

KIC 007838402

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})
007838402-01	OBS	No	402.249983	382.181333	294.4	26.159	32.2	31.9	1.08	5927	1.98	1.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838402-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—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.

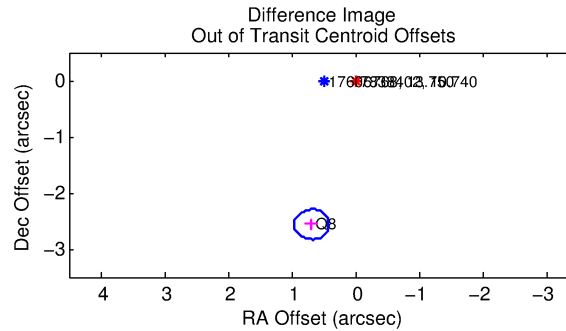
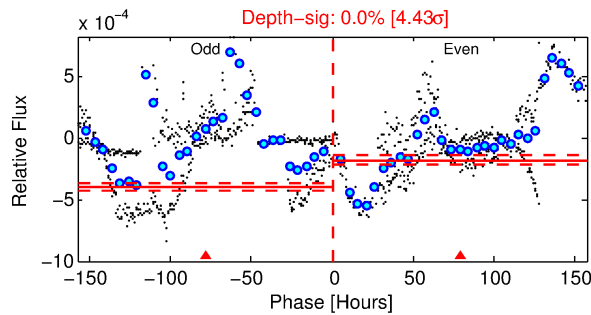
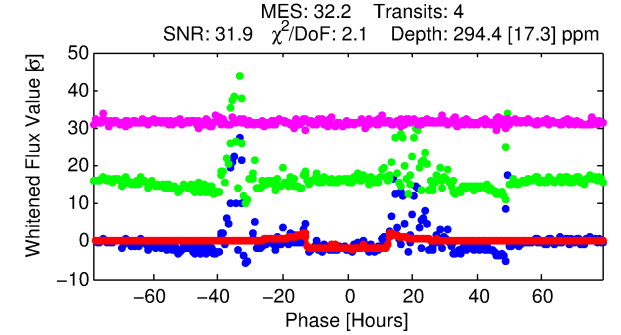
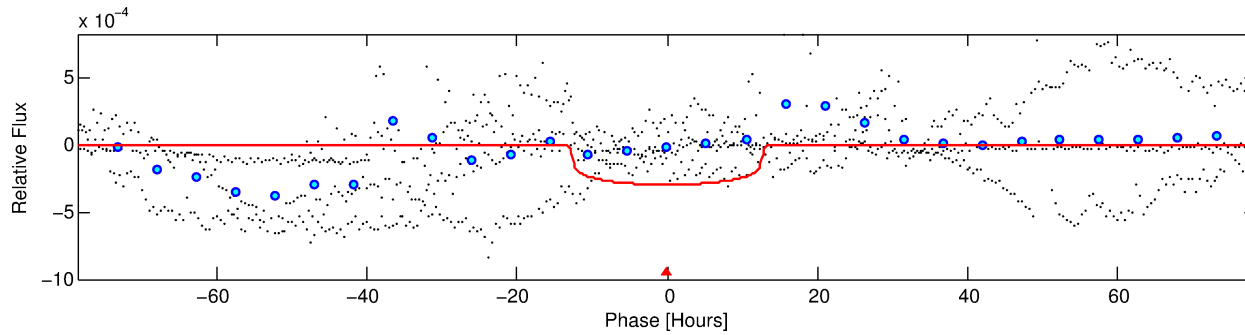
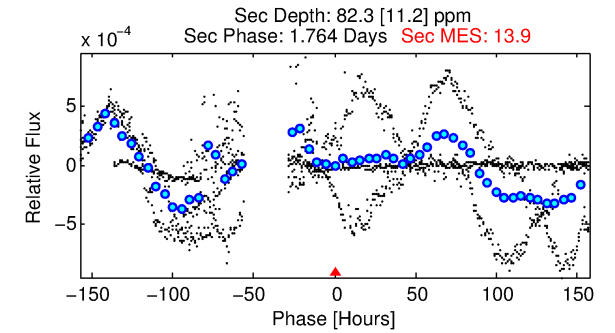
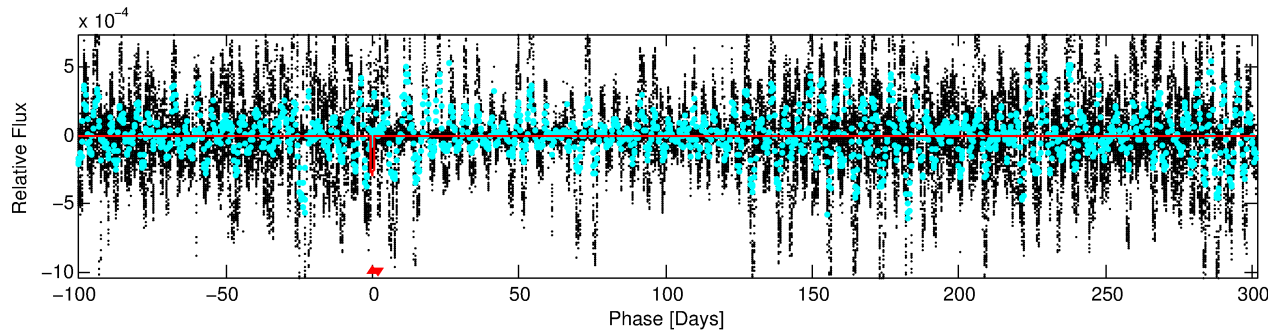
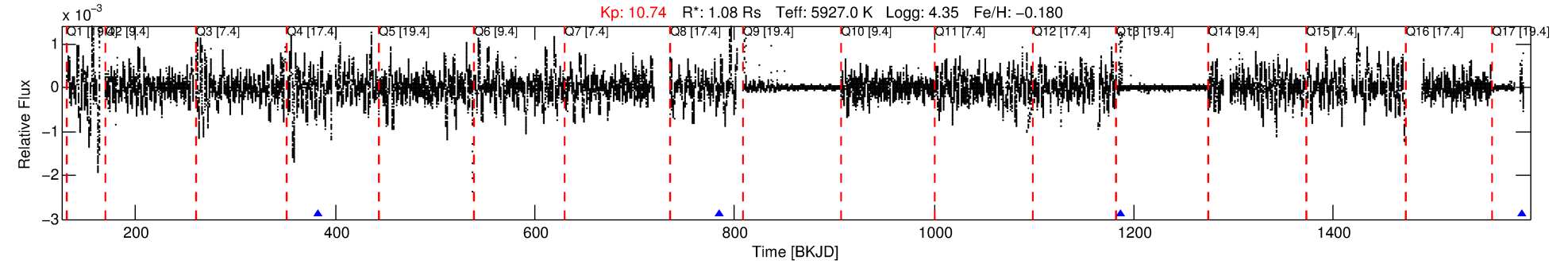
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007838402-01

No Significant Match Found

DV One-Page Summary

KIC: 7838402 Candidate: 1 of 1 Period: 402.250 d



DV Fit Results:

