

KIC 004840978

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})
004840978-01	OBS	No	1.592230	131.801728	13.2	15.660	7.4	1.7	1.45	6438	0.57	4027.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004840978-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

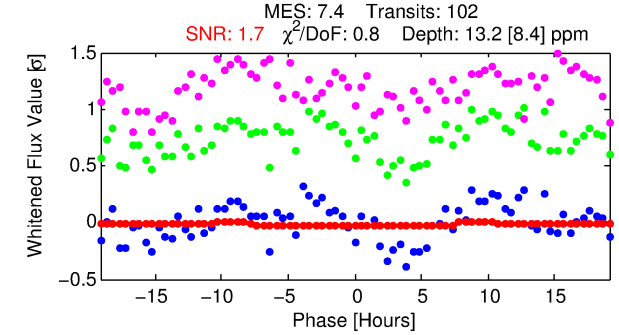
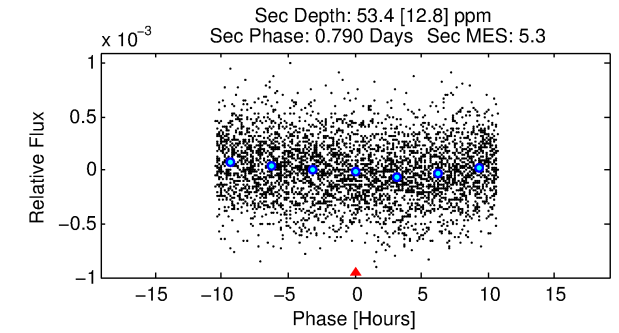
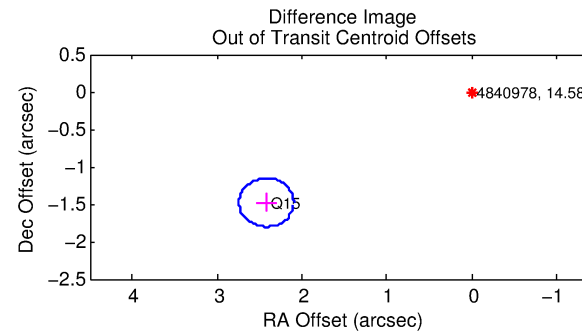
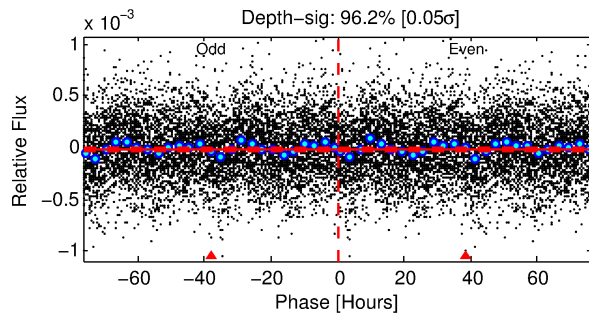
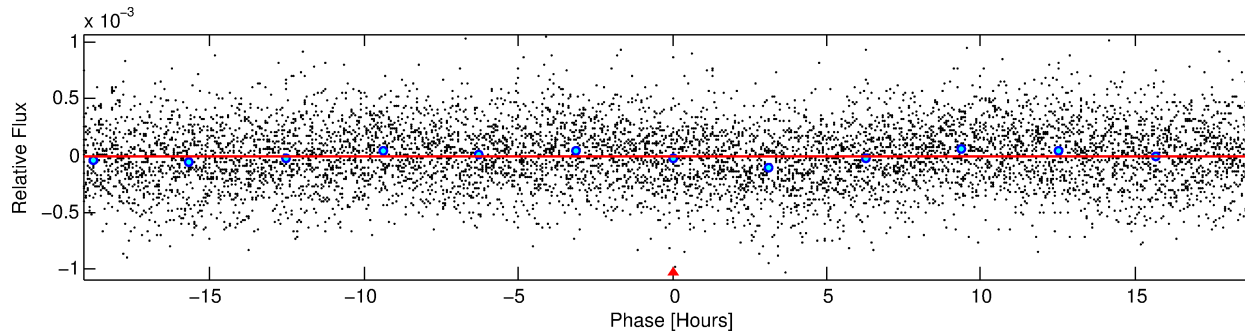
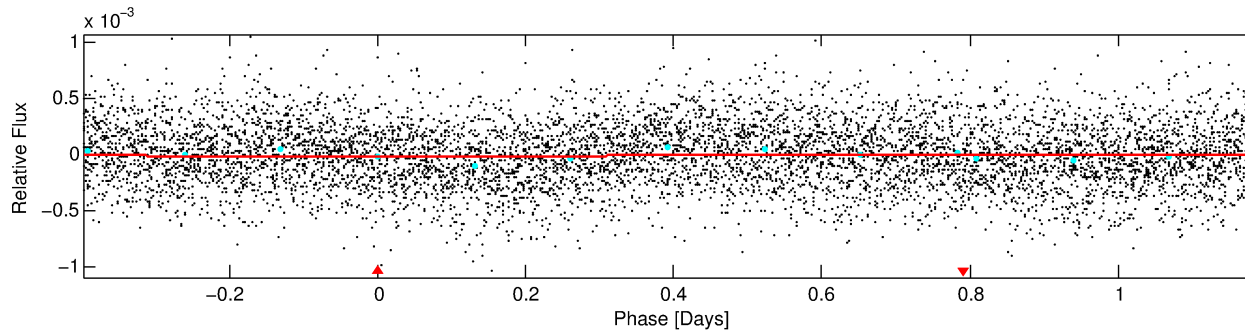
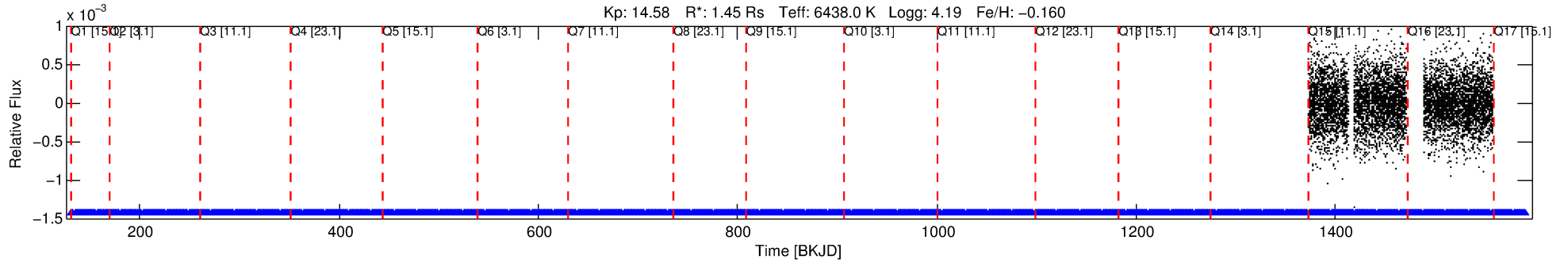
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004840978-01

