

KIC 006838978

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})
006838978-01	OBS	No	401.933452	409.062130	617.2	19.675	25.0	8.2	1.39	6413	4.13	2.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006838978-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_POS_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.

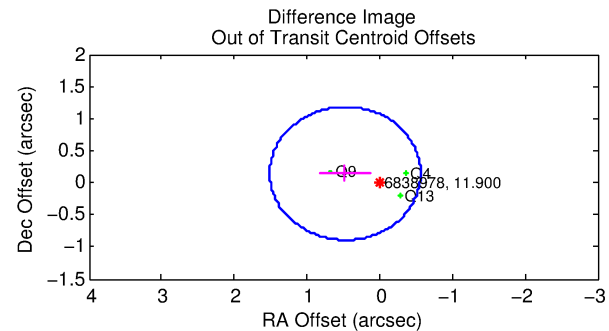
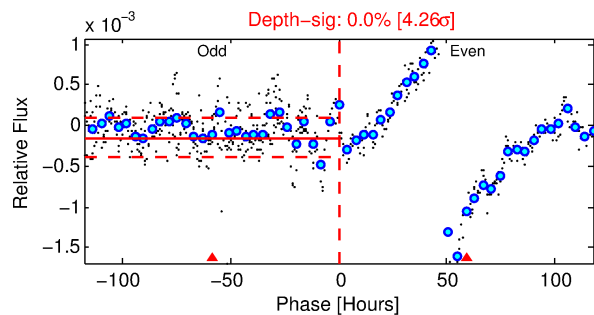
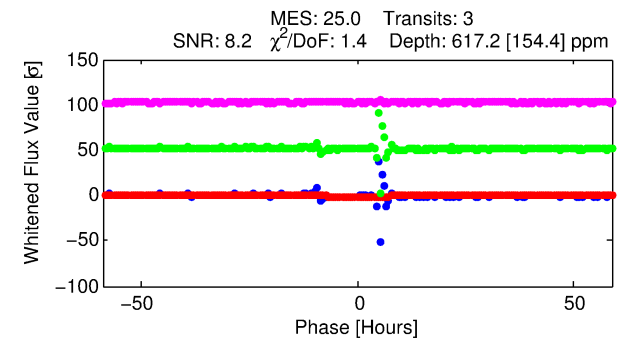
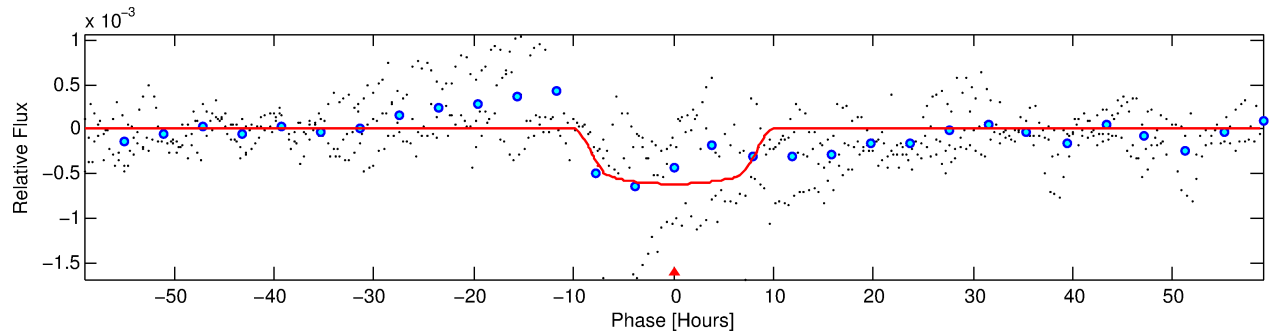
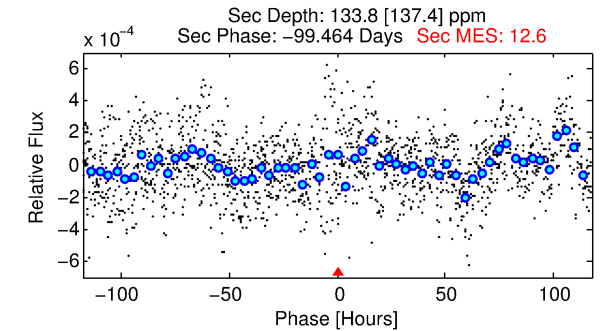
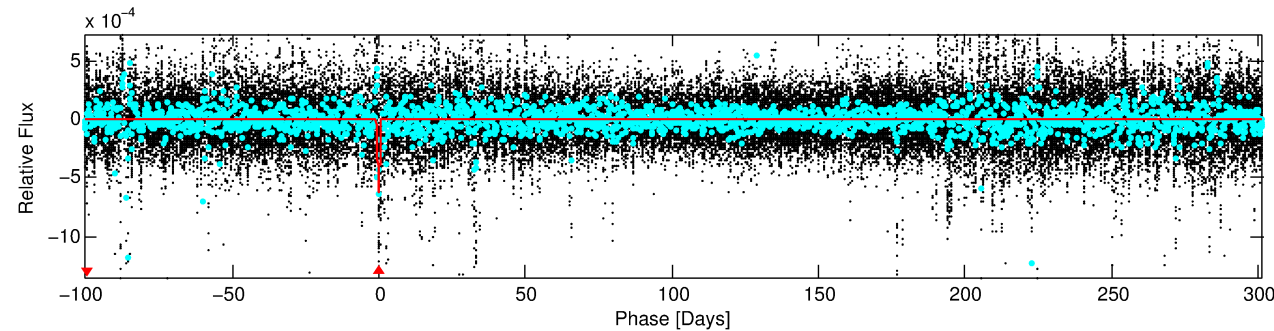
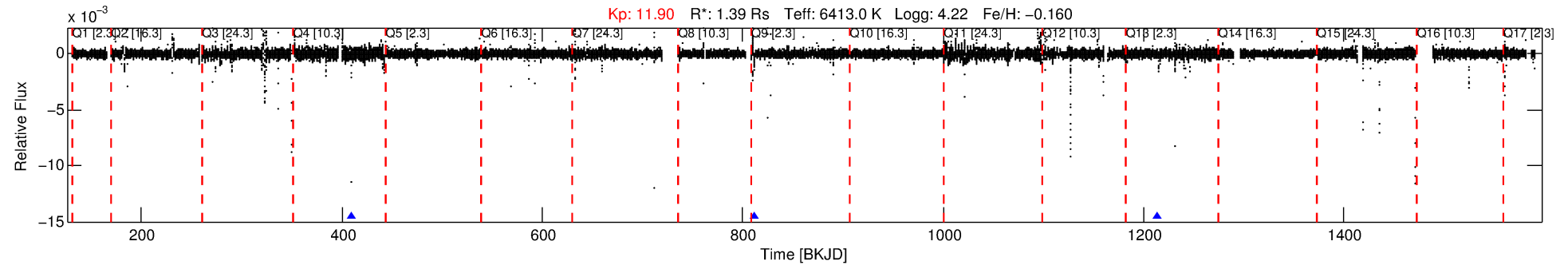
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006838978-01

No Significant Match Found

DV One-Page Summary

KIC: 6838978 Candidate: 1 of 1 Period: 401.933 d



DV Fit Results:

Period = 401.93345 [0.03715] d
Epoch = 409.0621 [0.0522] BKJD
Rp/R* = 0.0272 [0.0037]
a/R* = 70.76 [19.81]
b = 0.92 [0.05]
Seff = 2.32 [0.88]
Teq = 315 [30] K
Rp = 4.13 [1.36] Re
a = 1.1243 [0.2796] AU
Ag = 5452.63 [6114.24] [0.89σ]
Teffp = 4182 [1119] K [3.46σ]