Period = 402.24998 [0.00551] d
Epoch = 382.1813 [0.0125] BKJD
Rp/R* = 0.0168 [0.0012]
a/R* = 86.80 [27.10]
b = 0.70 [0.23]
Seff = 1.18 [0.44]
Teq = 265 [25] K
Rp = 1.98 [0.58] Re
a = 1.0485 [0.2486] AU
Ag = 12693.94 [5053.72] [2.51σ]
Teff = 4357 [267] K [15.27σ]

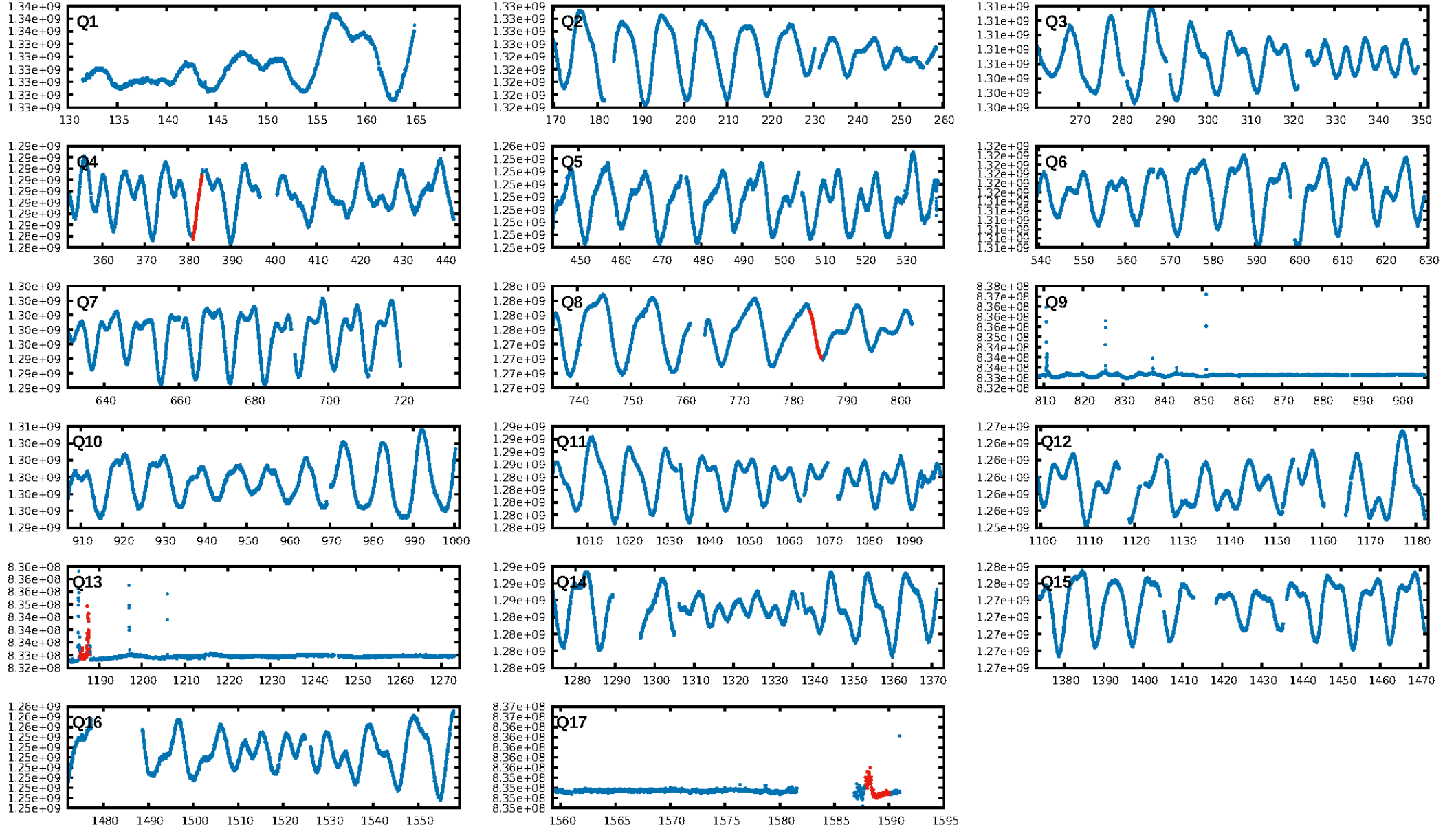
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 1.67e-39
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.275
Centroid-sig: 16.9%
Centroid-so: 0.424 arcsec [0.47σ]
OotOffset-rm: 2.655 arcsec [29.70σ]
KicOffset-rm: 3.240 arcsec [37.88σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