No Significant Match Found

DV One-Page Summary

KIC: 4840978 Candidate: 1 of 1 Period: 1.592 d



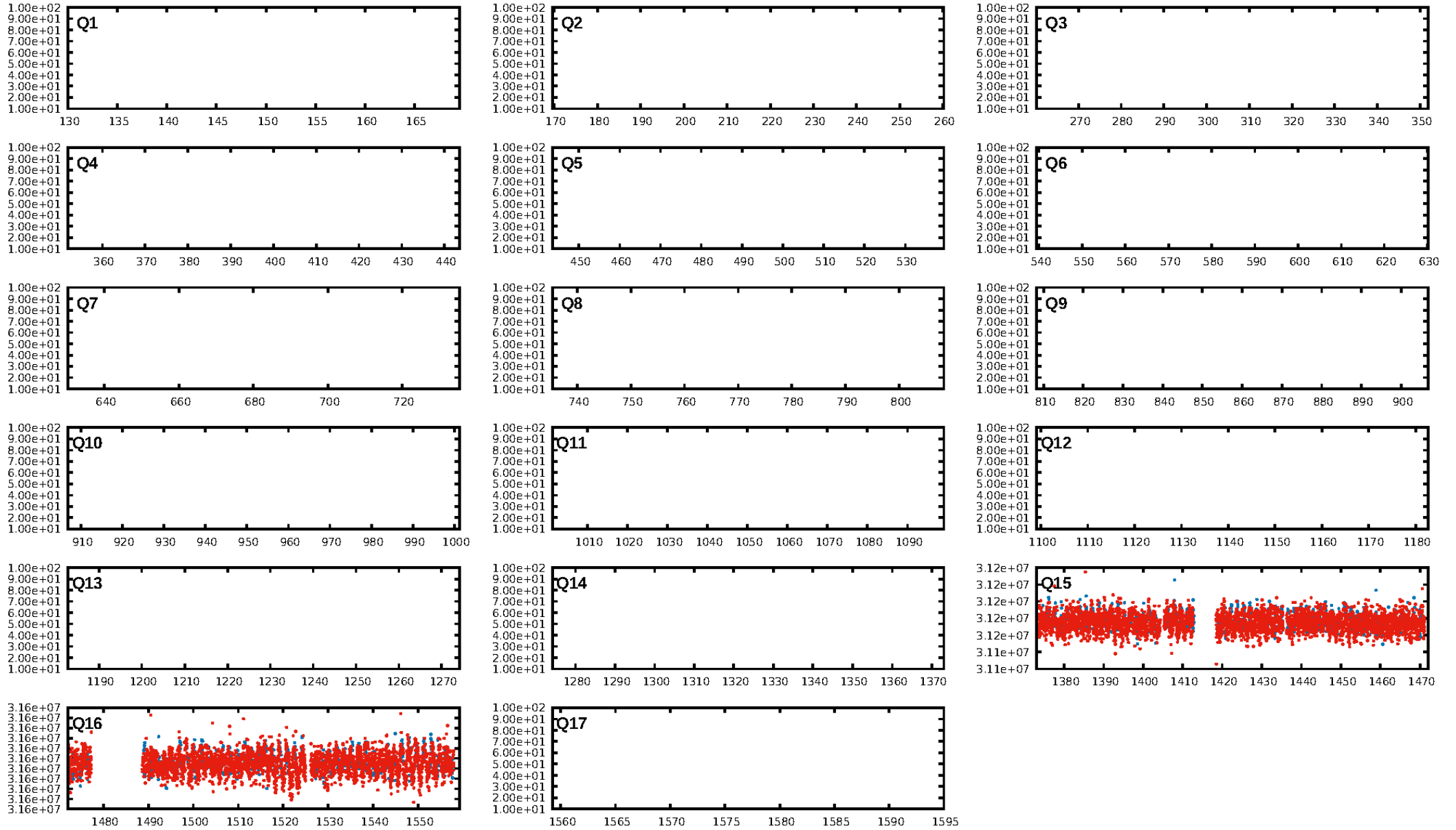
DV Fit Results:

Period = 1.59223 [0.00014] d
Epoch = 131.8017 [0.0636] BKJD
Rp/R* = 0.0036 [0.0146]
a/R* = 1.02 [1.08]
b = 0.71 [16.11]
Seff = 4027.19 [1496.75]
Teq = 2031 [189] K
Rp = 0.57 [2.32] Re
a = 0.0284 [0.0068] AU
Ag = 73.73 [603.67] [0.12σ]
Teffp = 9203 [18823] K [0.38σ]

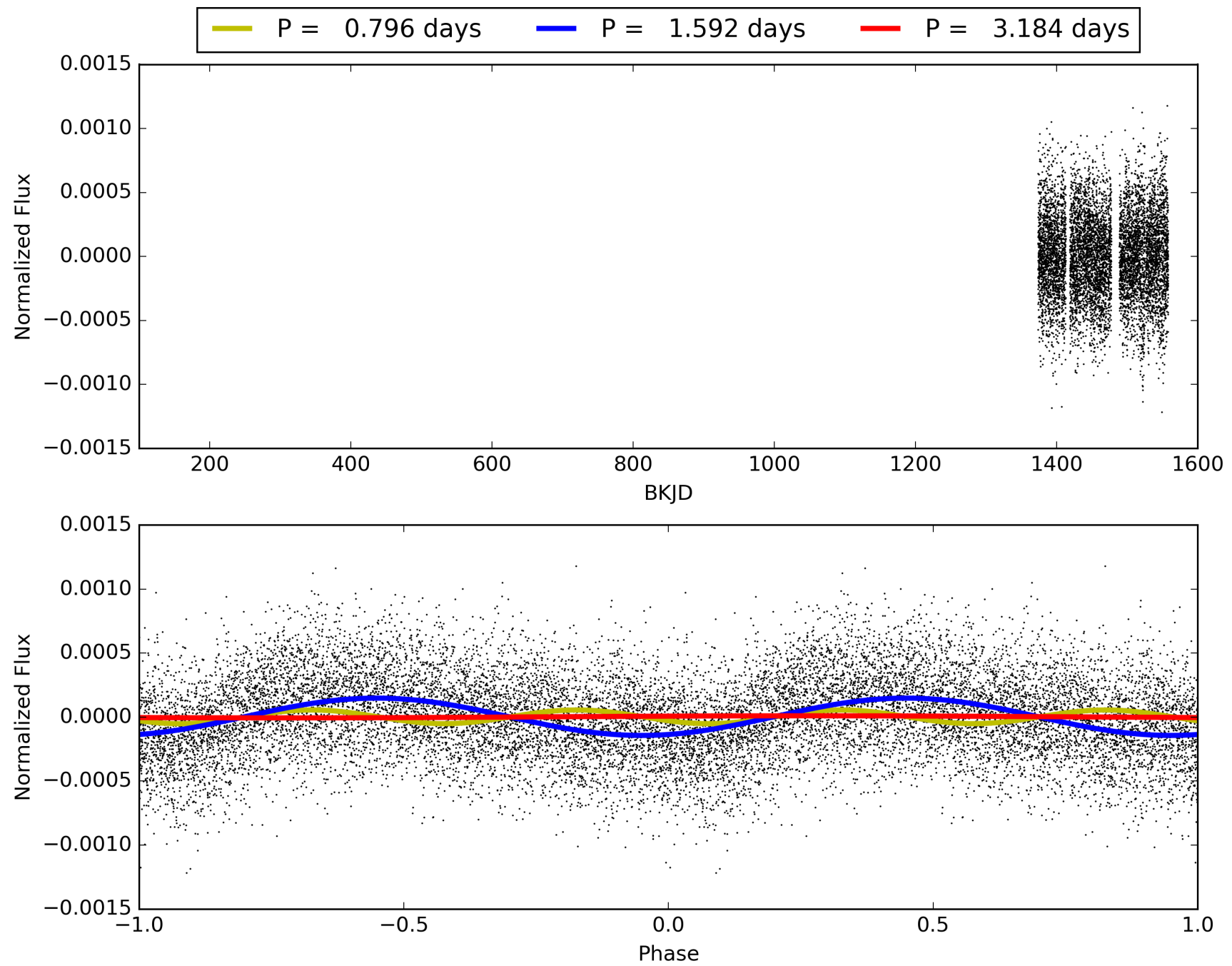
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [102/102]
GhostDiagnostic-chr: 0.121
Centroid-sig: 12.5%
Centroid-so: 8.333 arcsec [1.17σ]
OotOffset-rm: 2.834 arcsec [26.25σ]
KicOffset-rm: 2.887 arcsec [26.76σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 004840978-01, PDC Light Curves