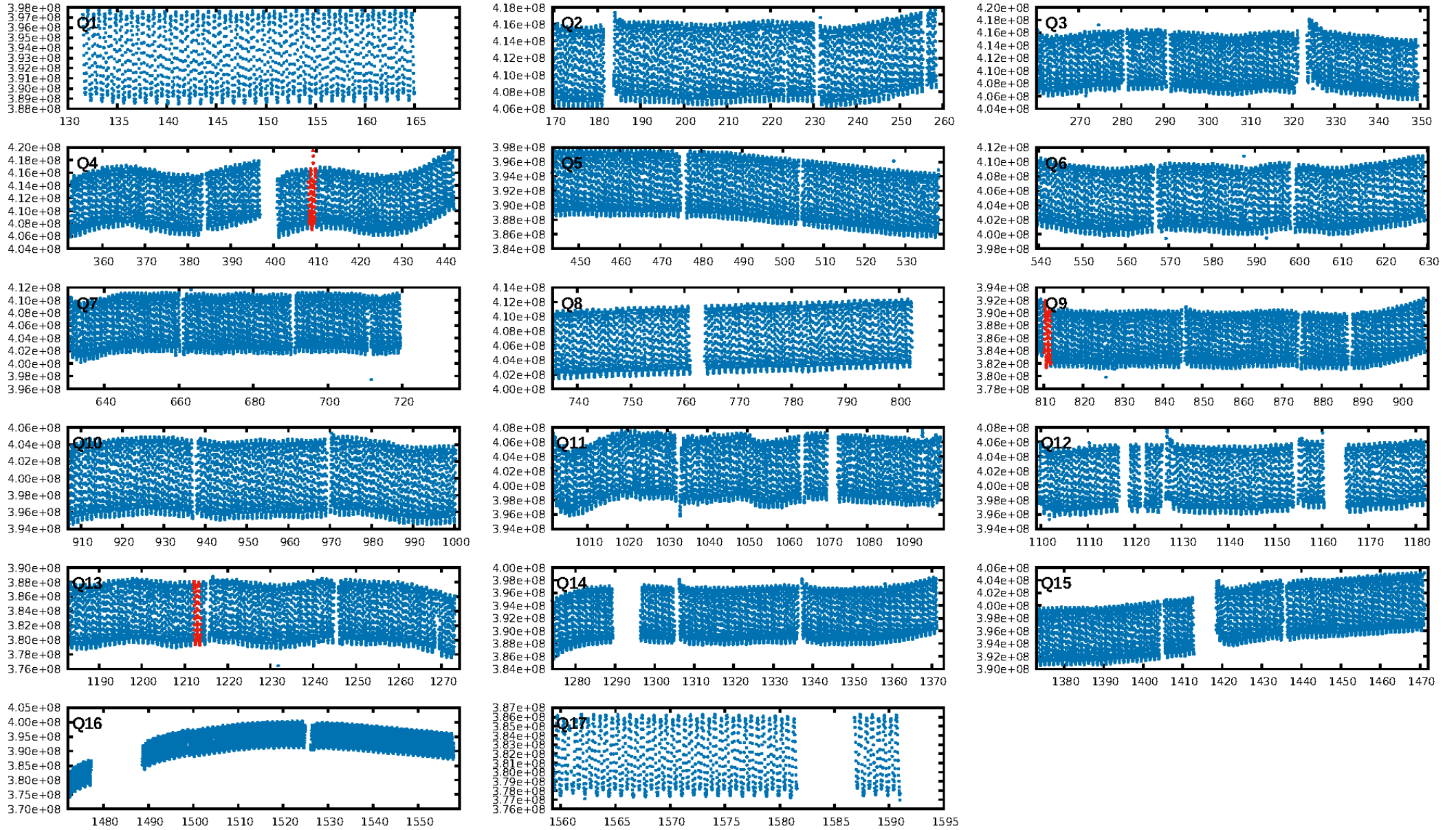
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 51.6%
Bootstrap-pfa: 2.40e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.22
Centroid-sig: 0.1%
Centroid-so: 0.743 arcsec [2.25σ]
OotOffset-rm: 0.498 arcsec [1.44σ]
KicOffset-rm: 0.612 arcsec [1.87σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

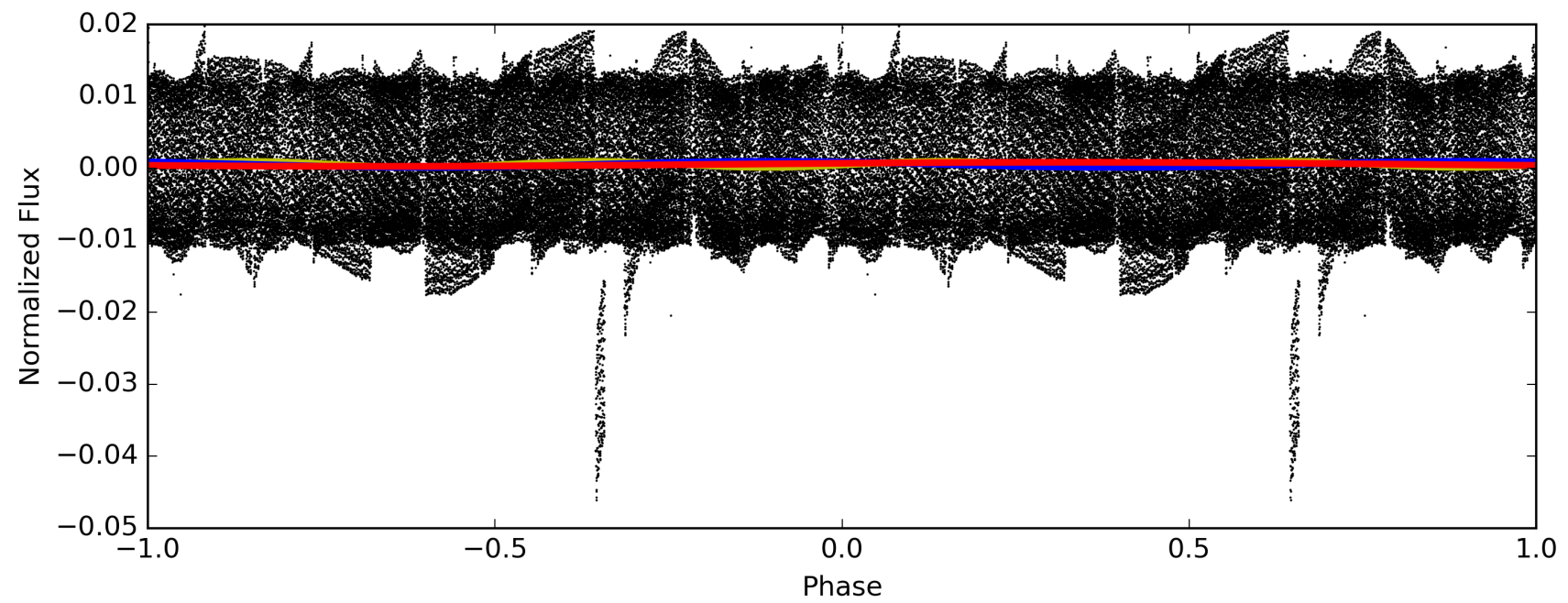
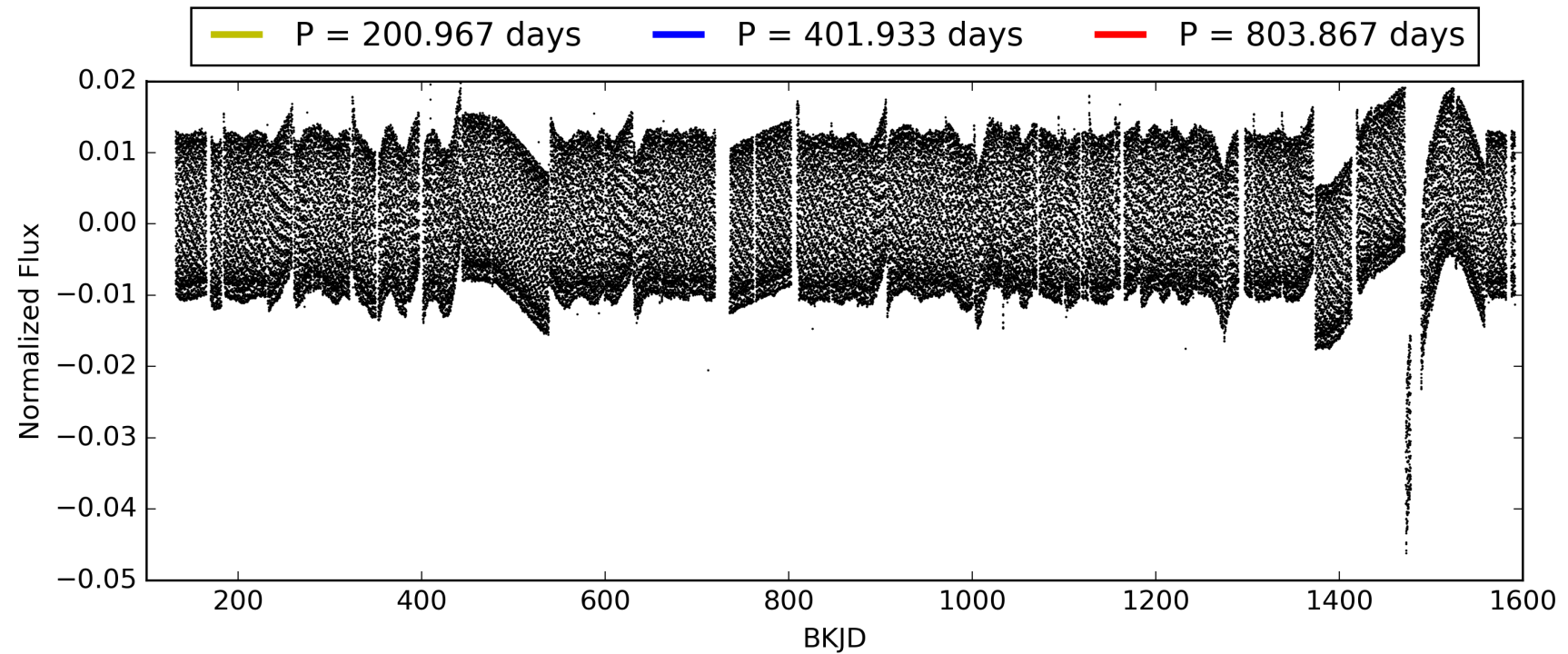
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:46:08 Z

