened Vs. Whitened Light Curve



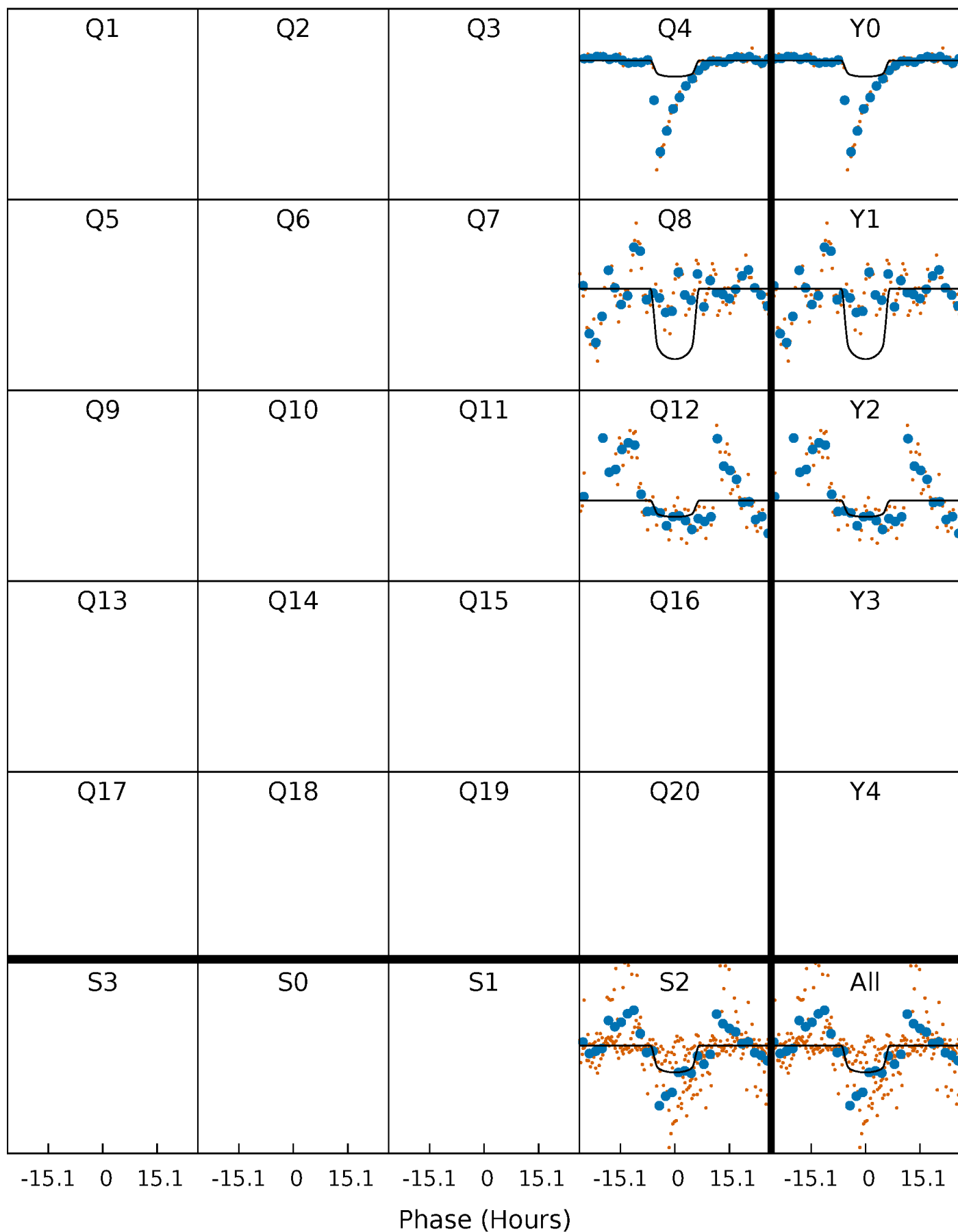
PDC Quarter-Phased Transit Curves

TCE 010978737-01 P=403.146269 Days $T_0=373.488619$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010978737-01 P=403.146269 Days $T_0=373.488619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