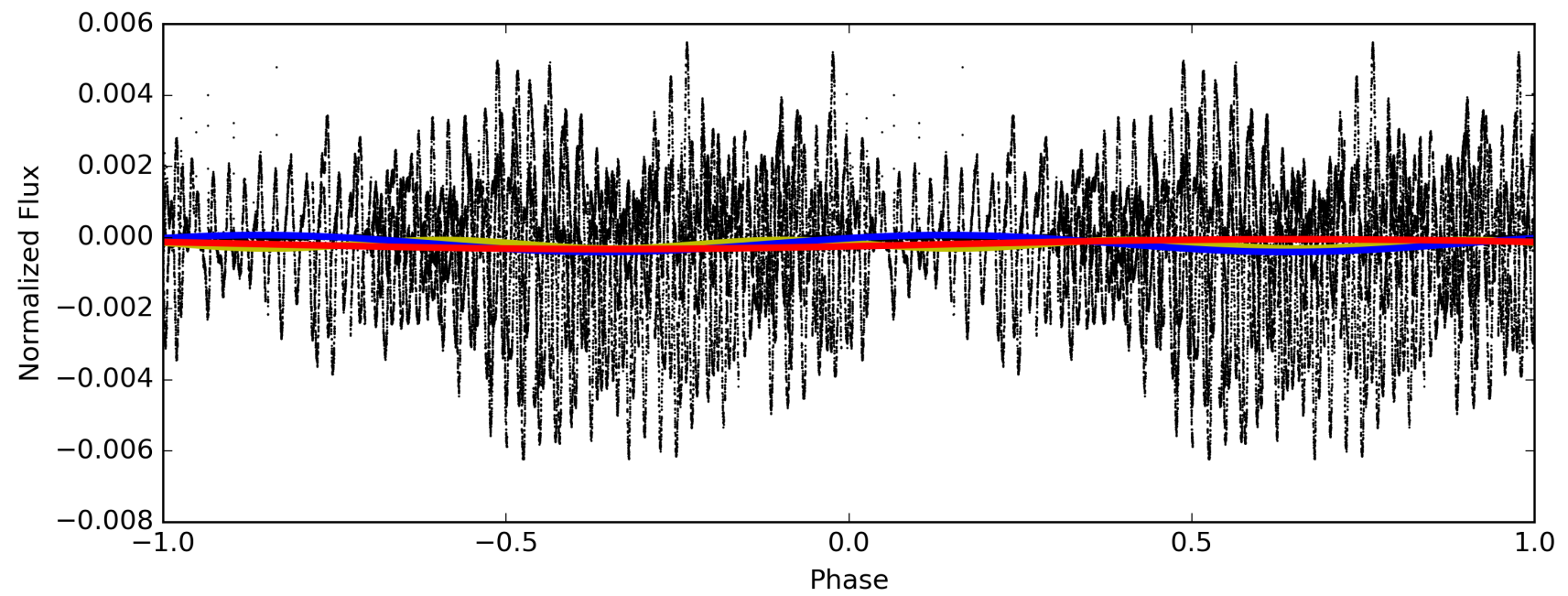
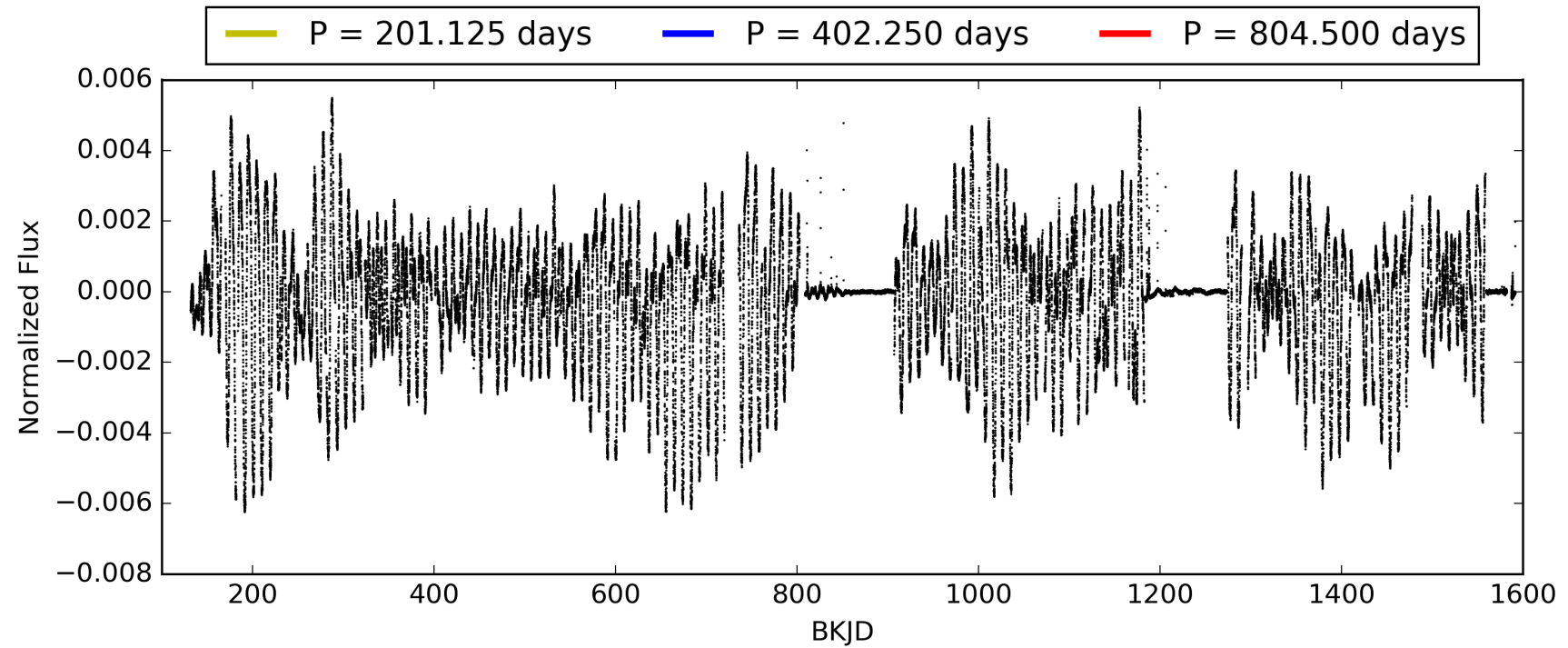
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:24:44 Z