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

TCE 006838978-01, PDC Light Curves

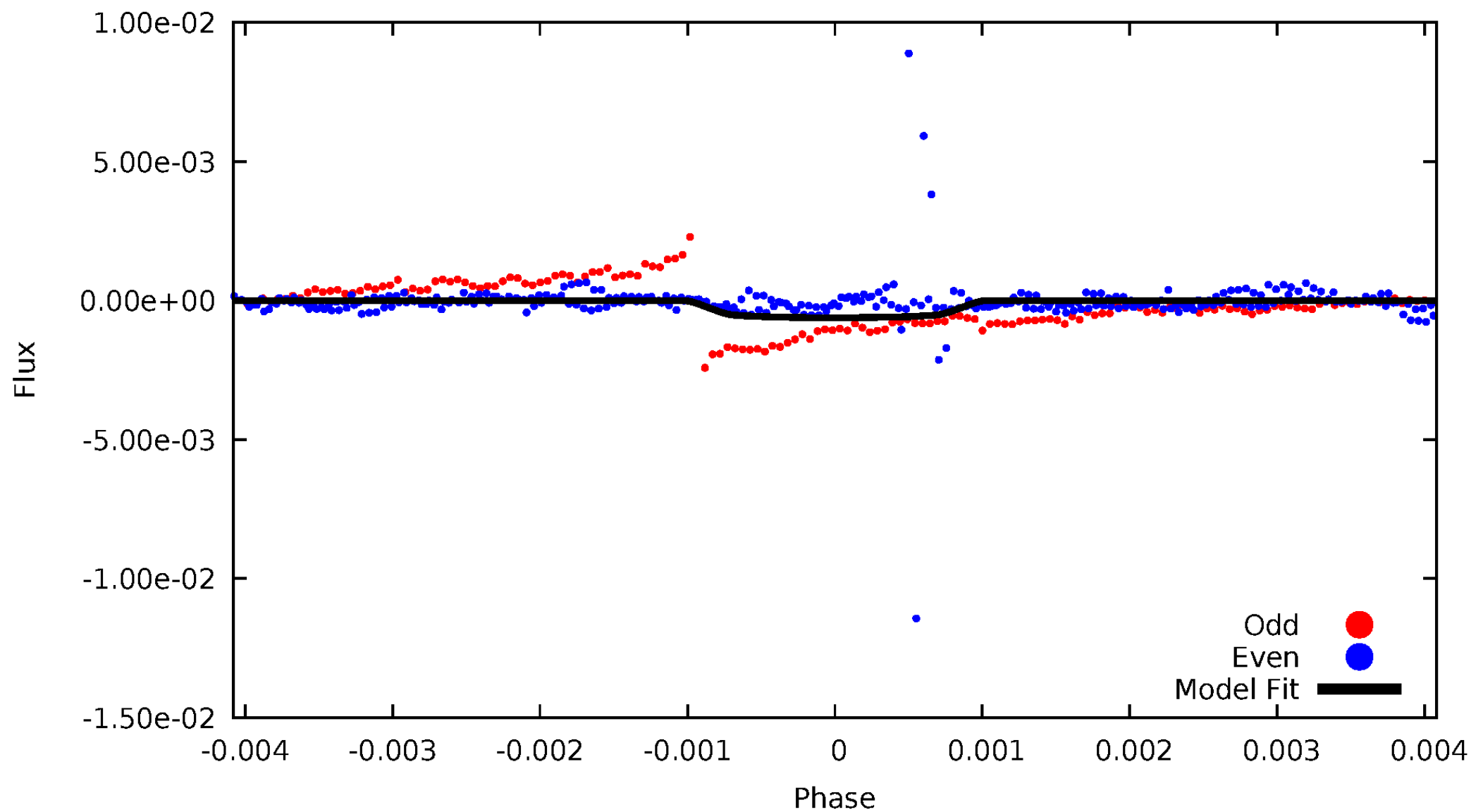


TCE 006838978-01



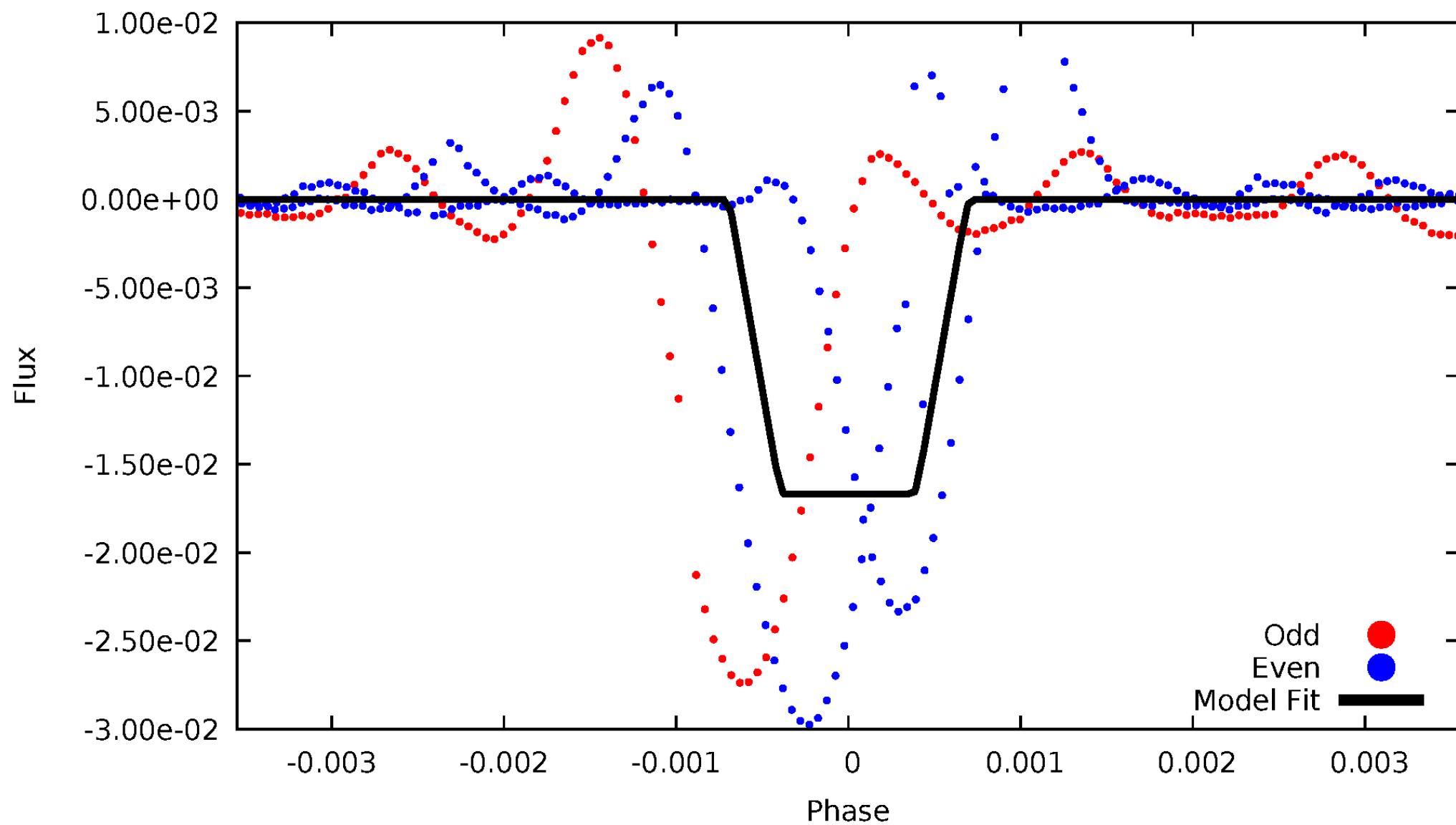
DV Odd/Even

TCE 006838978-01



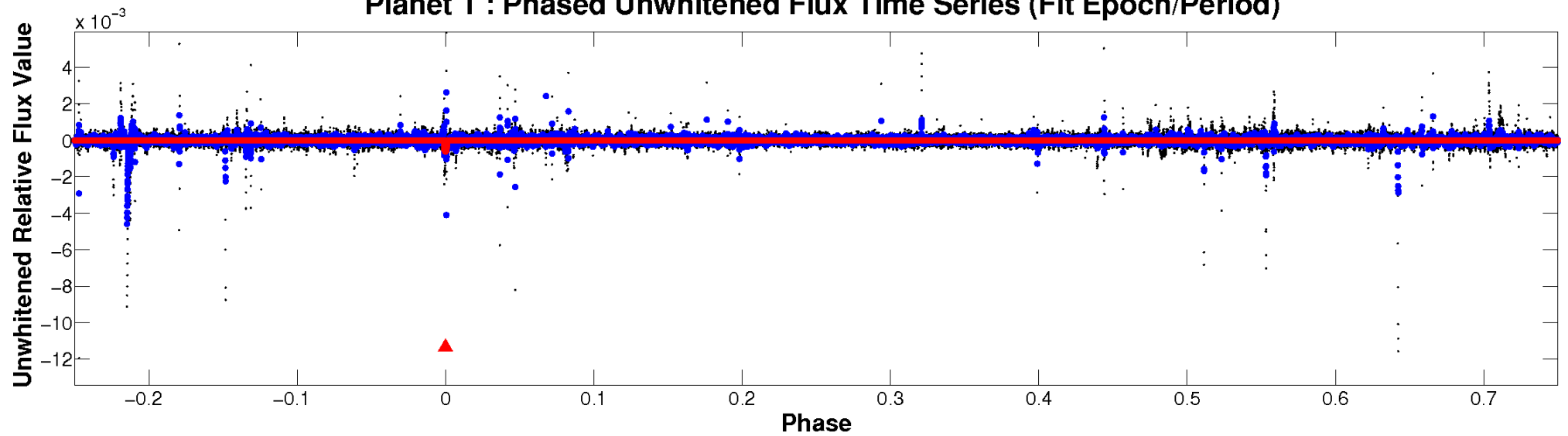
ALT Odd/Even

TCE 006838978-01