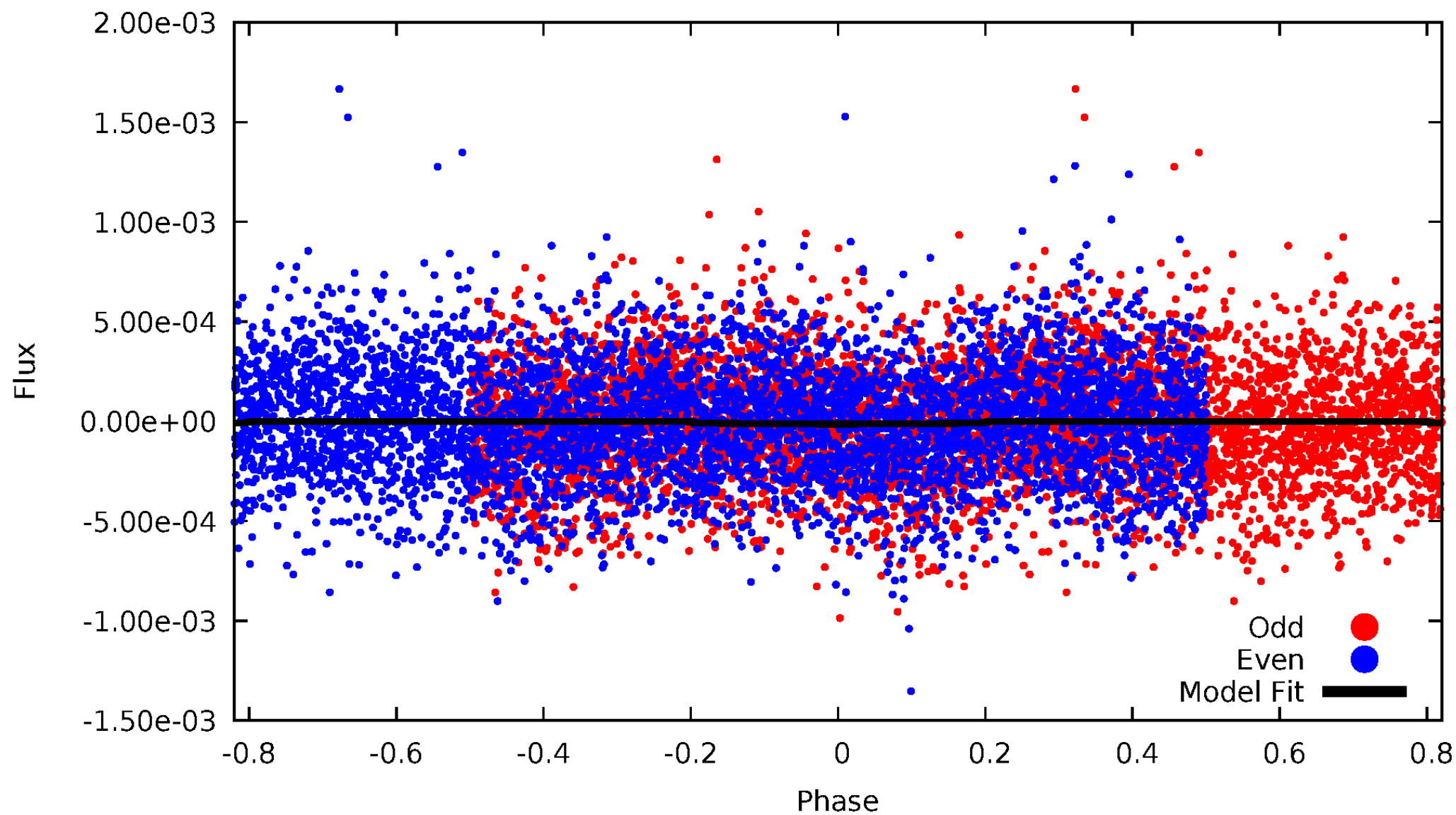


TCE 004840978-01



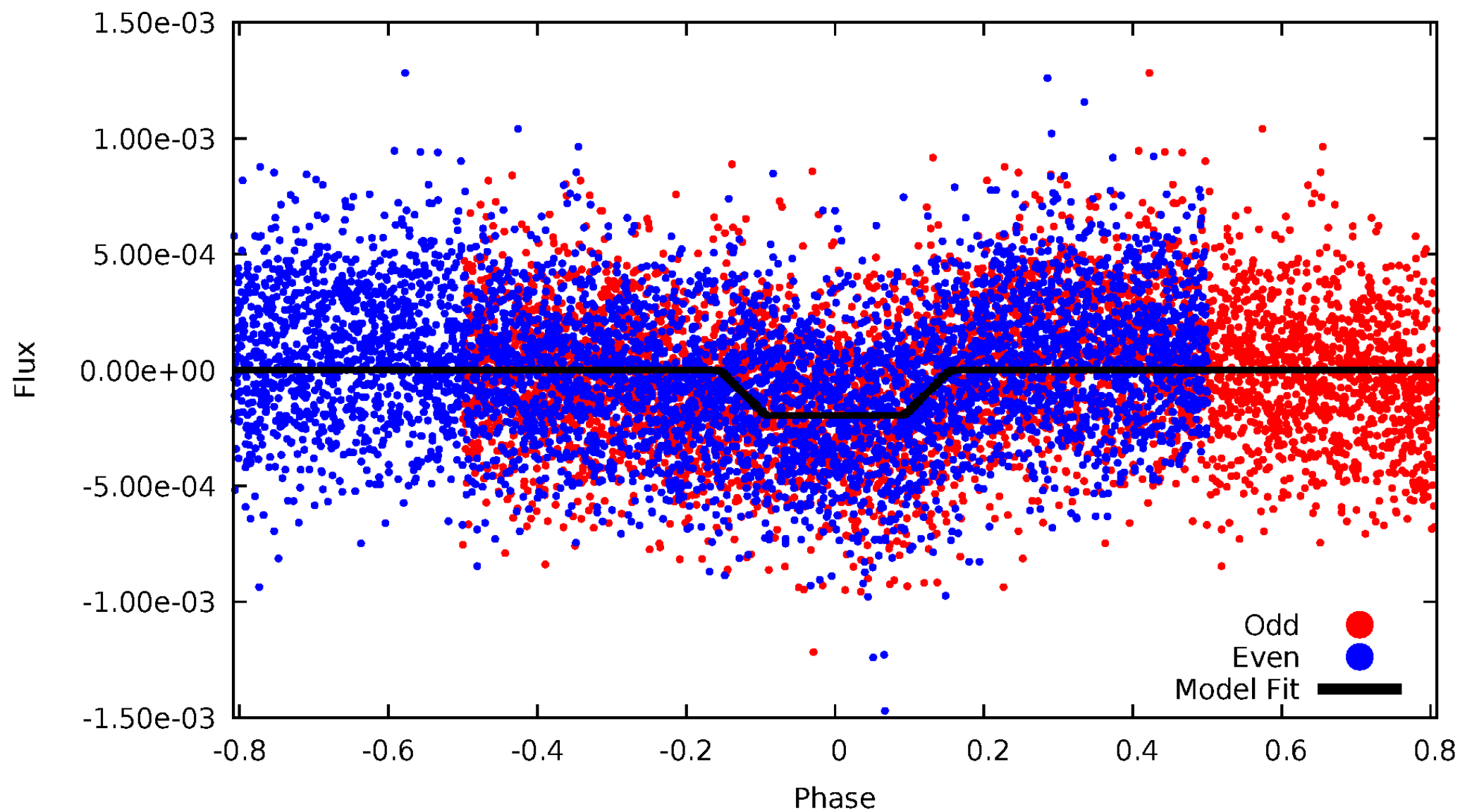