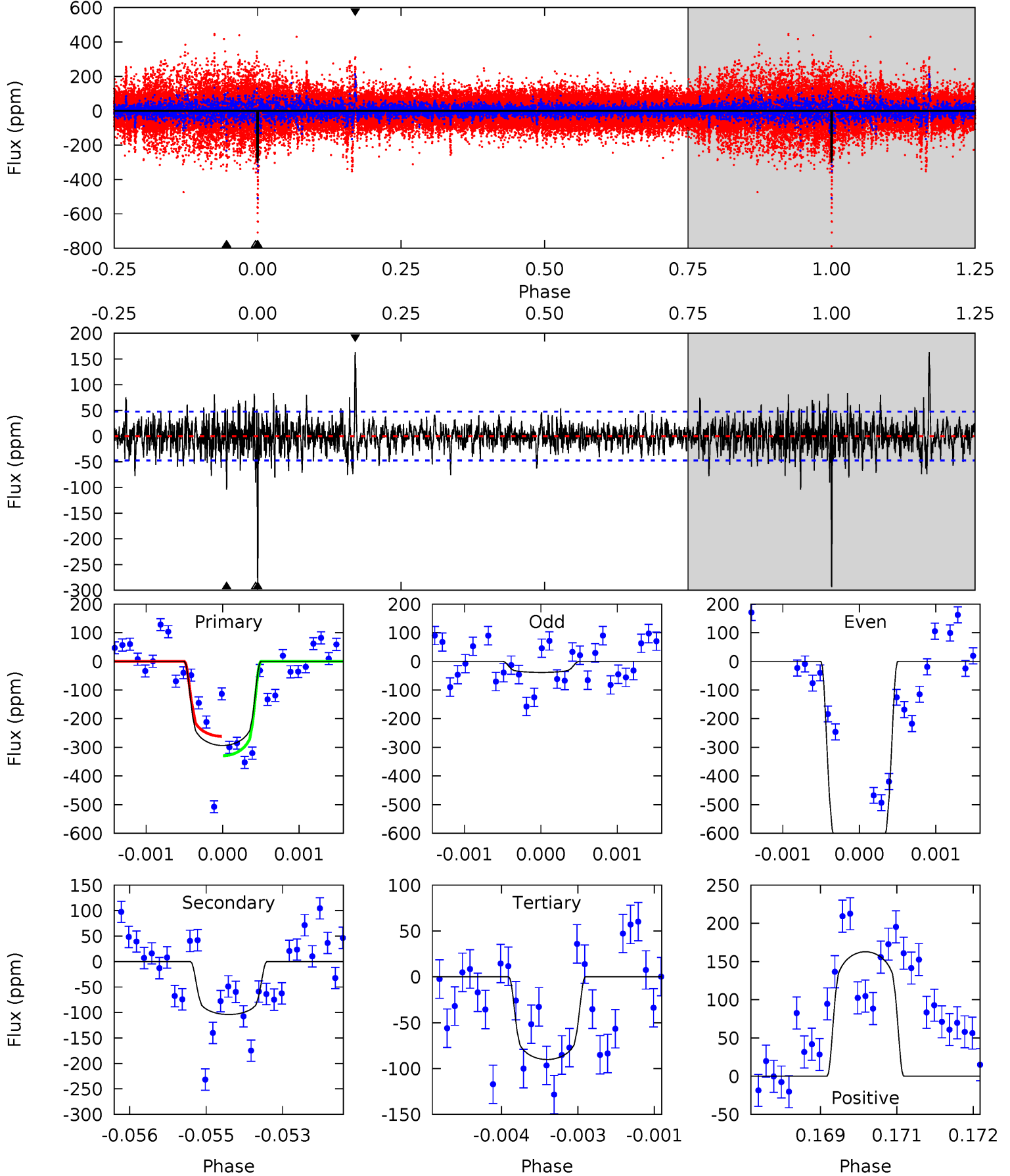
TCE 010978737-01 P=403.229062 Days $T_0=373.307466$ (BKJD)