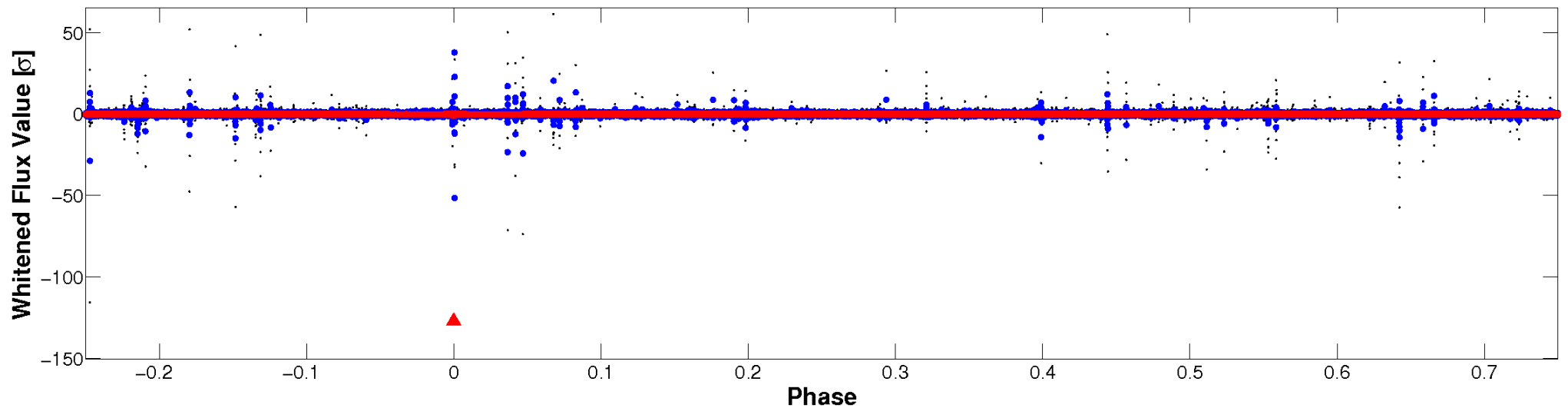


Non-Whitened Vs. Whitened Light Curve

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

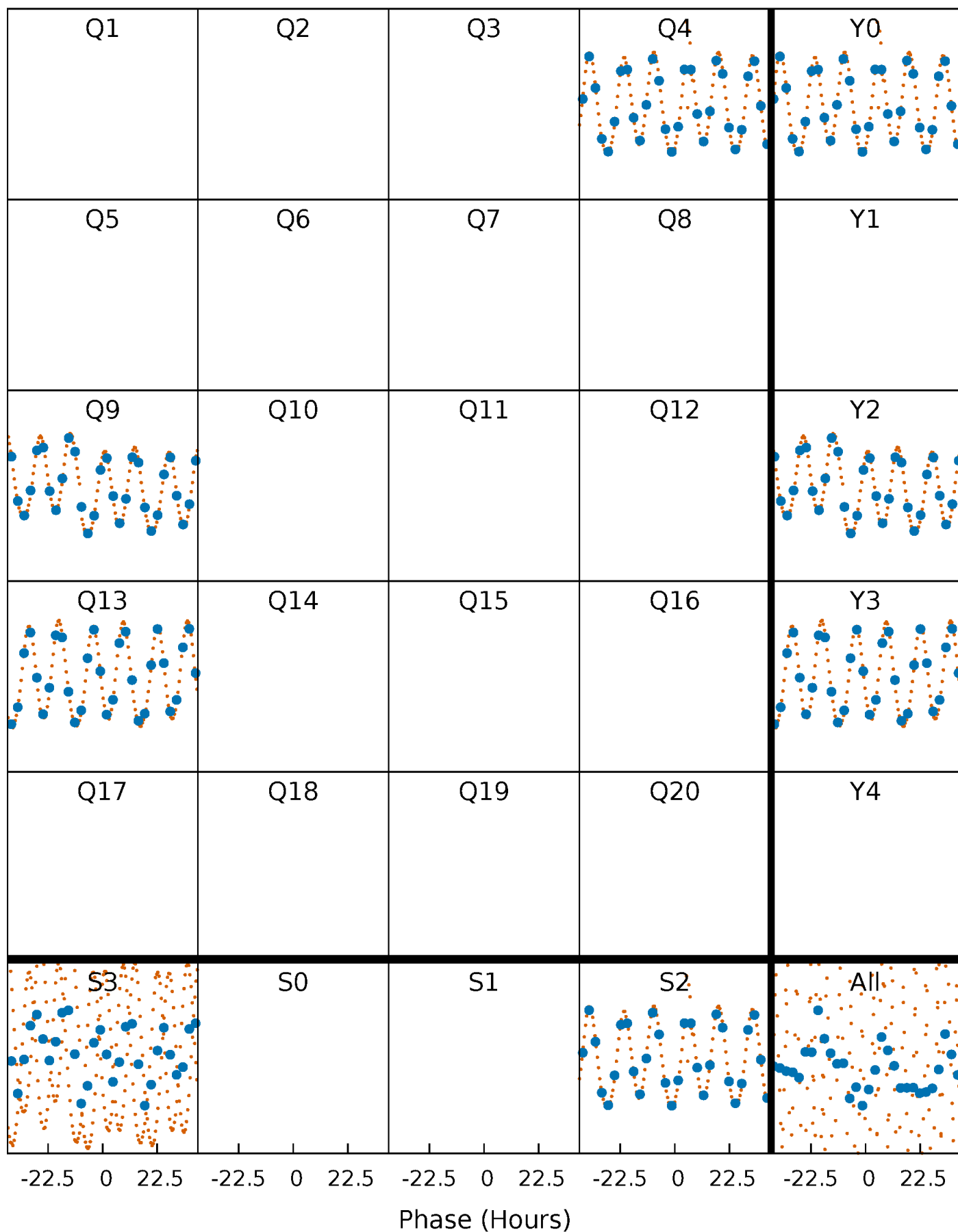


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 006838978-01 P=401.933452 Days $T_0=409.062131$ (BKJD)