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

TCE 007838402-01, PDC Light Curves

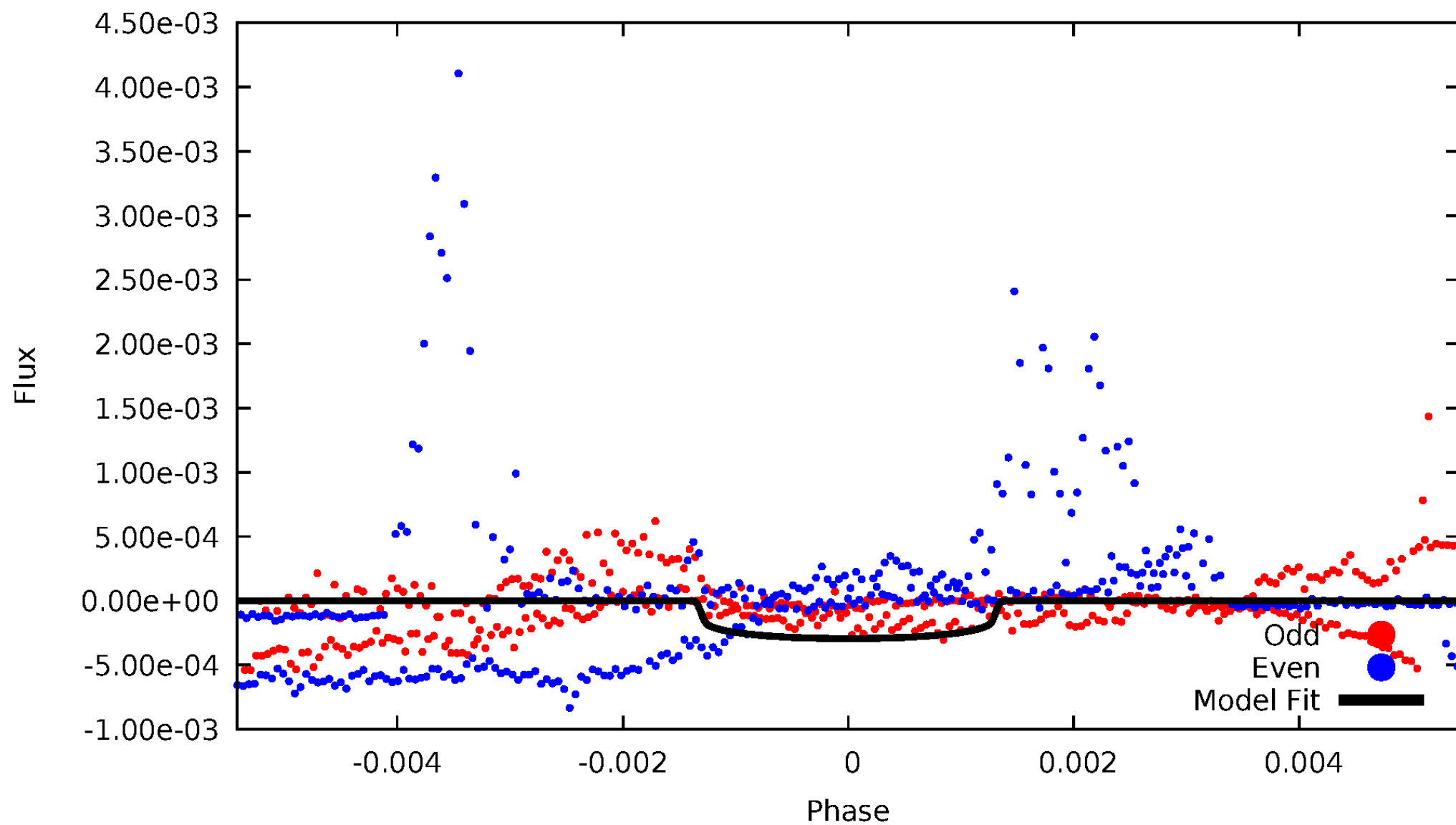


TCE 007838402-01



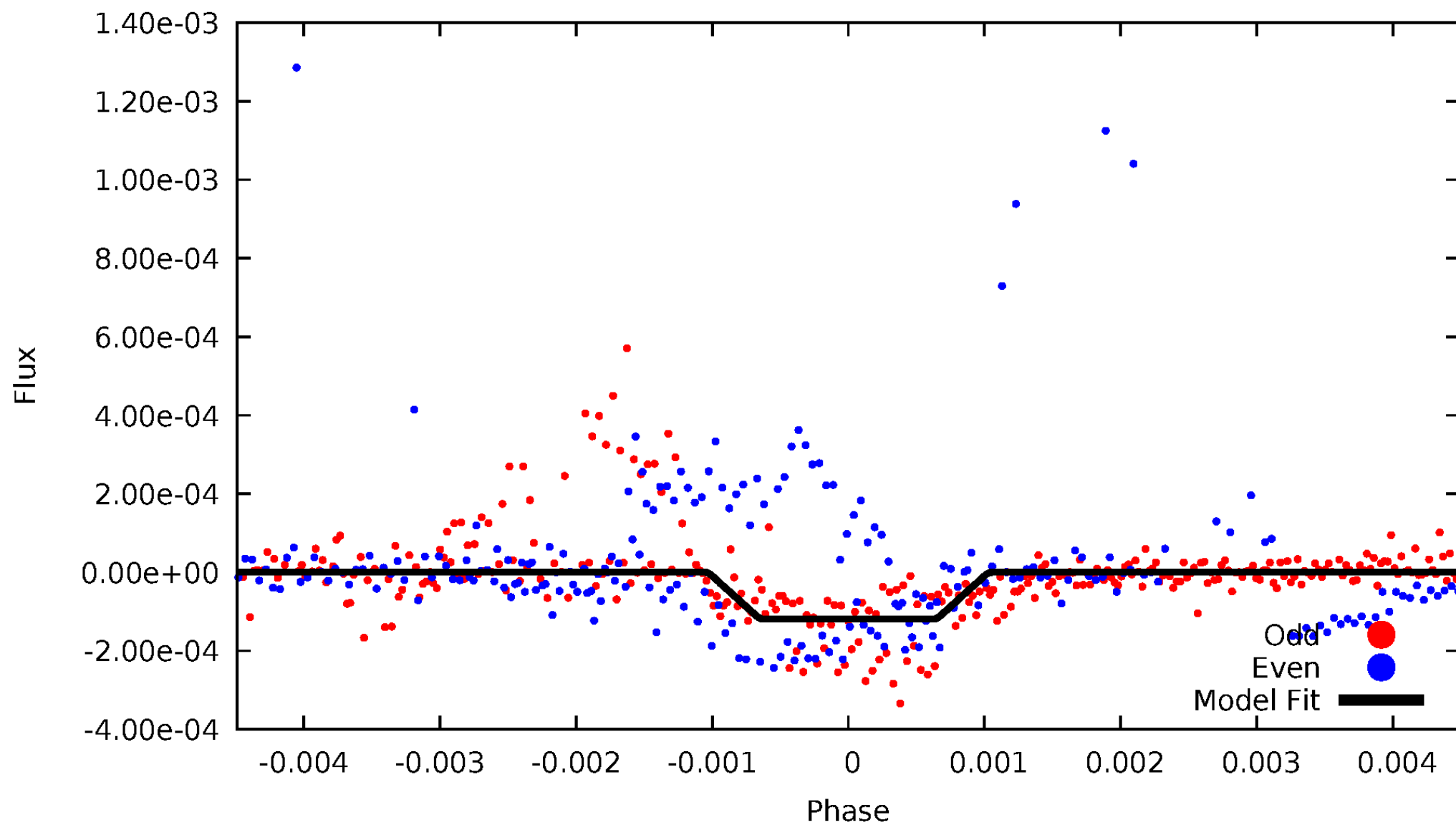
DV Odd/Even

TCE 007838402-01



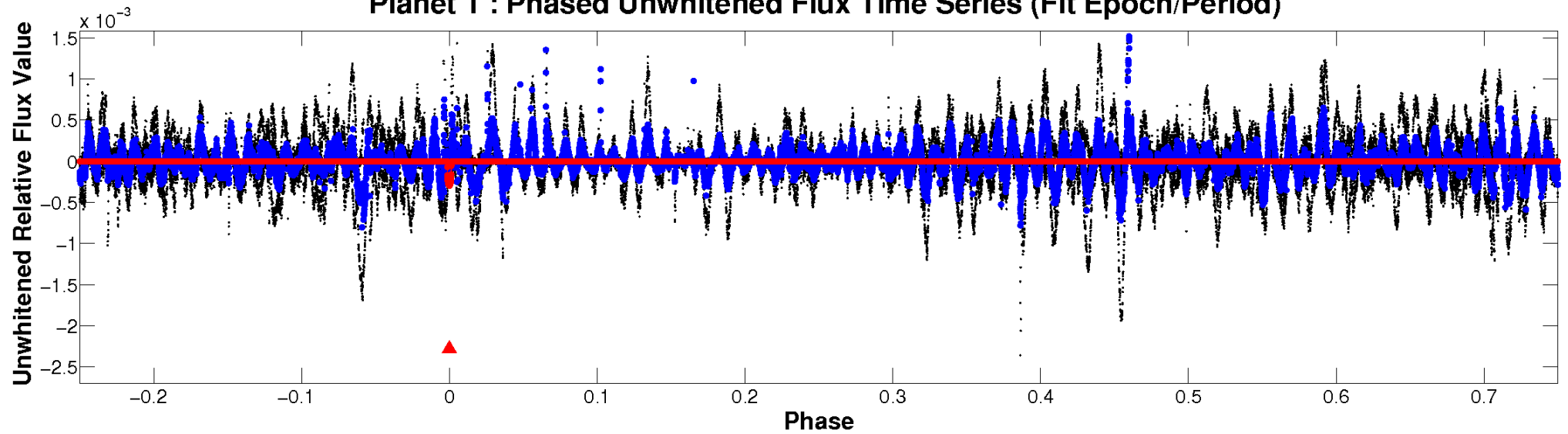
ALT Odd/Even

TCE 007838402-01