DV Model-Shift Uniqueness Test

010978737-01, P = 403.146269 Days, E = 373.488619 Days

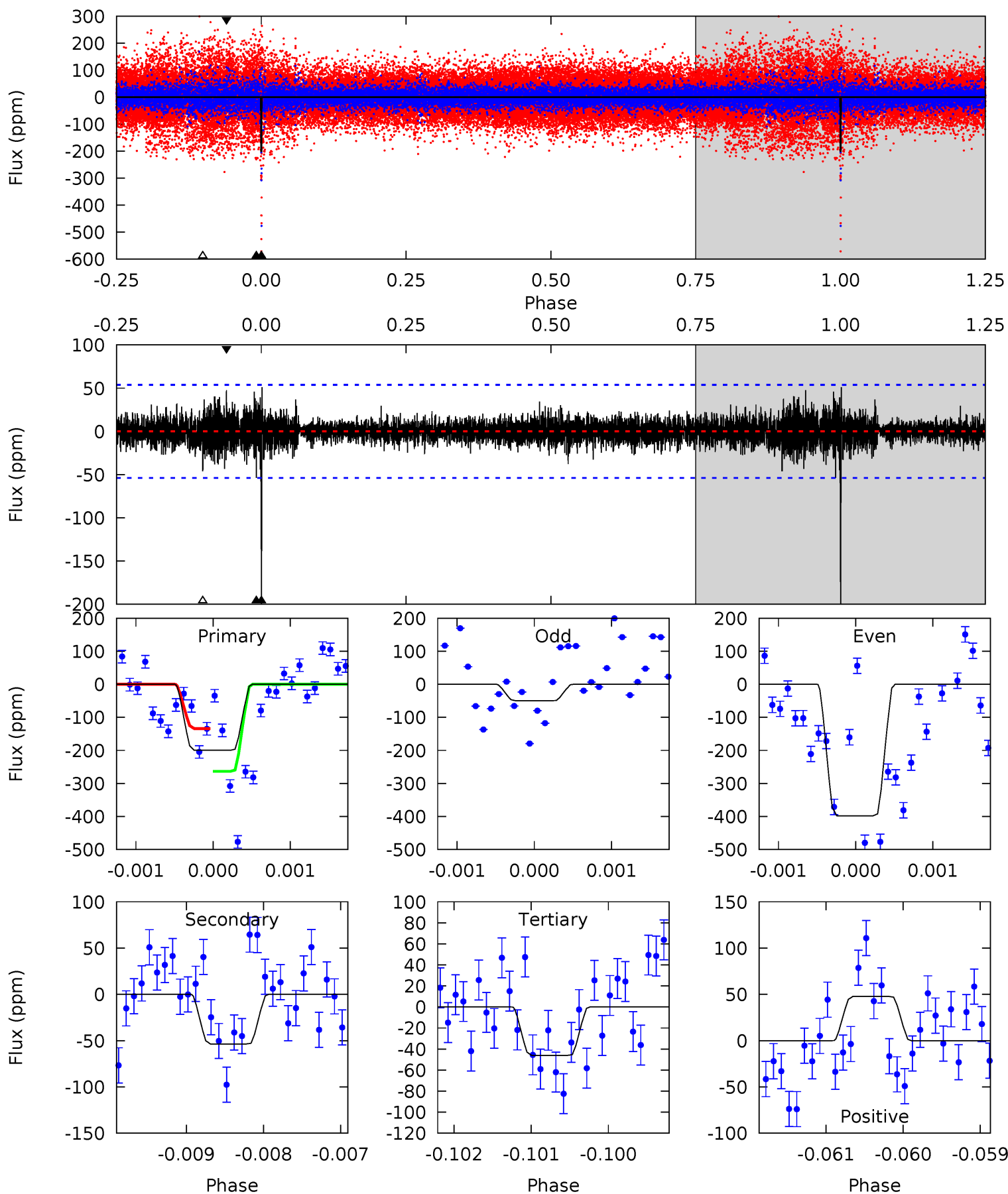
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	11.8	10.2	18.4	5.39	3.19	2.27	23.0	14.8	1.57	-6.66	39.2	1.19	0.36	0



Alt Model-Shift Uniqueness Test

010978737-01, P = 403.229062 Days, E = 373.307466 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	5.46	4.69	4.86	5.48	3.34	0.97	15.6	15.5	0.77	0.60	19.8	1.67	0.20	6.61