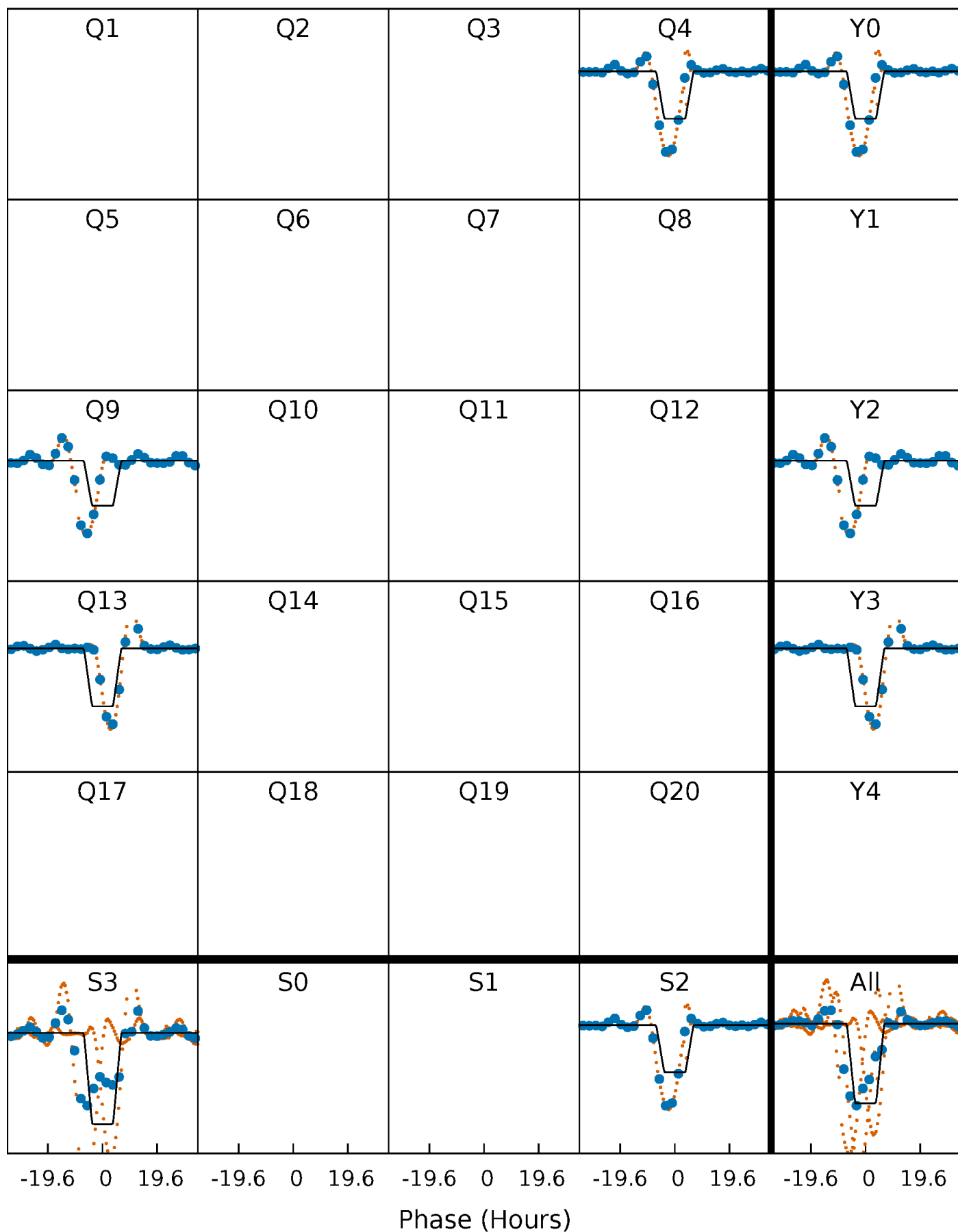
DV Quarter-Phased Transit Curves

TCE 006838978-01 P=401.933452 Days $T_0=409.062131$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

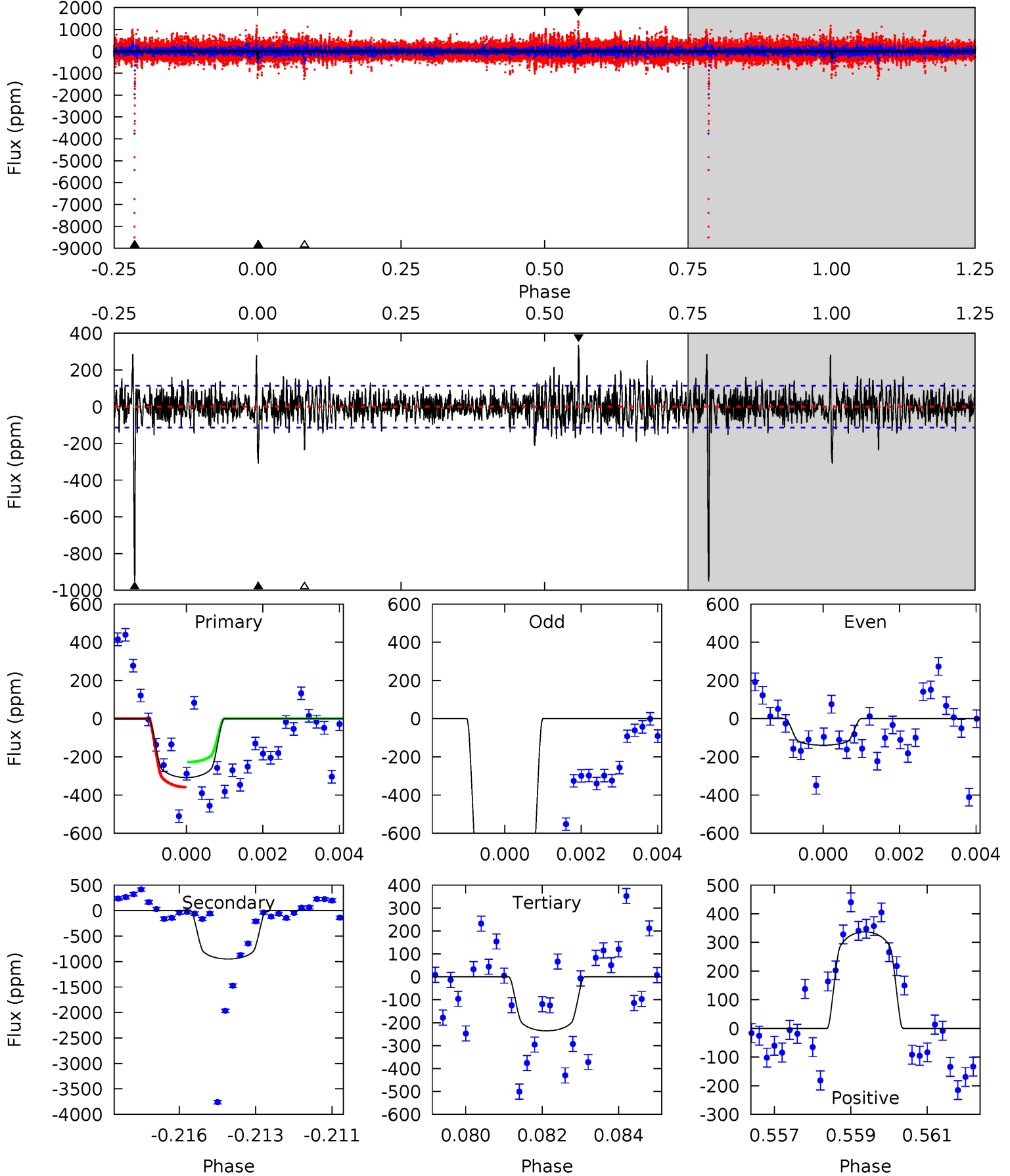
TCE 006838978-01 P=401.887258 Days $T_0=409.109472$ (BKJD)