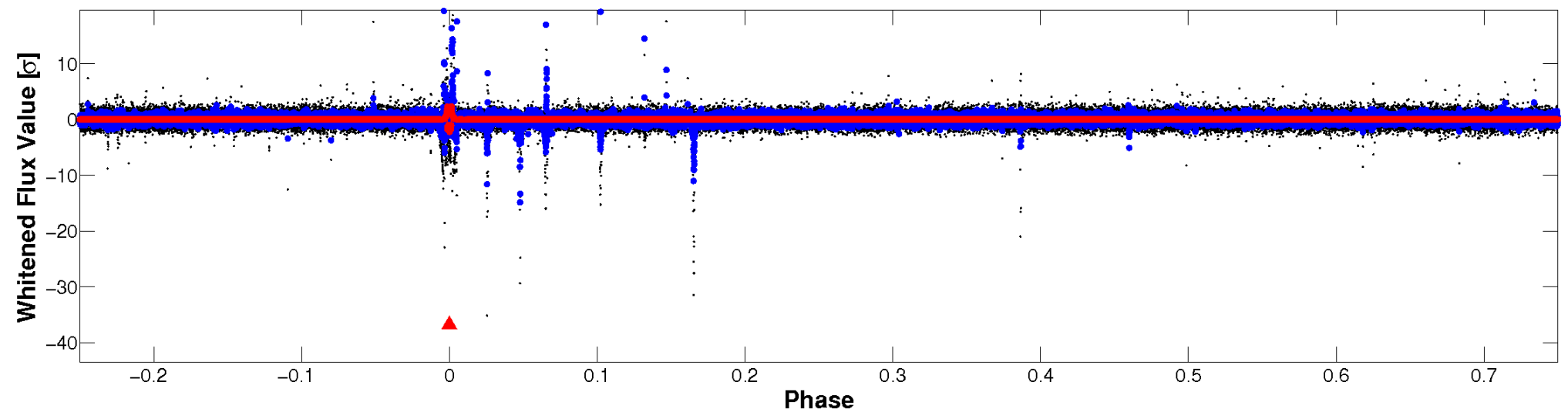


Non-Whitened Vs. Whitened Light Curve

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

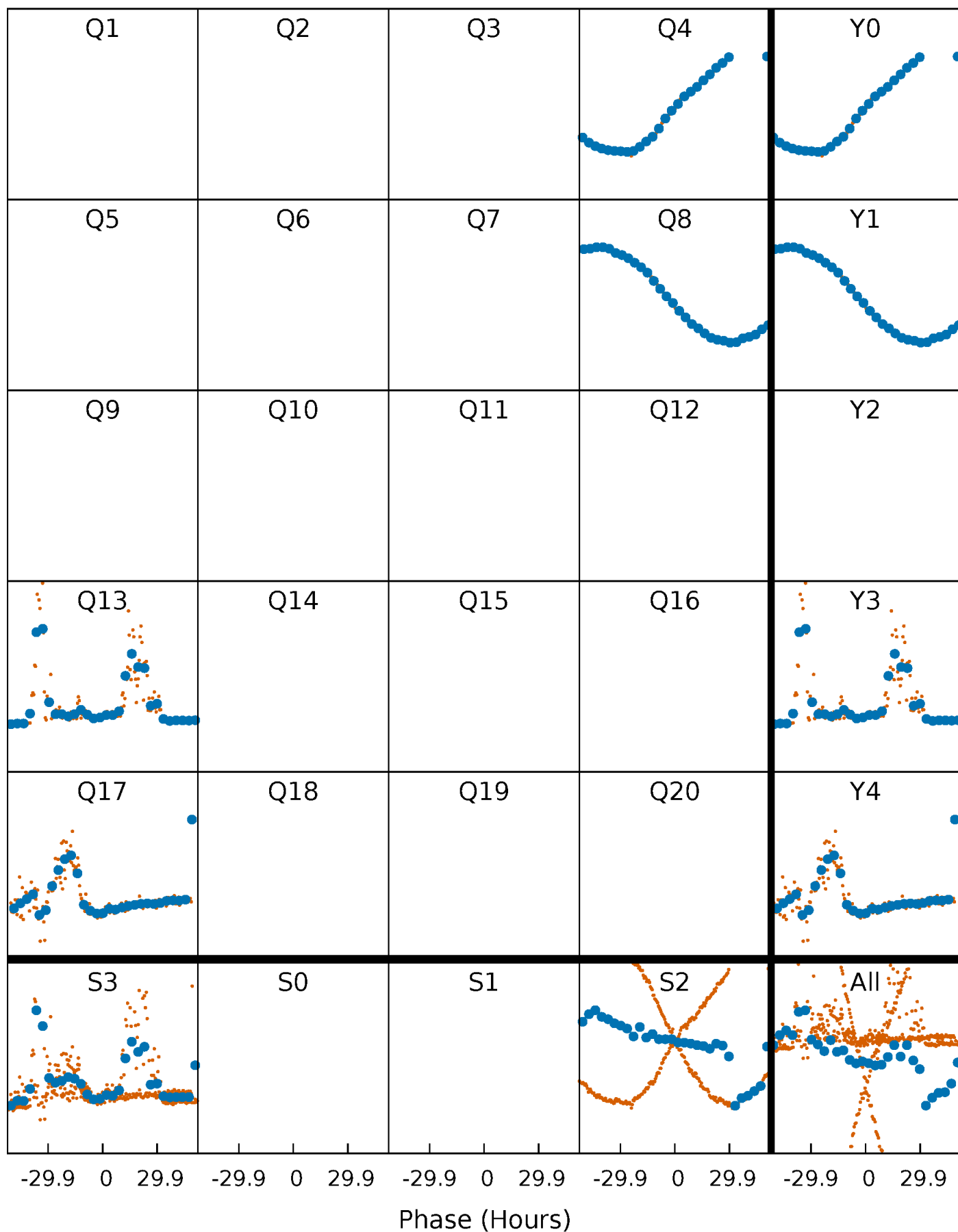


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



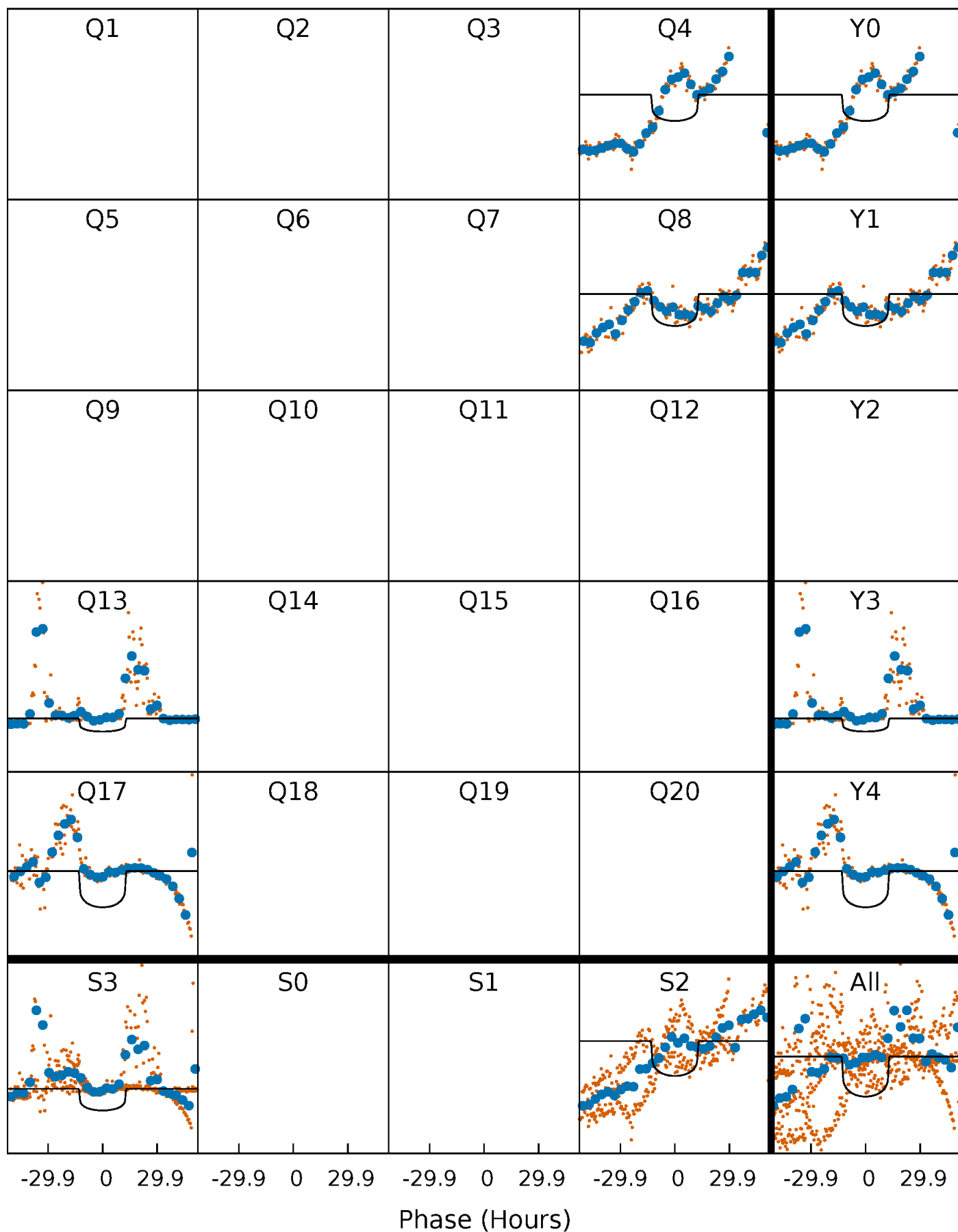
PDC Quarter-Phased Transit Curves