Stellar Parameters For KIC 010978737

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6065^{+145}_{-163}	$4.295^{+0.190}_{-0.190}$	$-0.520^{+0.300}_{-0.300}$	$1.101^{+0.293}_{-0.240}$	$0.873^{+0.117}_{-0.081}$	$0.921^{+0.916}_{-0.464}$
	+2%/-3%	+4%/-4%	+58%/-58%	+27%/-22%	+13%/-9%	+99%/-50%
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 010978737-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-104 ± 9	$2.40^{+0.46}_{-0.40}$	387^{+28}_{-25}	4508^{+238}_{-197}	10469^{+4375}_{-3179}
Alt.	-54 ± 10	$3.16^{+0.62}_{-0.46}$	389^{+32}_{-27}	3640^{+163}_{-153}	3052^{+1234}_{-957}

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

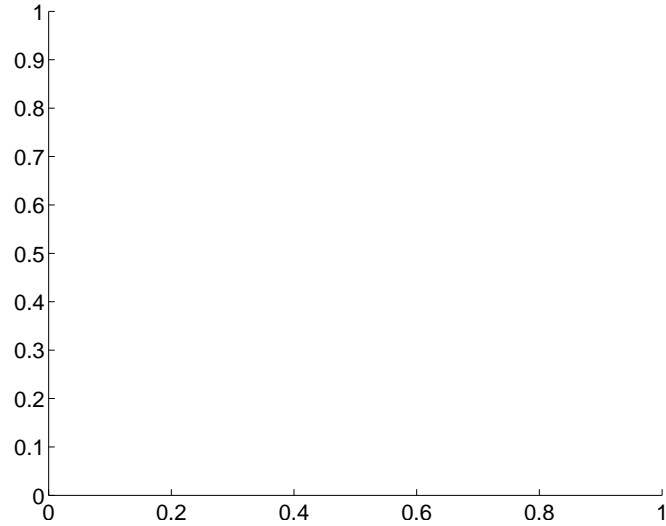
Supplemental centroid analysis for 010978737-01. **Kepler magnitude: 11.47.** Transit SNR 9.17

There are 0 quarters with good PRF difference image offsets

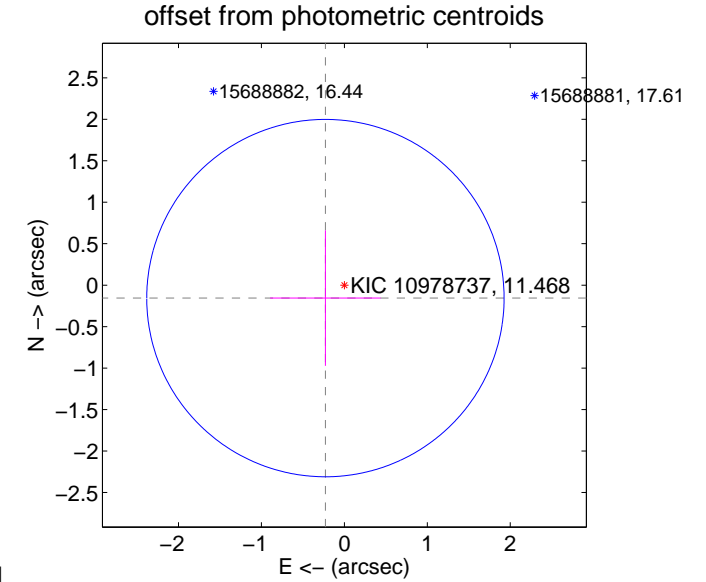
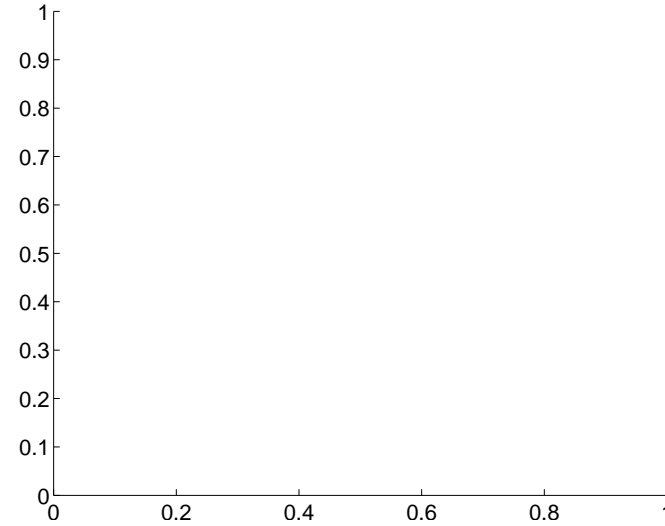
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.28 ± 0.72	0.39	0.23 ± 0.67	-0.16 ± 0.82