DV Odd/Even

TCE 004840978-01

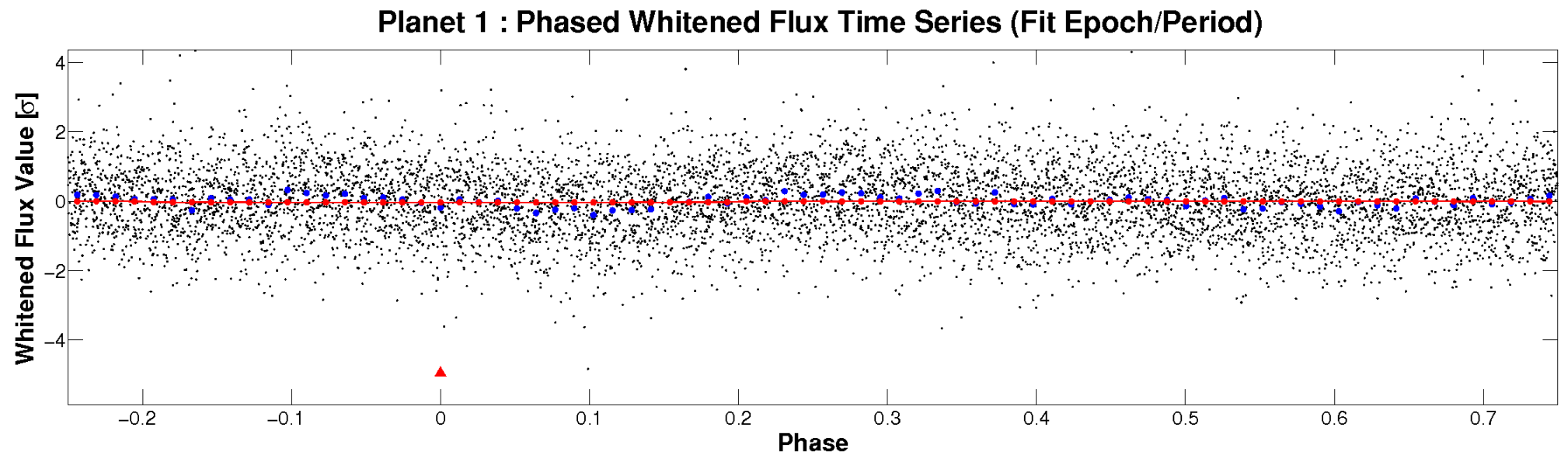
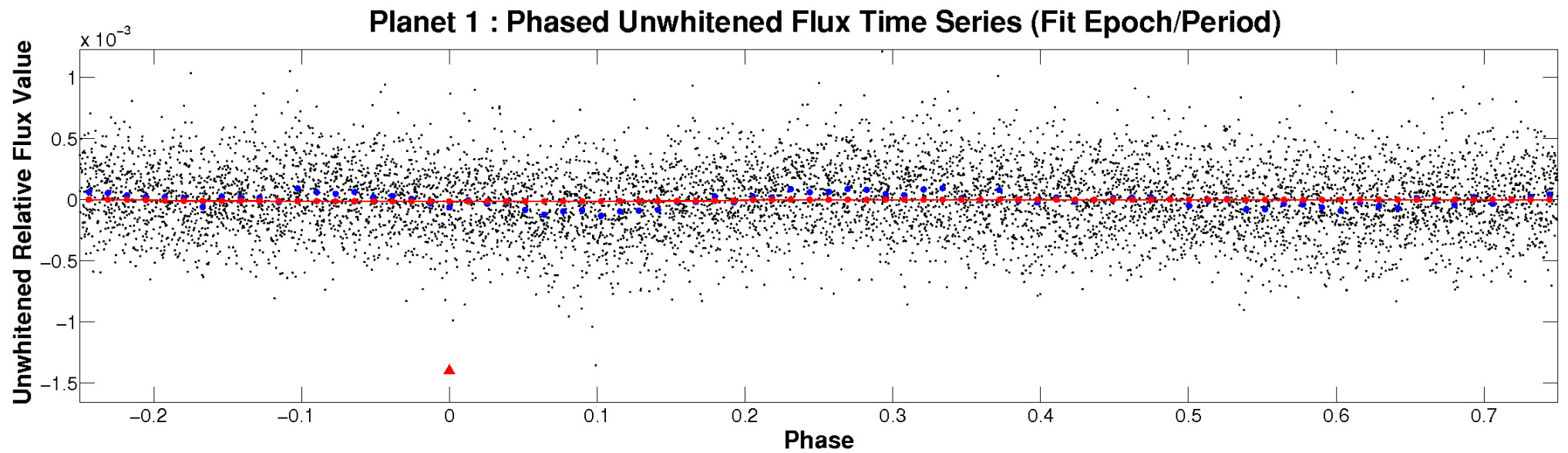