DV Model-Shift Uniqueness Test

006838978-01, P = 401.933452 Days, E = 7.128679 Days

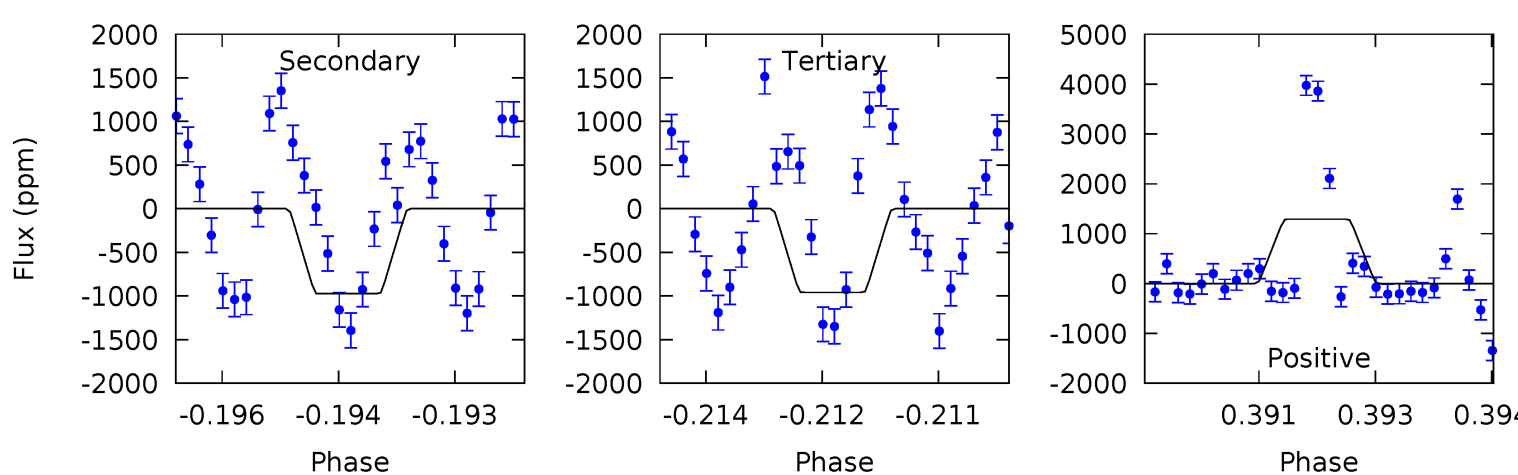
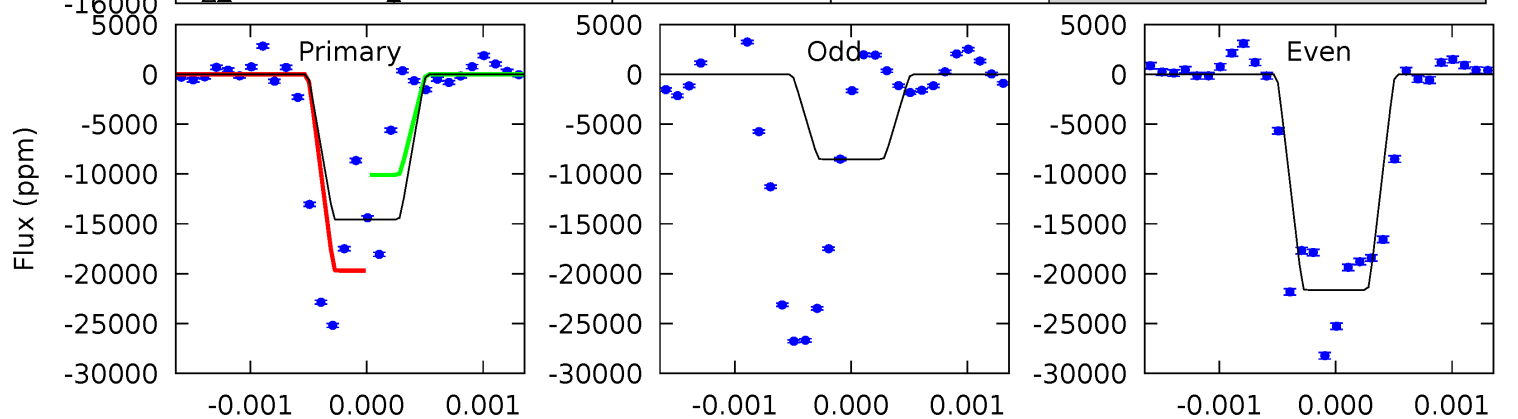
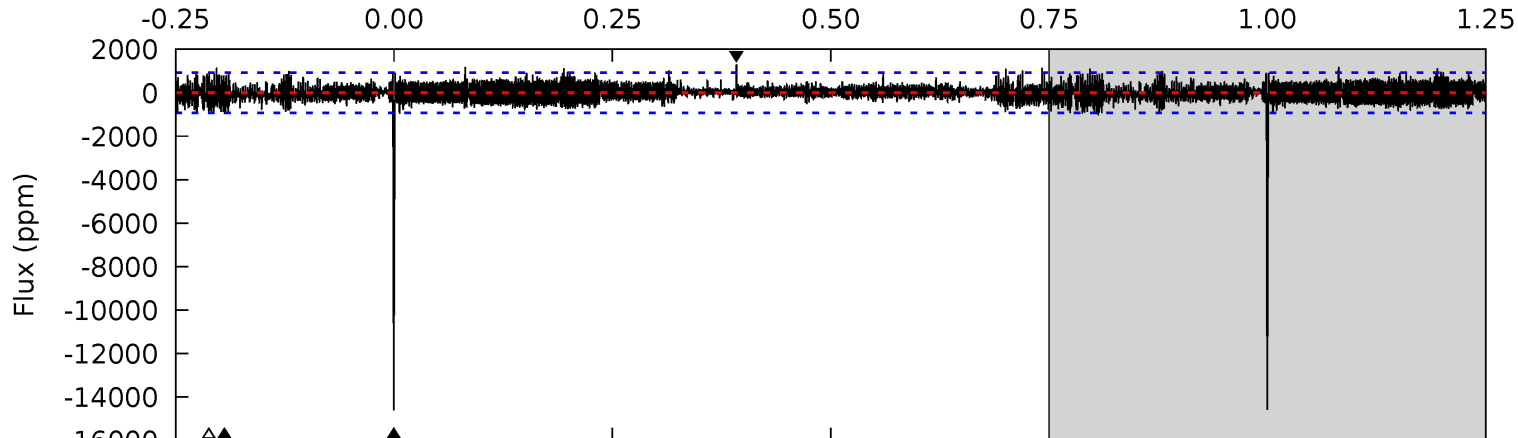
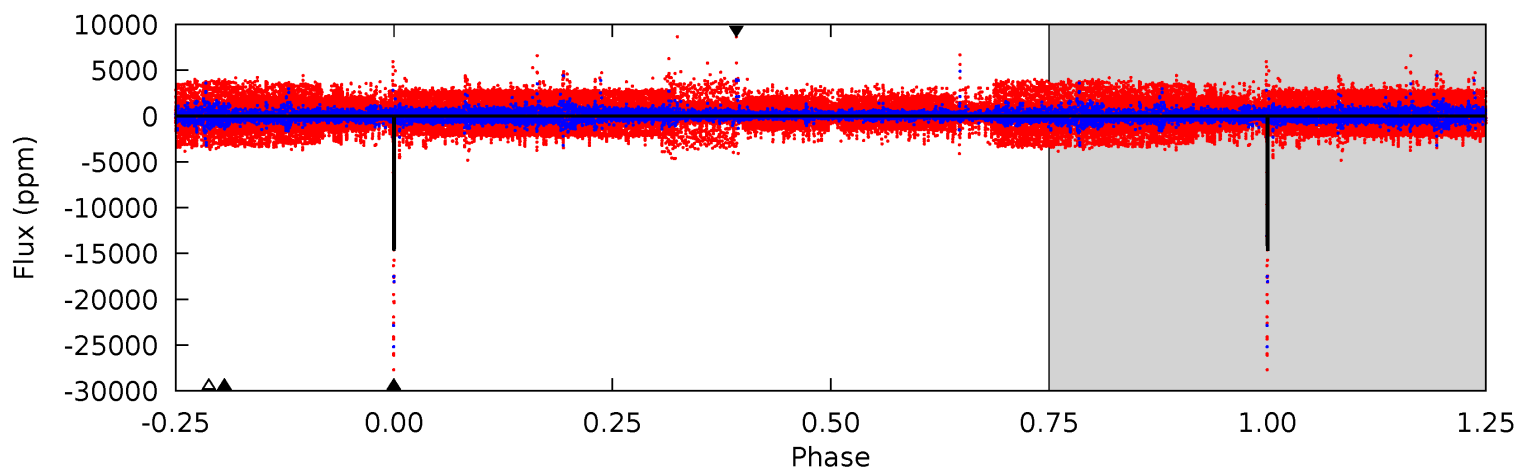
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	44.3	11.0	15.7	5.32	3.08	2.87	3.39	-1.33	33.3	28.6	29.4	4.19	0.26	3.06



Alt Model-Shift Uniqueness Test

006838978-01, P = 401.887258 Days, E = 7.222214 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
85.1	5.68	5.59	7.53	5.39	3.20	1.62	79.5	77.6	0.09	-1.85	32.7	1.07	0.08	27.9



Stellar Parameters For KIC 006838978

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6413^{+146}_{-194}	$4.220^{+0.158}_{-0.193}$	$-0.160^{+0.250}_{-0.300}$	$1.392^{+0.417}_{-0.313}$	$1.172^{+0.174}_{-0.157}$	$0.612^{+0.498}_{-0.298}$
	+2%/-3%	+4%/-5%	+156%/-188%	+30%/-22%	+15%/-13%	+81%/-49%
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 006838978-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-951 ± 21	$4.20^{+0.90}_{-0.77}$	442^{+34}_{-28}	6817^{+672}_{-475}	37568^{+18702}_{-12258}
Alt.	-973 ± 171	$19.72^{+3.52}_{-2.27}$	442^{+36}_{-28}	3583^{+120}_{-127}	1668^{+593}_{-487}