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

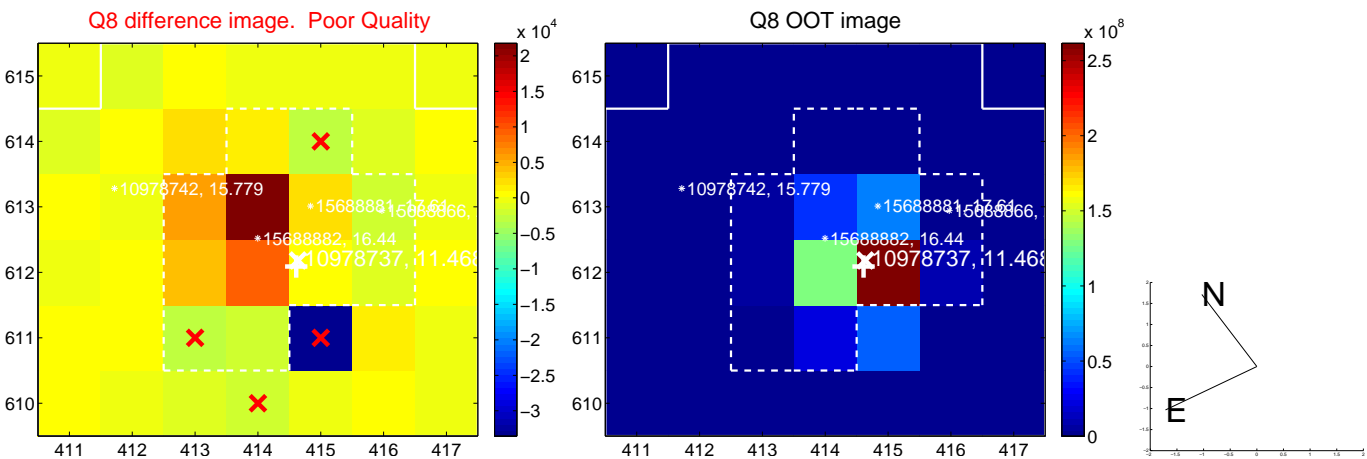
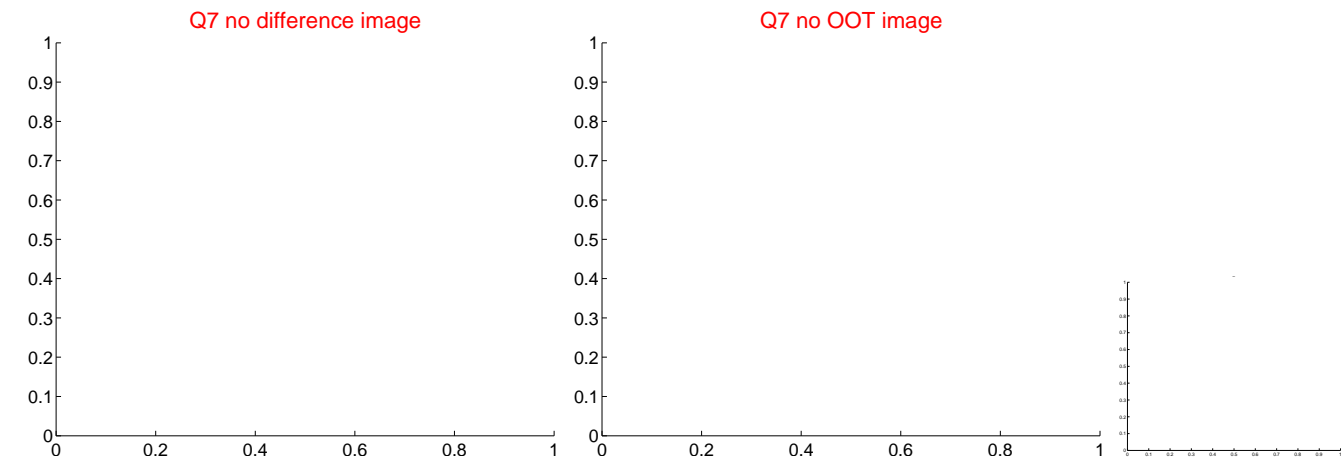