ALT Odd/Even

TCE 004840978-01

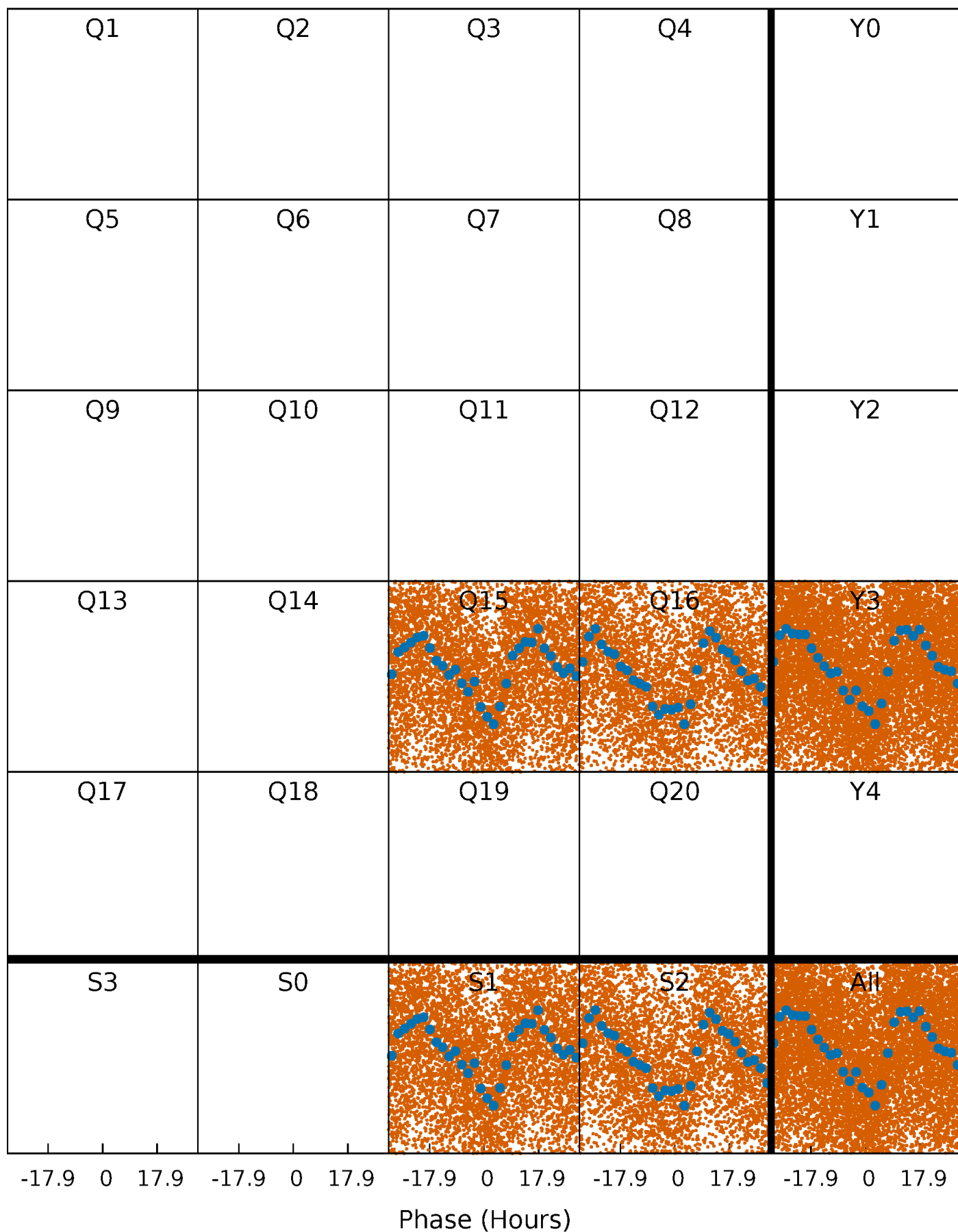


Non-Whitened Vs. Whitened Light Curve



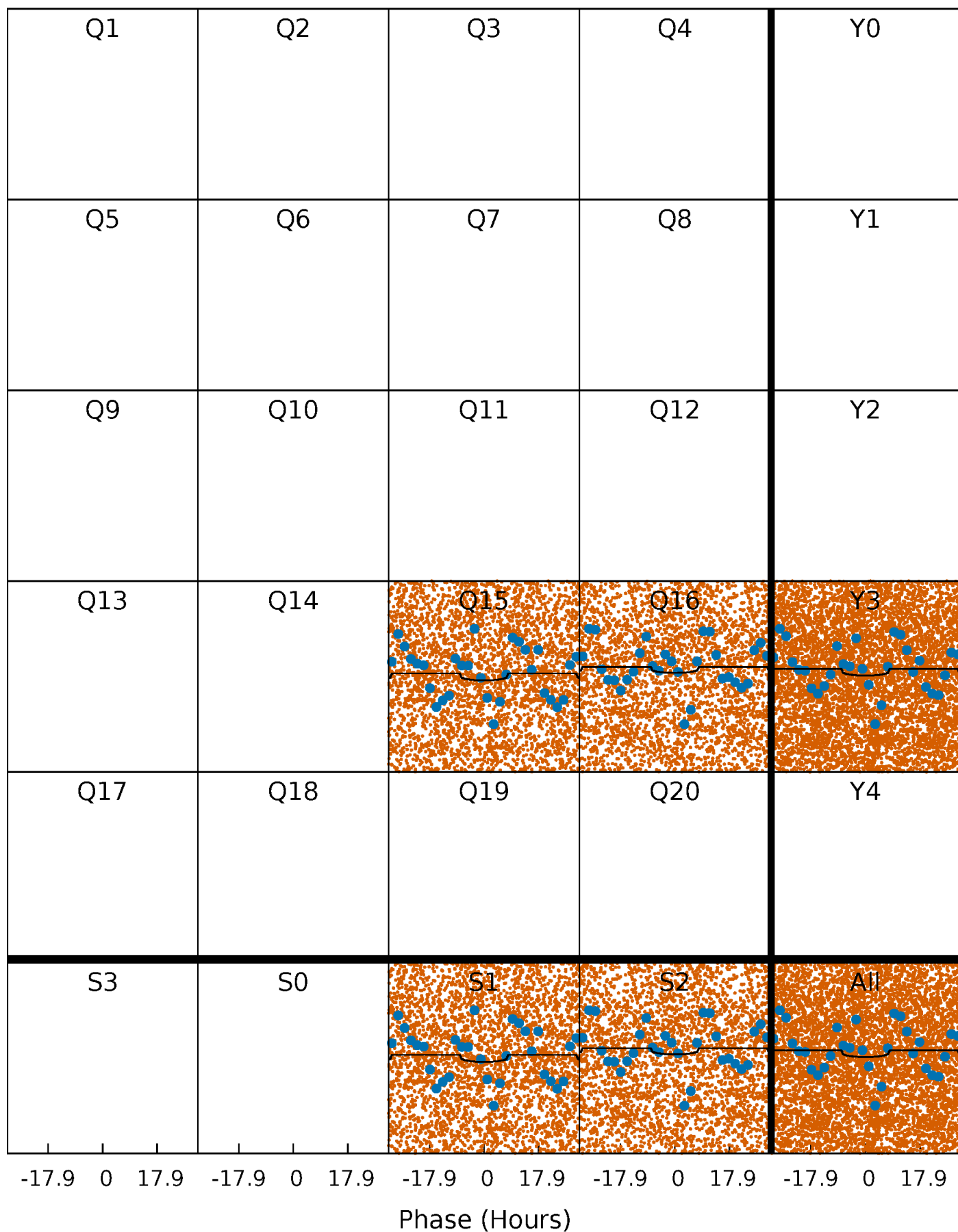
PDC Quarter-Phased Transit Curves

TCE 004840978-01 P= 1.592230 Days $T_0=131.801728$ (BKJD)