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 $A_{\text{obs}} \gg 1.0$

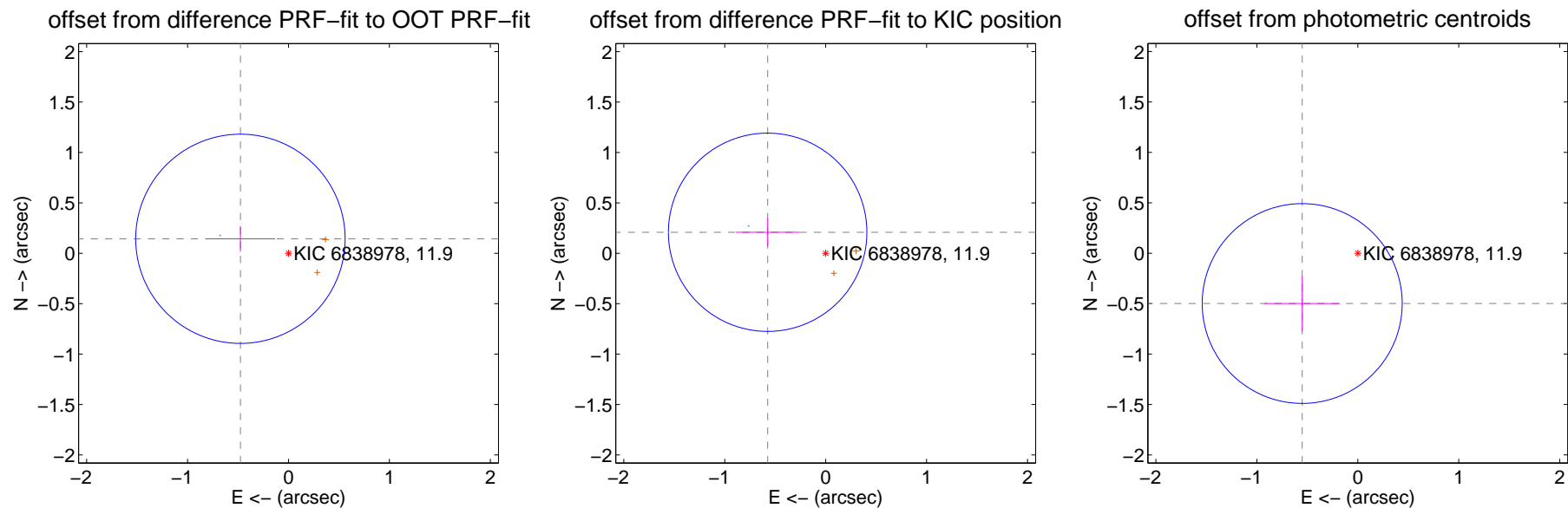
DV Centroid Data

Supplemental centroid analysis for 006838978-01. **Kepler magnitude: 11.90.** Transit SNR 8.18

There are 1 quarters with good PRF difference image offsets

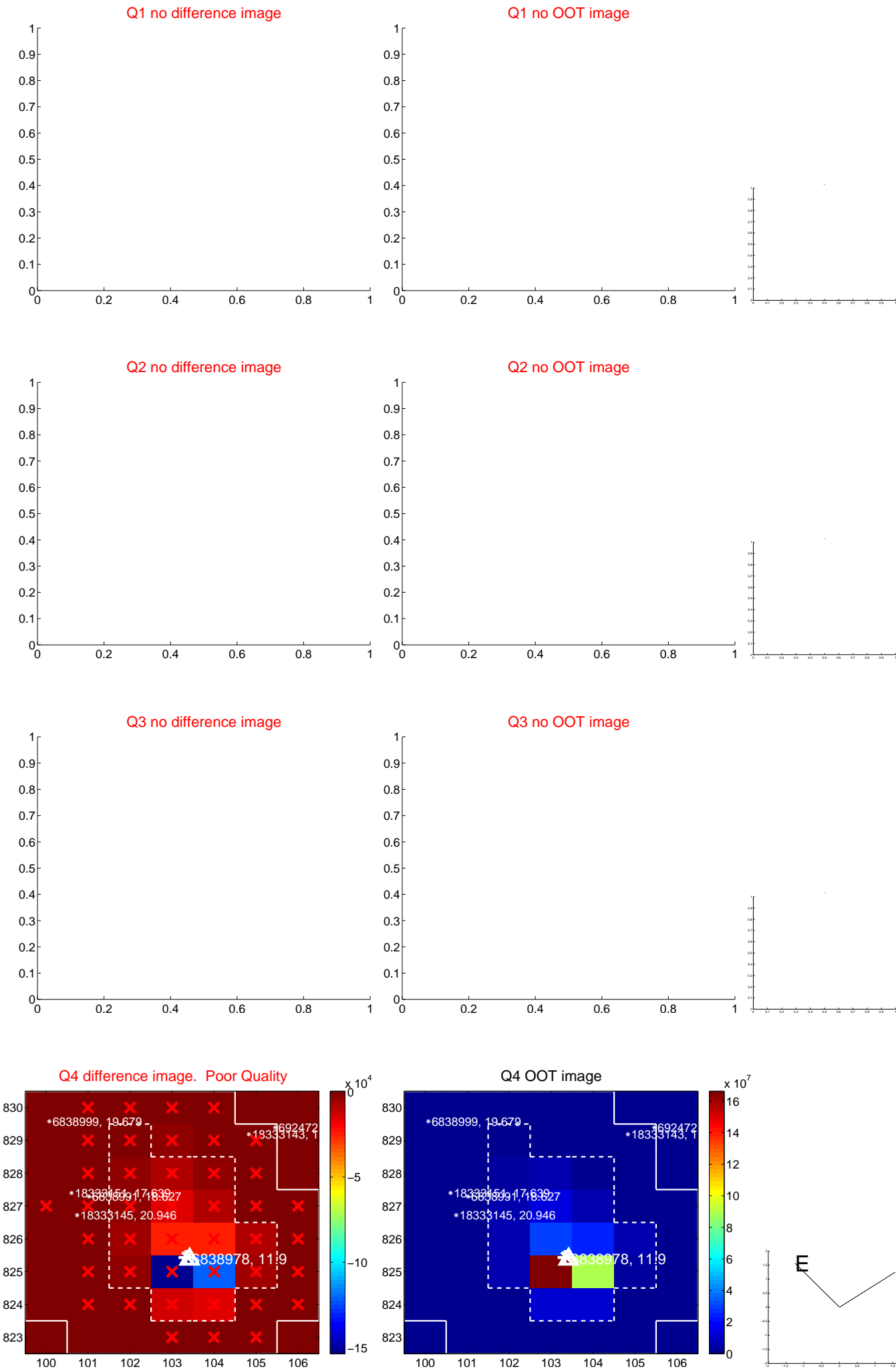
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.498 ± 0.346	1.44	0.477 ± 0.345	0.144 ± 0.126
PRF-fit source offset from KIC position	0.612 ± 0.328	1.87	0.575 ± 0.314	0.209 ± 0.139
photometric centroid source offset	0.74 ± 0.33	2.25	0.55 ± 0.37	-0.50 ± 0.27