TCE 007838402-01 P=402.249983 Days $T_0=382.181333$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007838402-01 P=402.249983 Days $T_0=382.181333$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

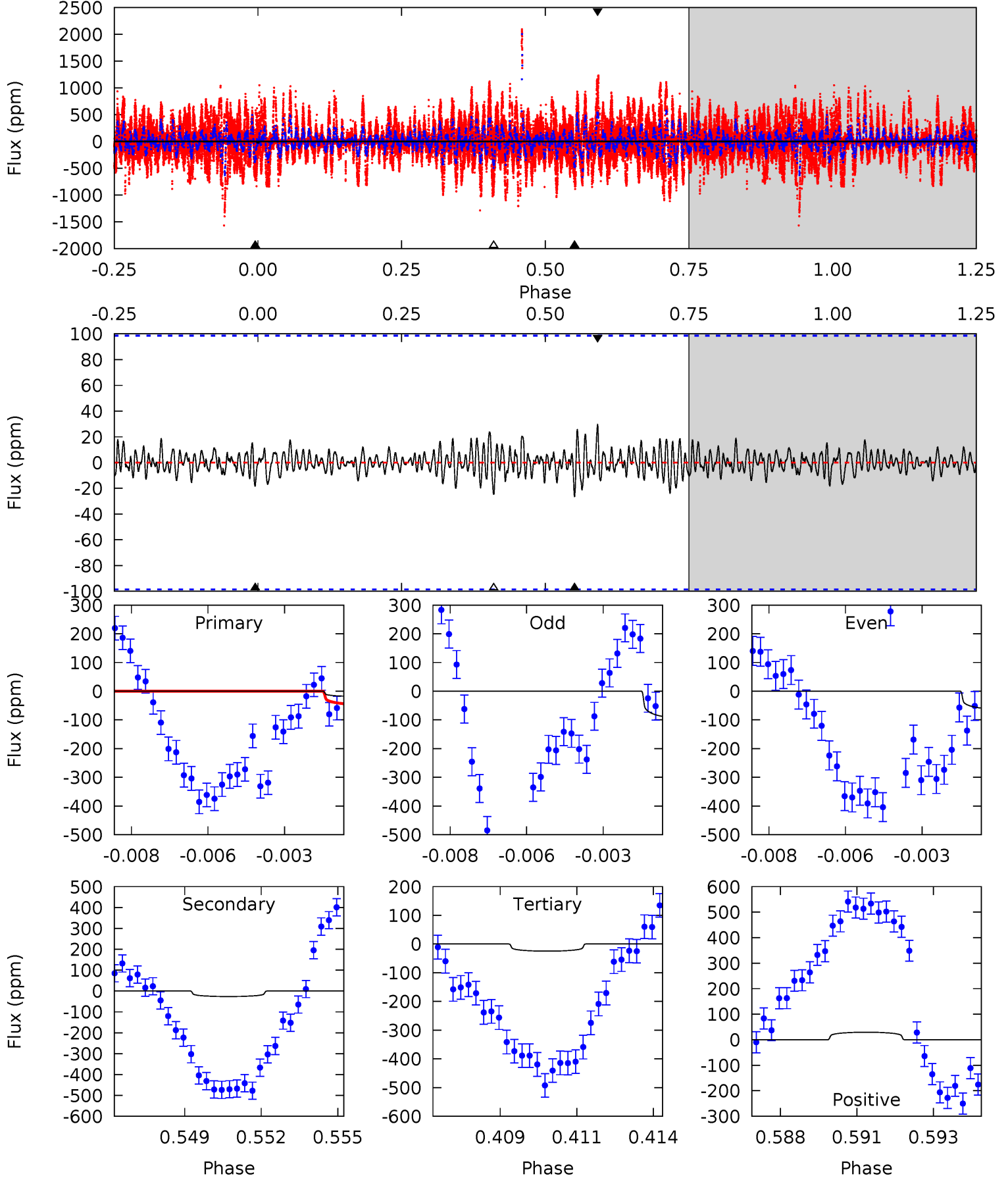
TCE 007838402-01 $P=402.139272$ Days $T_0=382.478840$ (BKJD)