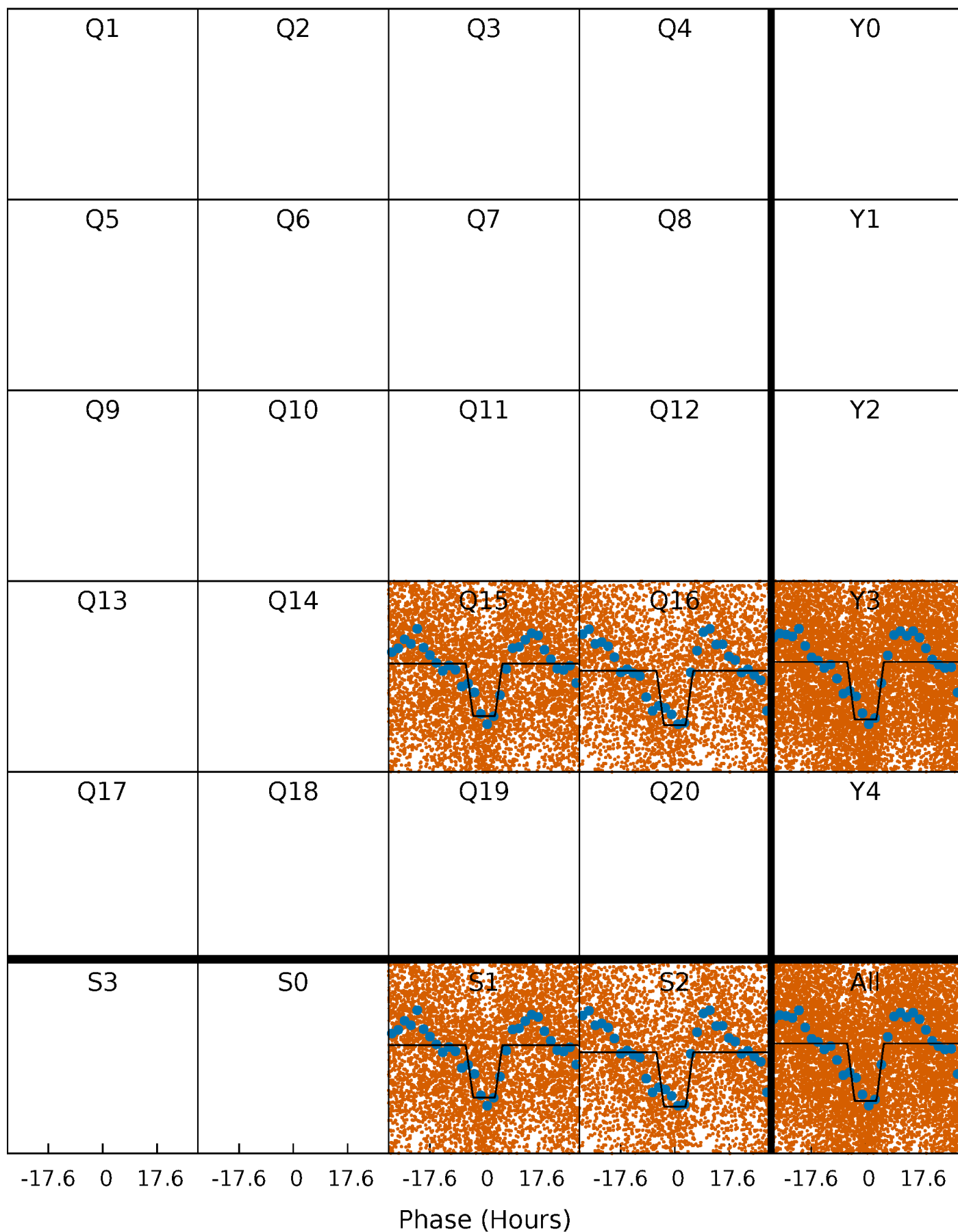
DV Quarter-Phased Transit Curves

TCE 004840978-01 P= 1.592230 Days $T_0=131.801728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

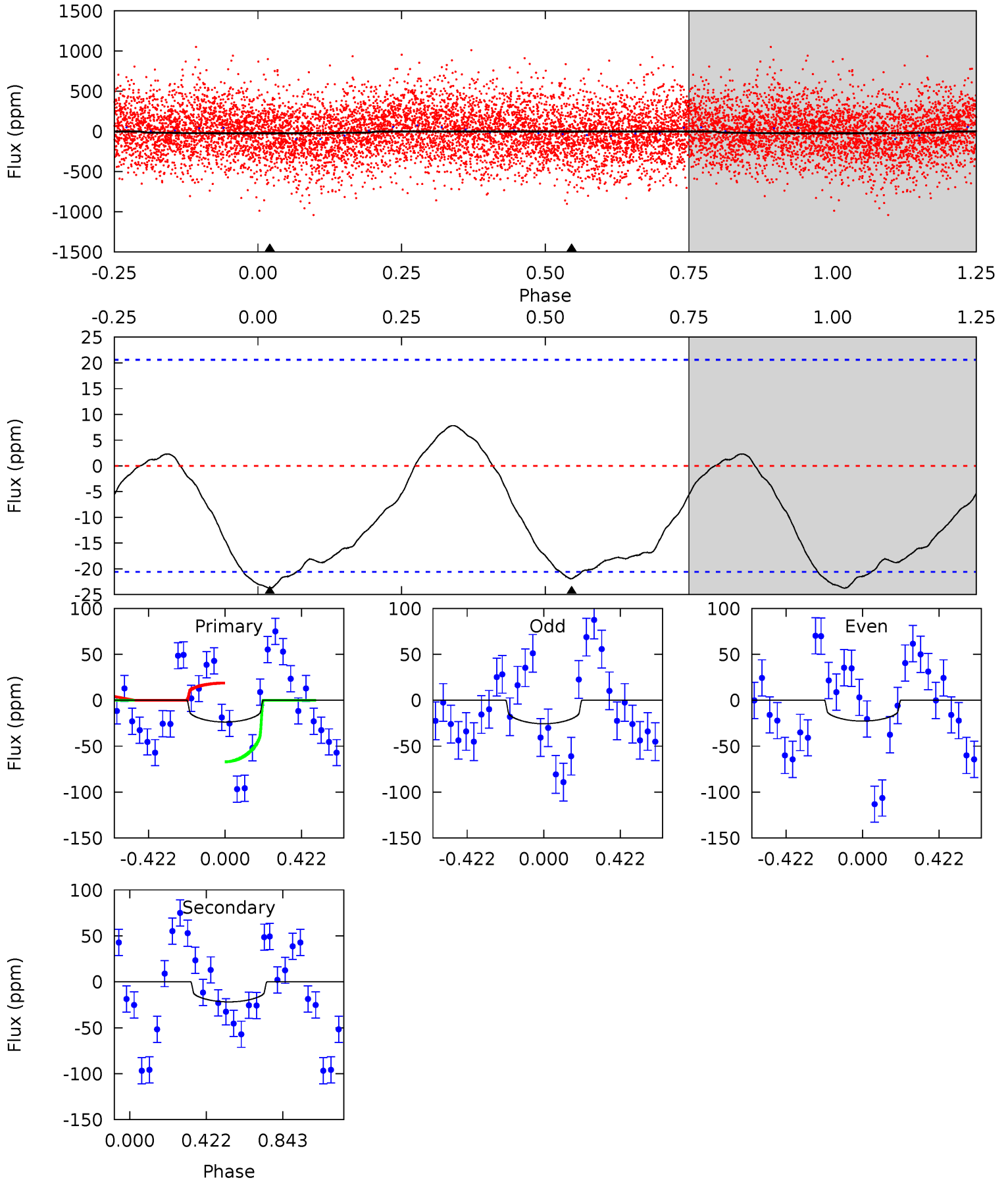
TCE 004840978-01 P= 1.592353 Days $T_0=131.753124$ (BKJD)



DV Model-Shift Uniqueness Test

004840978-01, P = 1.592230 Days, E = 131.801728 Days

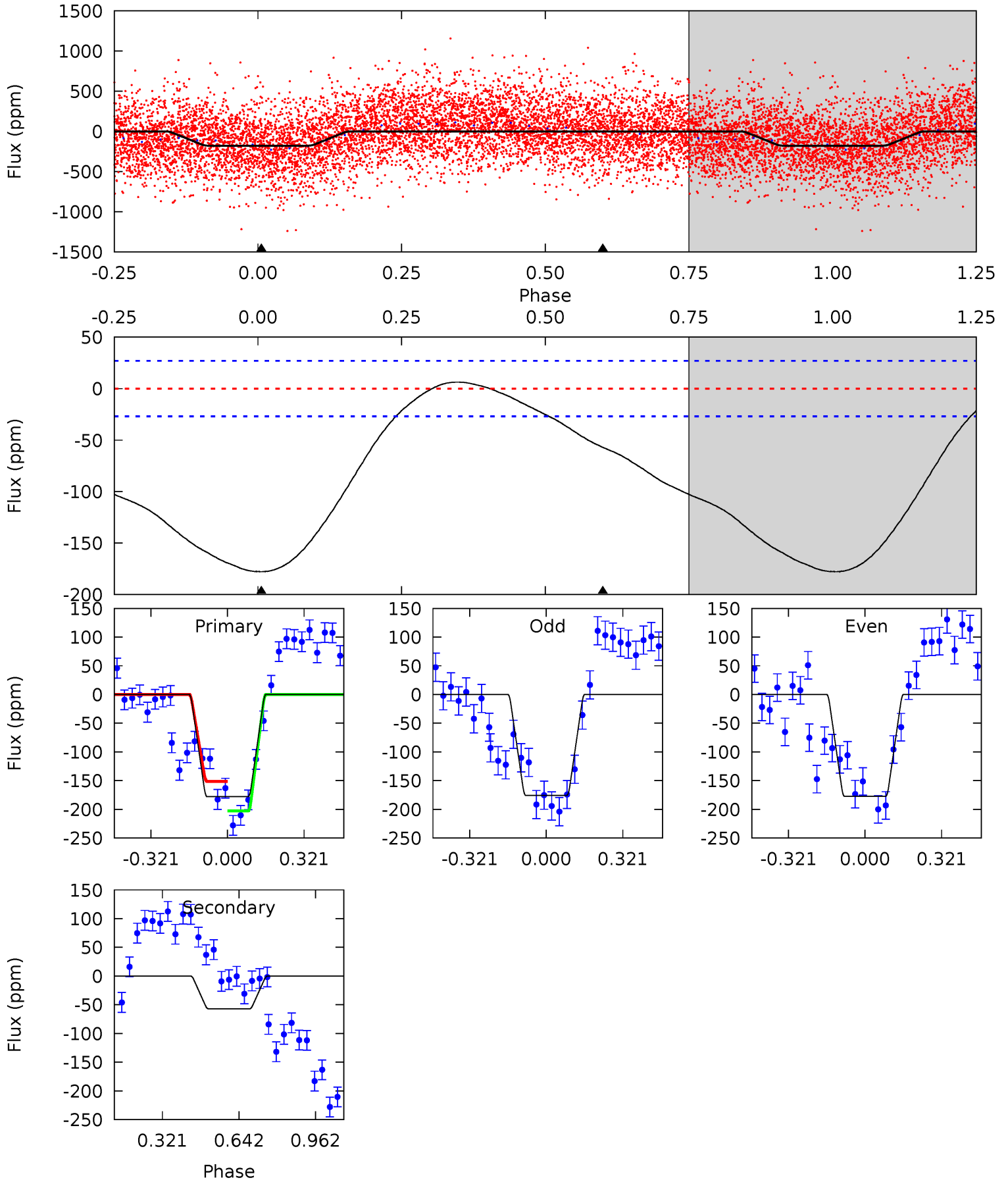
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.90	4.52	0	0	4.25	0.80	0.72	4.90	4.90	4.52	4.52	0.29	1.38	0.25	4.99