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



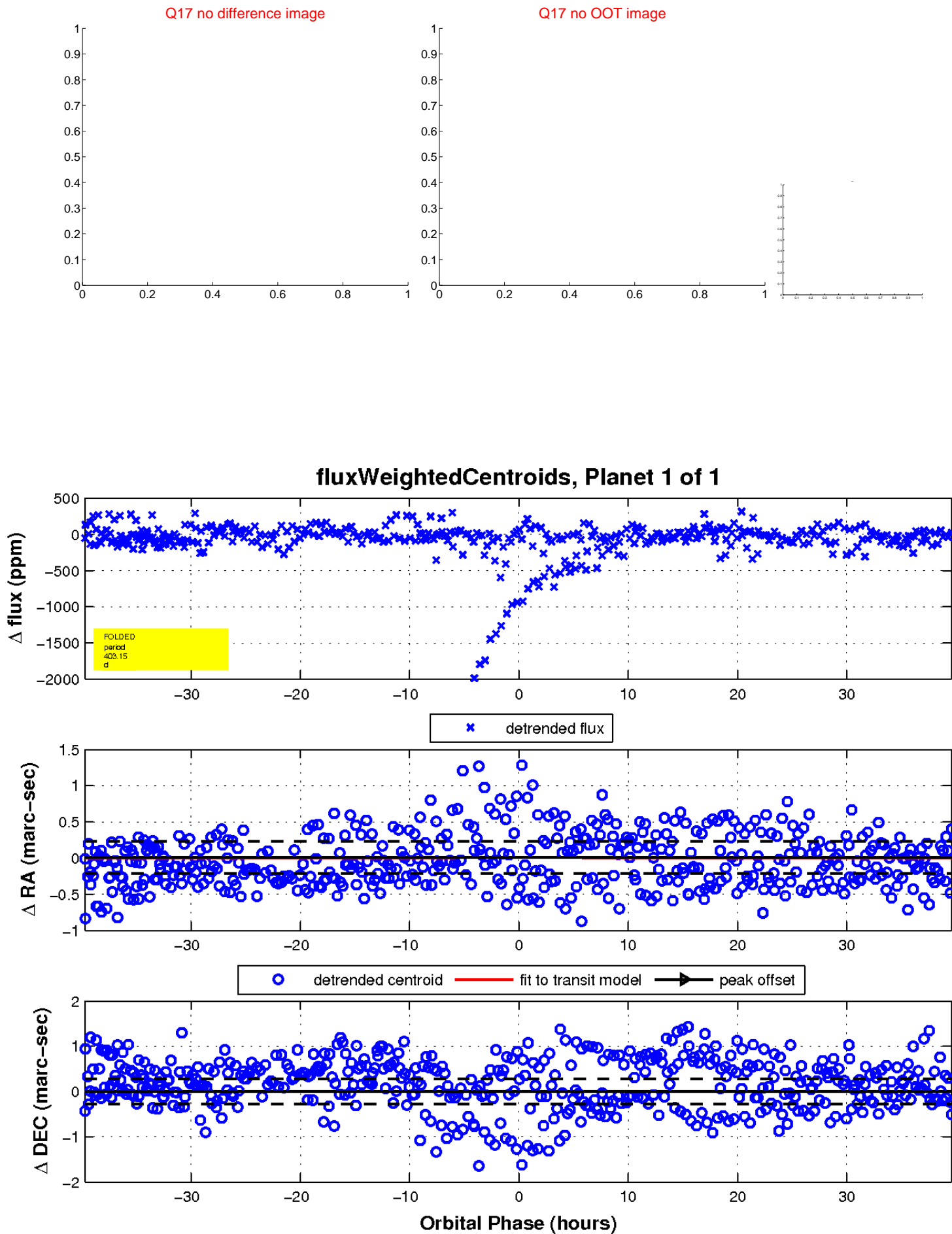
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