DV Model-Shift Uniqueness Test

007838402-01, P = 402.249983 Days, E = 382.181333 Days

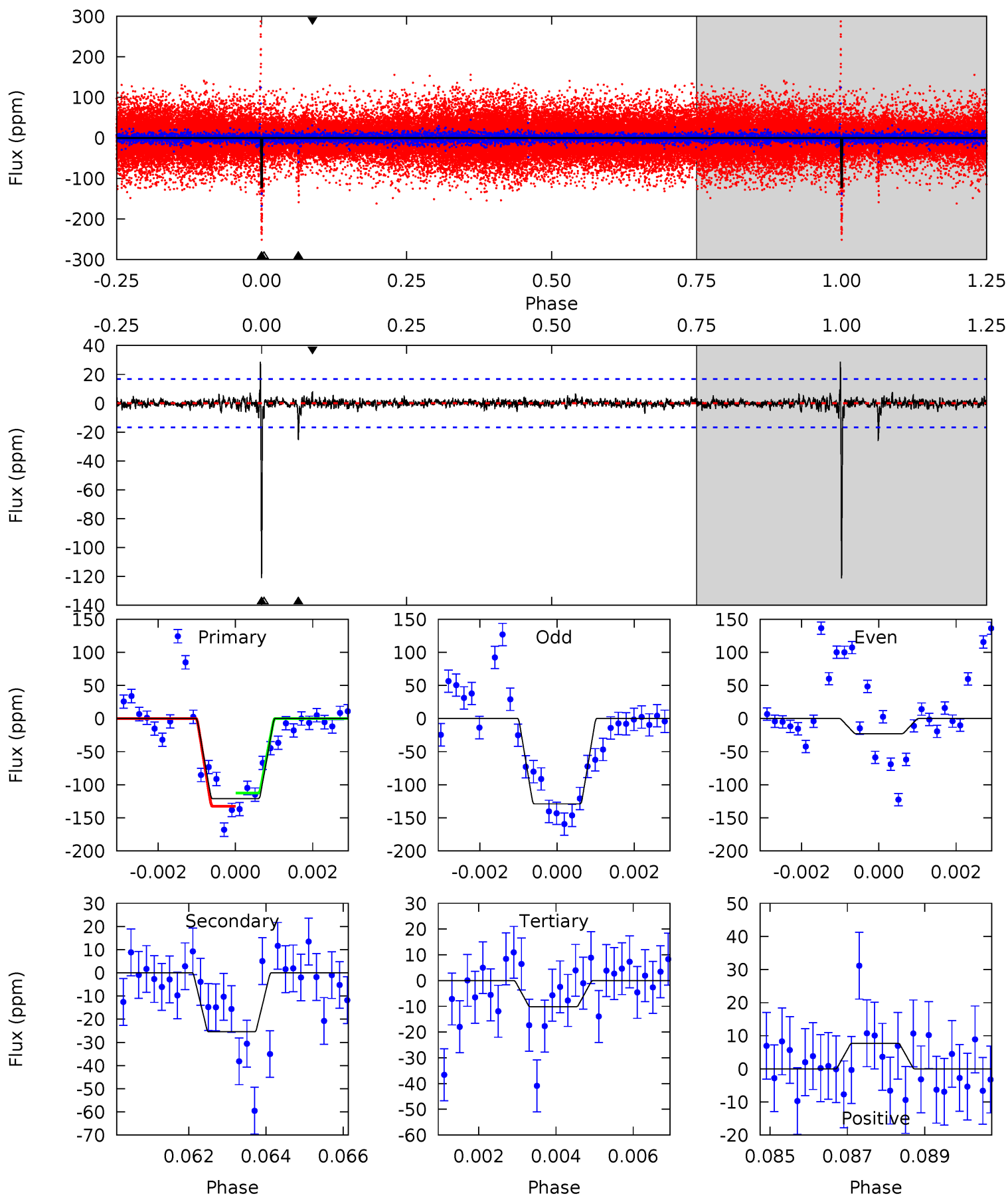
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.98	1.41	1.32	1.57	5.27	2.99	0.42	-0.34	-0.60	0.09	-0.16	0.77	-0.80	0.53	1.01



Alt Model-Shift Uniqueness Test

007838402-01, P = 402.139272 Days, E = 382.478840 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.4	8.06	3.22	2.44	5.32	3.08	0.56	35.2	35.9	4.85	5.62	18.4	0.62	0.19	3.13



Stellar Parameters For KIC 007838402

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5927^{+186}_{-207}	$4.348^{+0.153}_{-0.187}$	$-0.180^{+0.300}_{-0.300}$	$1.081^{+0.306}_{-0.204}$	$0.950^{+0.143}_{-0.107}$	$1.060^{+0.754}_{-0.504}$
	+3%/-3%	+4%/-4%	+167%/-167%	+28%/-19%	+15%/-11%	+71%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007838402-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 19	$2.01^{+0.36}_{-0.26}$	373^{+29}_{-24}	3682^{+365}_{-594}	3808^{+3336}_{-2684}
Alt.	-25 ± 3	$1.32^{+0.26}_{-0.21}$	373^{+27}_{-24}	4239^{+251}_{-205}	8811^{+3733}_{-2760}

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

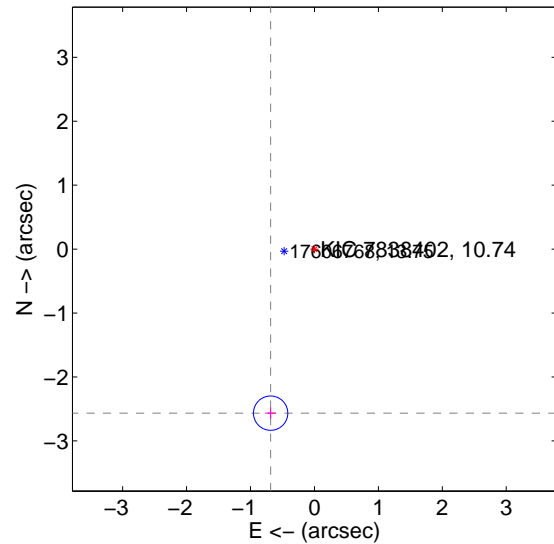
Supplemental centroid analysis for 007838402-01. **Kepler magnitude: 10.74.** Transit SNR 31.88

There are 0 quarters with good PRF difference image offsets

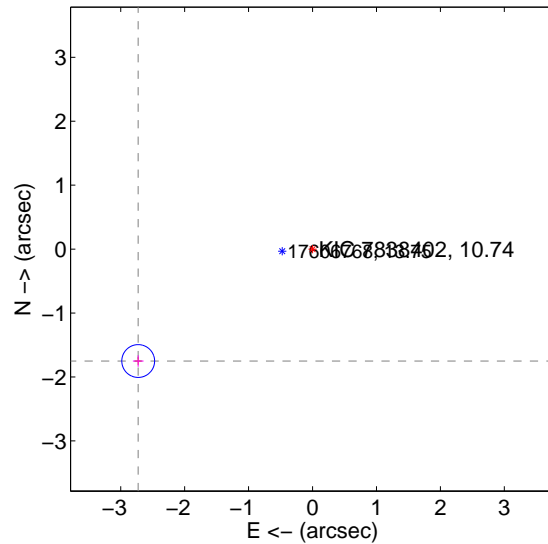
The OOT PRF centroid is offset from the target star catalog position by about 2.20 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.655 ± 0.089	29.70	0.685 ± 0.084	-2.565 ± 0.090
PRF-fit source offset from KIC position	3.240 ± 0.086	37.88	2.726 ± 0.084	-1.750 ± 0.090
photometric centroid source offset	0.42 ± 0.91	0.47	-0.38 ± 0.97	-0.19 ± 0.58