Alt Model-Shift Uniqueness Test

004840978-01, P = 1.592353 Days, E = 131.753124 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	9.13	0	0	4.31	0.99	1.28	28.5	28.5	9.13	9.13	0.15	1.01	0.03	4.38



Stellar Parameters For KIC 004840978

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6438^{+181}_{-227}	$4.194^{+0.185}_{-0.185}$	$-0.160^{+0.250}_{-0.300}$	$1.451^{+0.422}_{-0.346}$	$1.203^{+0.188}_{-0.188}$	$0.554^{+0.532}_{-0.273}$
	+3%/-4%	+4%/-4%	+156%/-188%	+29%/-24%	+16%/-16%	+96%/-49%
Source	KIC0	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 004840978-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 5	$1.81^{+1.84}_{-1.31}$	2828^{+210}_{-210}	4231^{+3871}_{-1160}	$2.960^{+33.438}_{-2.271}$
Alt.	-57 ± 6	$2.69^{+2.22}_{-1.65}$	2838^{+216}_{-206}	4306^{+2843}_{-897}	$3.382^{+21.712}_{-2.376}$

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 $A_{obs} \gg 1.0$

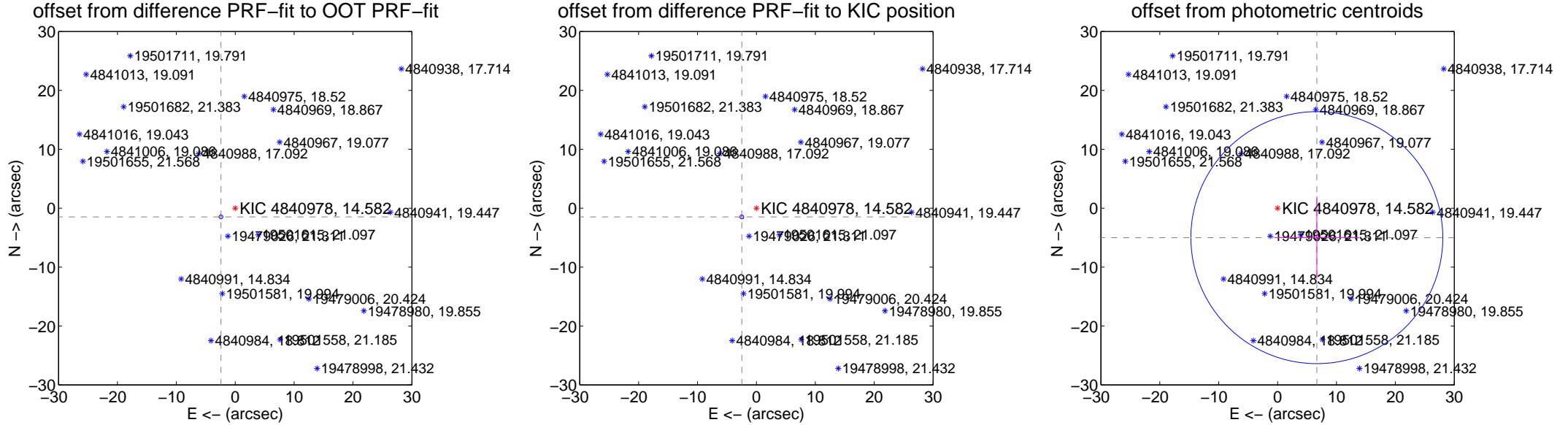
DV Centroid Data

Supplemental centroid analysis for 004840978-01. Kepler magnitude: 14.58. Transit SNR 1.74

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.834 ± 0.108	26.25	2.418 ± 0.106	-1.478 ± 0.112
PRF-fit source offset from KIC position	2.887 ± 0.108	26.76	2.478 ± 0.106	-1.481 ± 0.112
photometric centroid source offset	8.33 ± 7.13	1.17	-6.67 ± 7.19	-5.00 ± 7.02



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.



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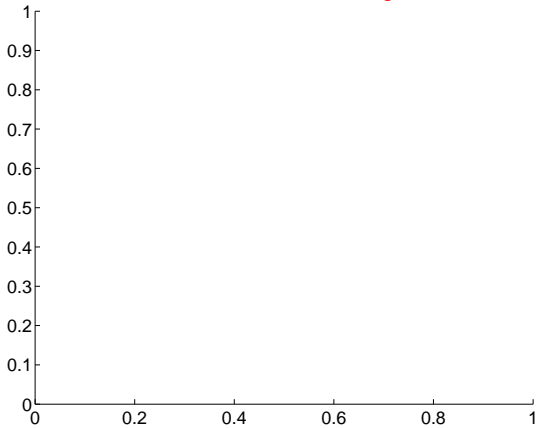
Q13 no difference image