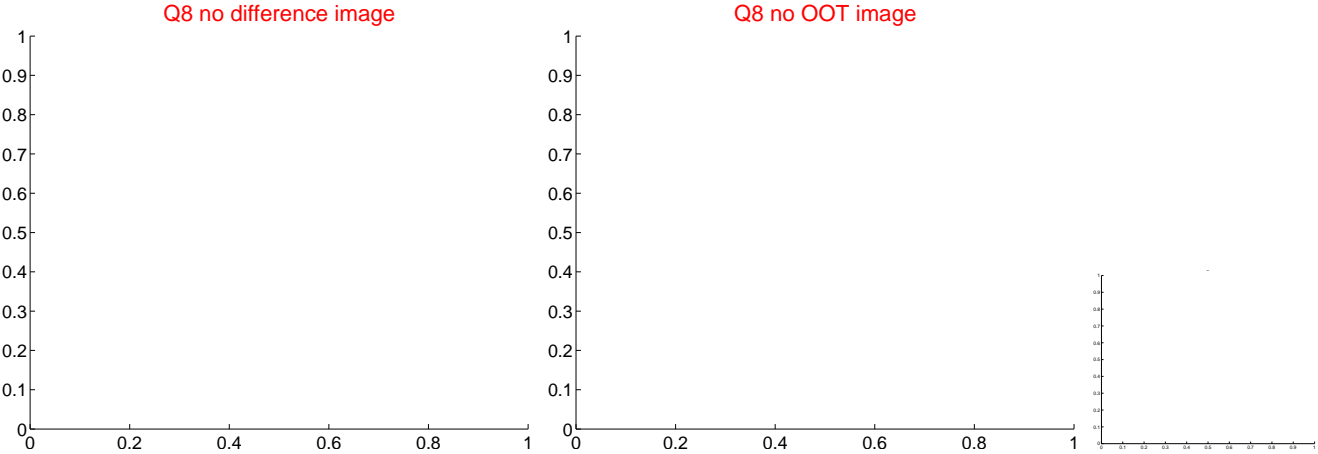


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

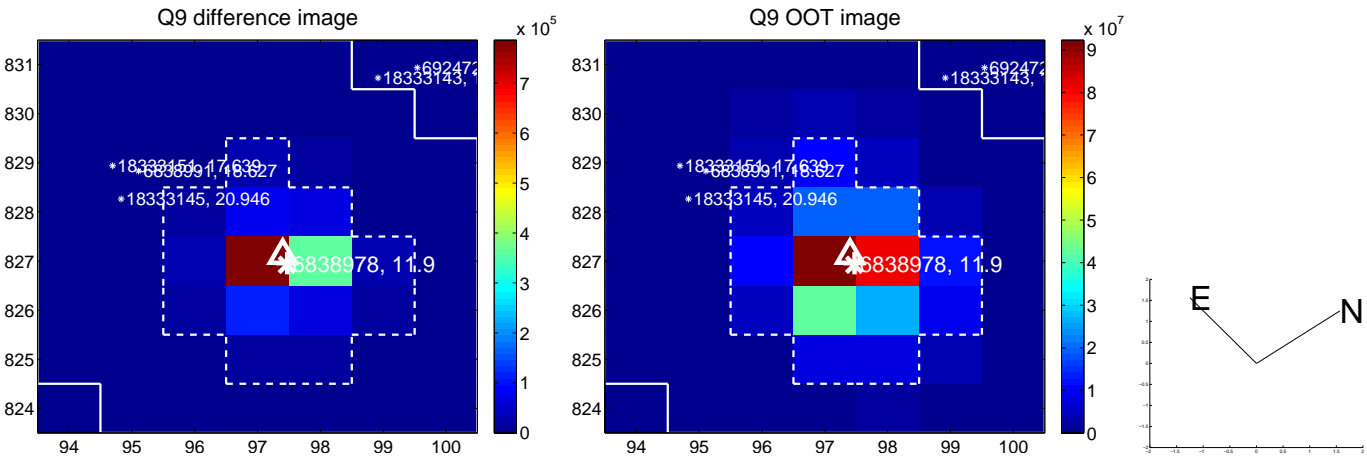
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



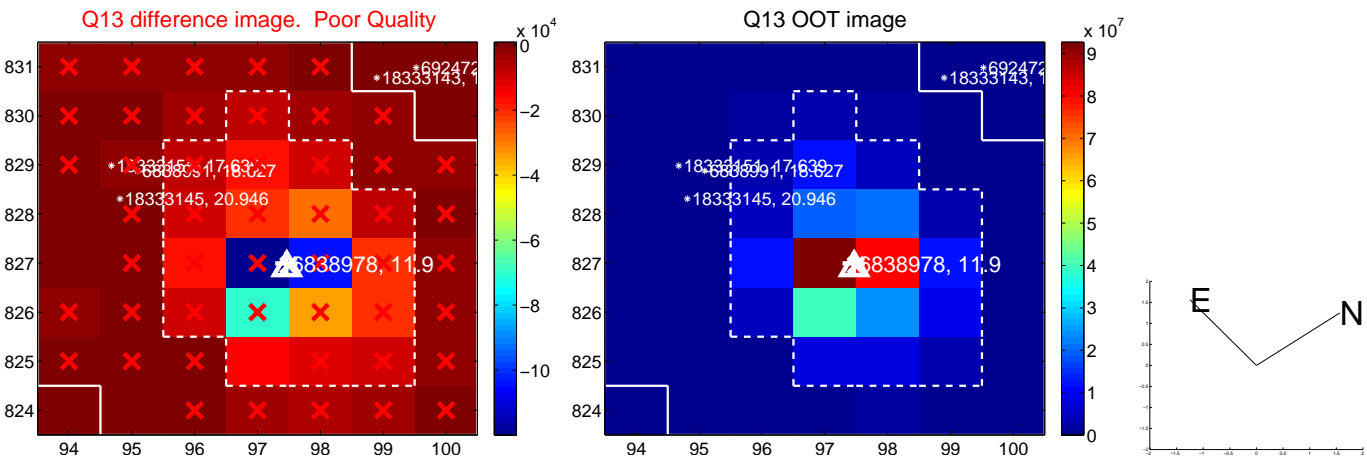
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



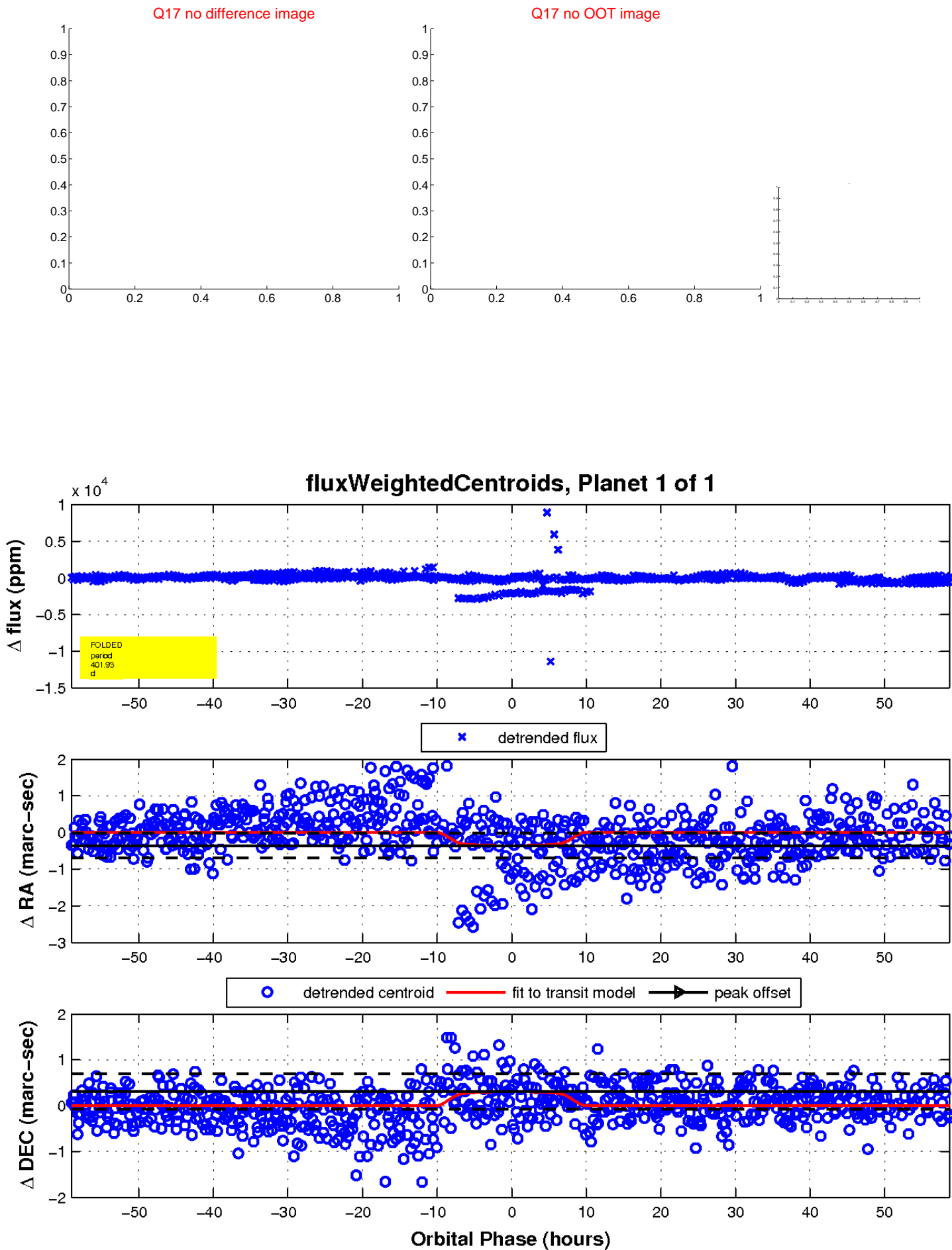
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