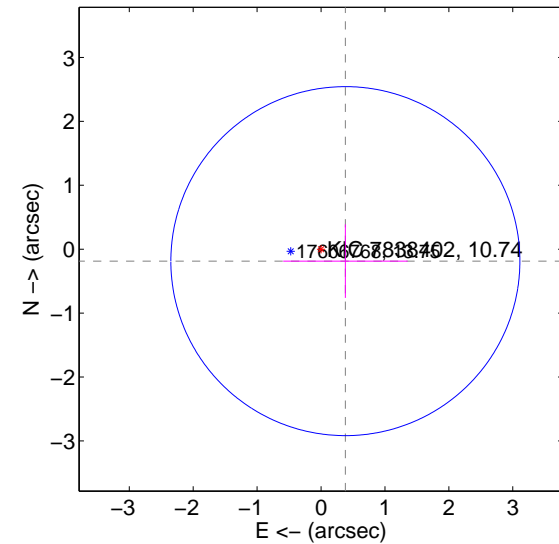
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

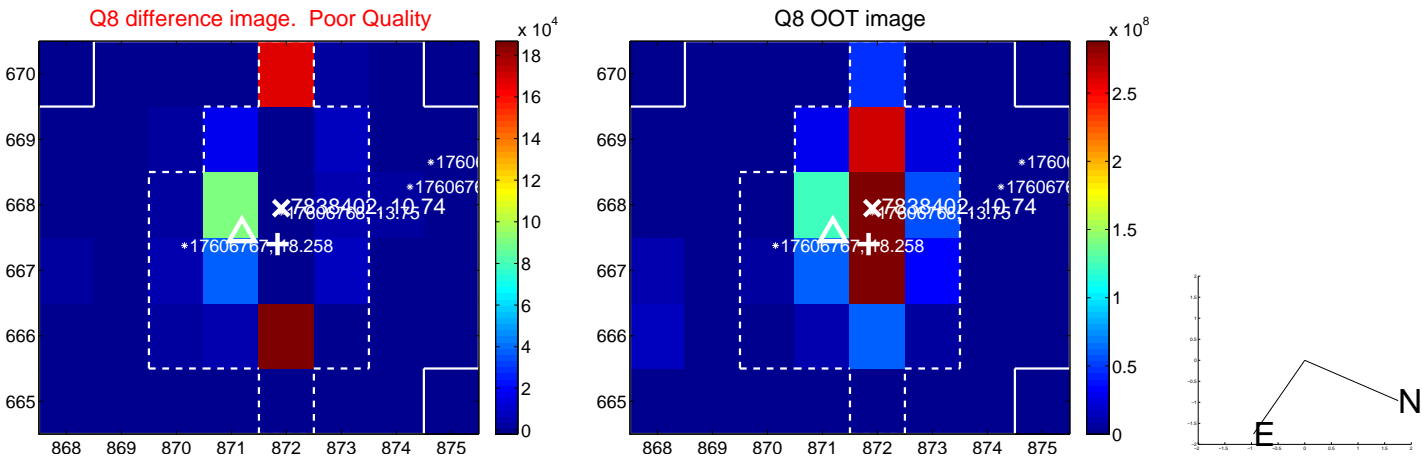


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



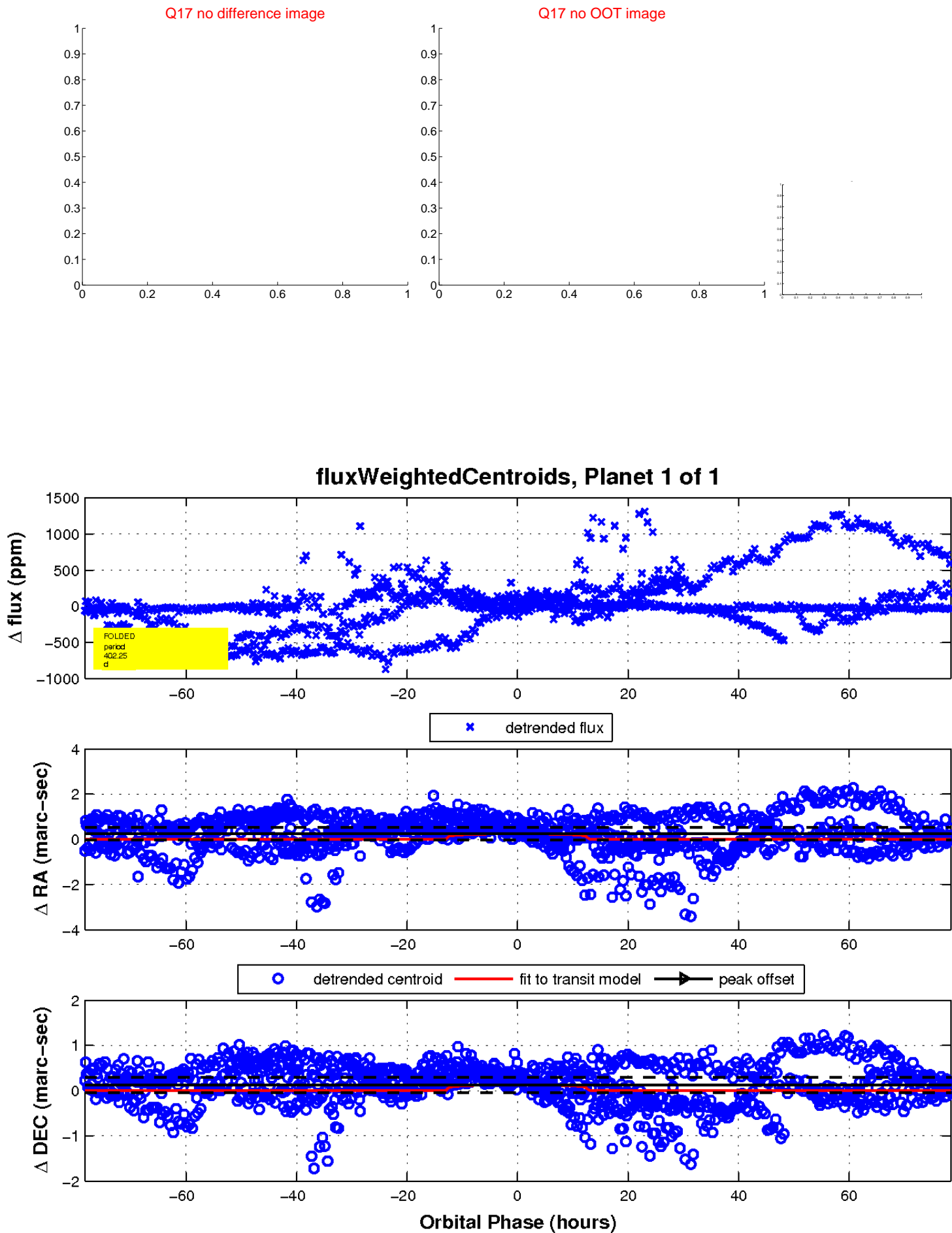
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