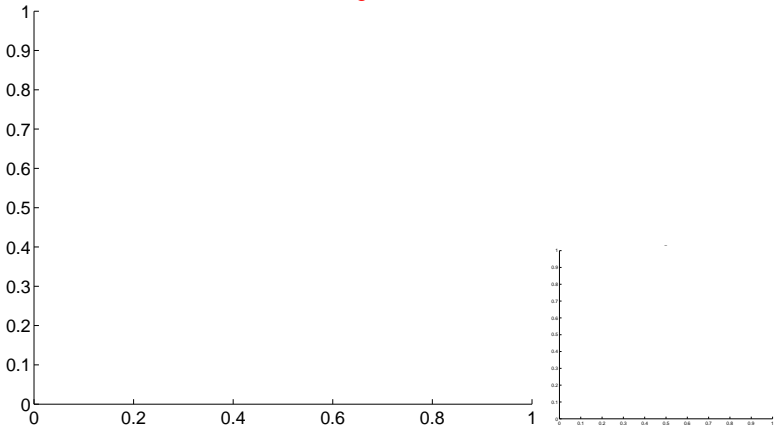
Q13 no OOT image



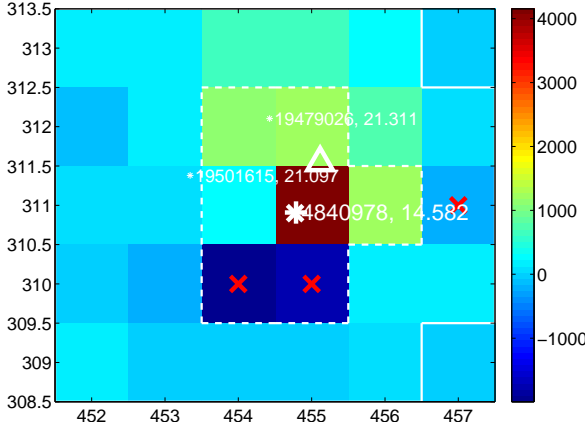
Q14 no difference image



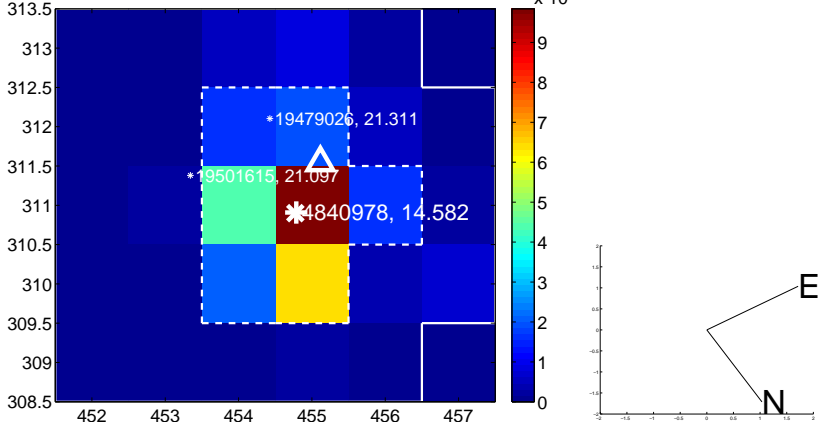
Q14 no OOT image



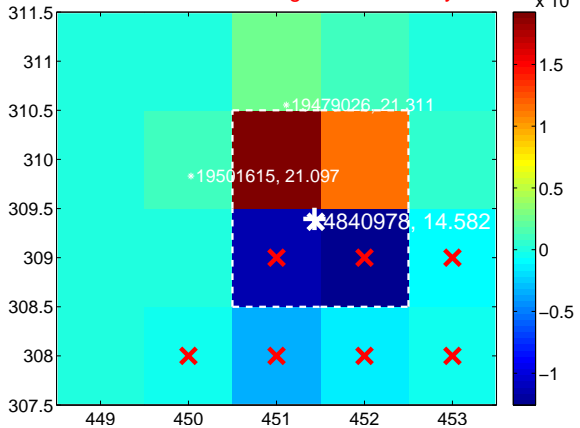
Q15 difference image



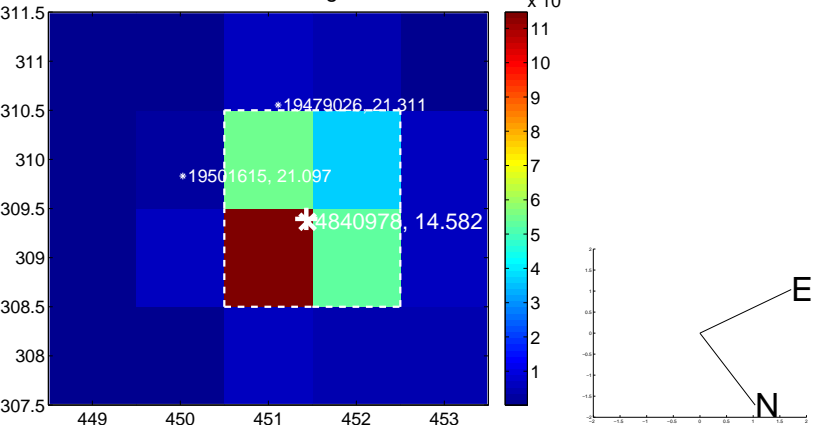
Q15 OOT image



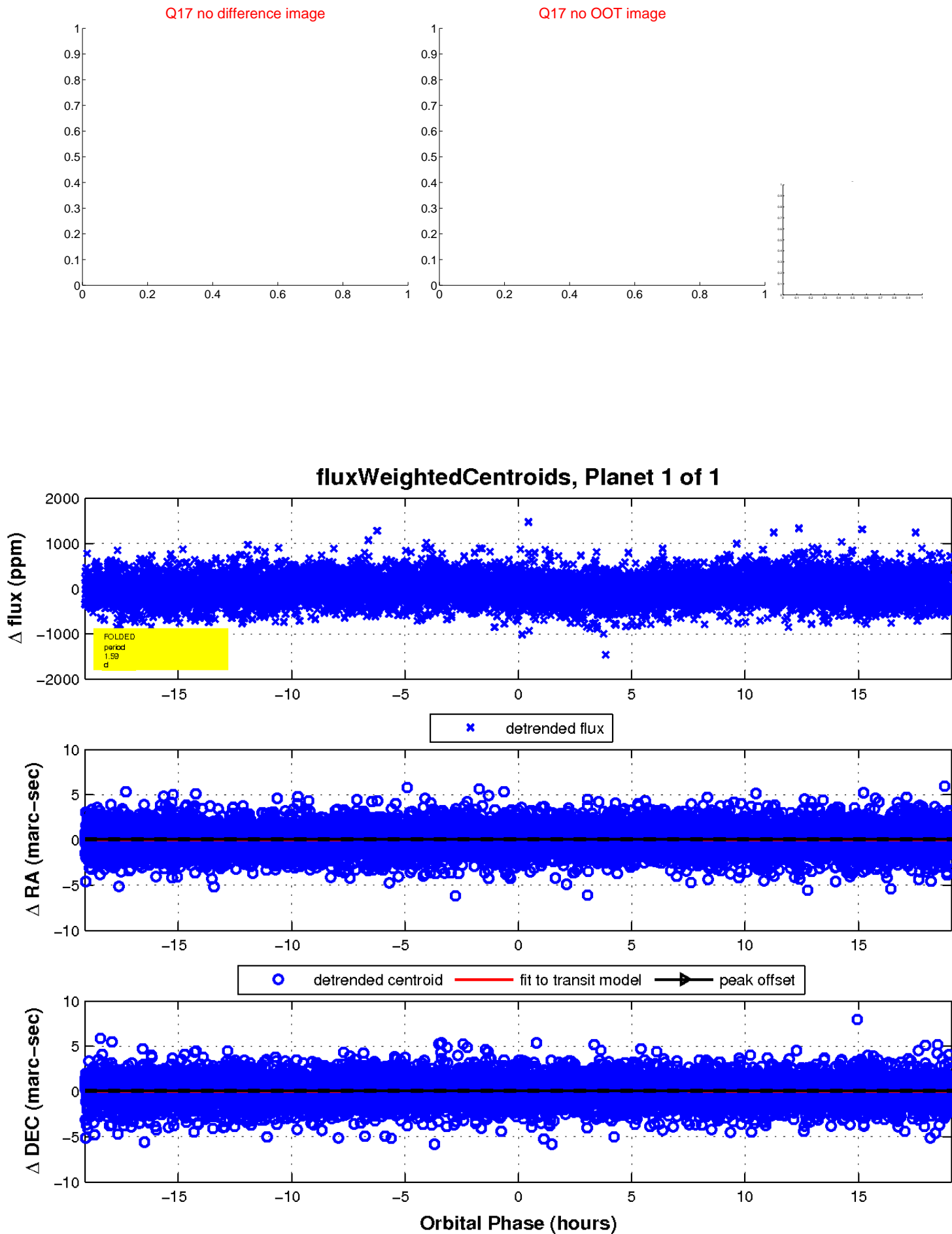
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

Declination

