

KIC 008016211

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})
008016211-01	OBS	5460.01	1.587398	132.209415	1205.4	6.440	62.4	62.1	1.62	5116	7.45	2357.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008016211-01	OBS	FP	0.00	0	1	0	1	MOD_ODDEVEN_DV—CENT_FEW_DIFFS—EPHEM_MATCH

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 008016211-01

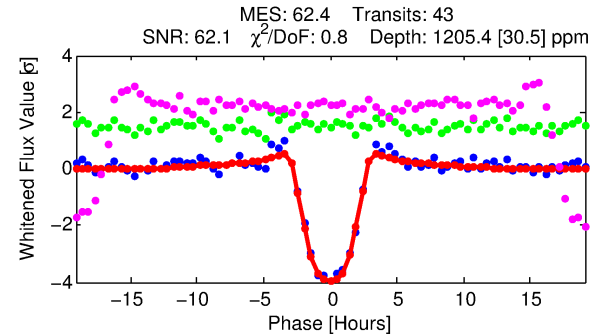
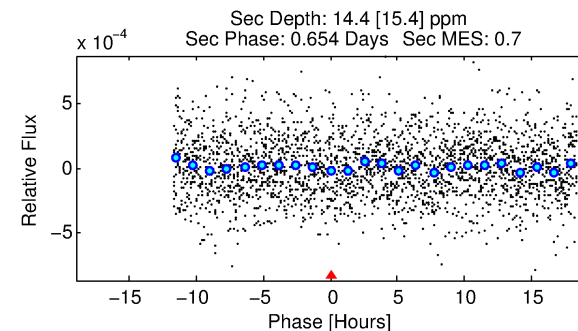
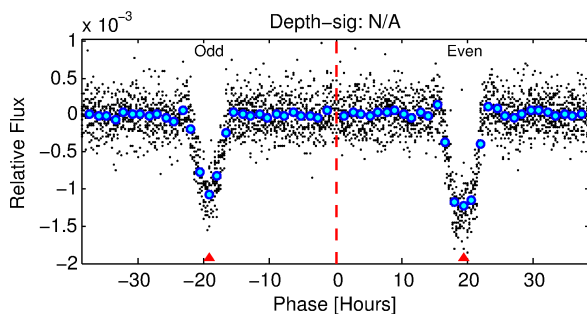
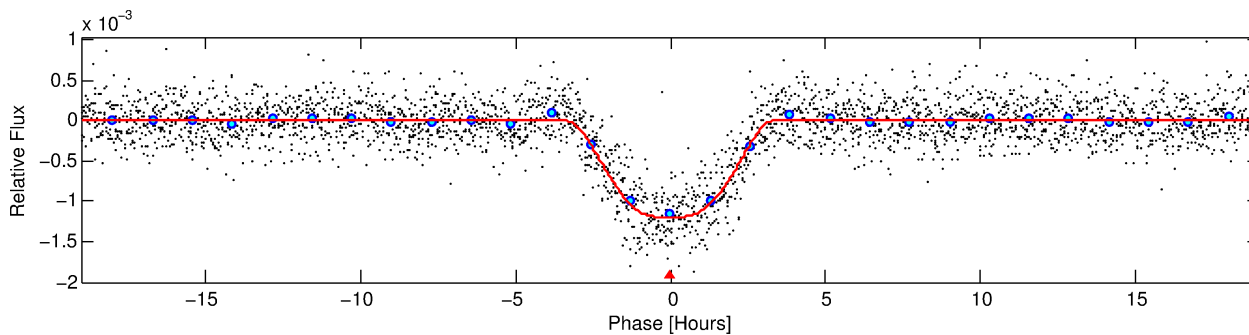
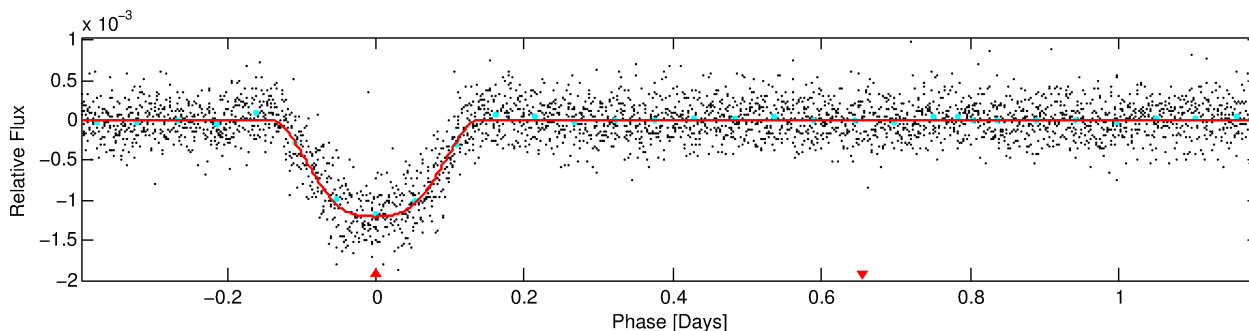
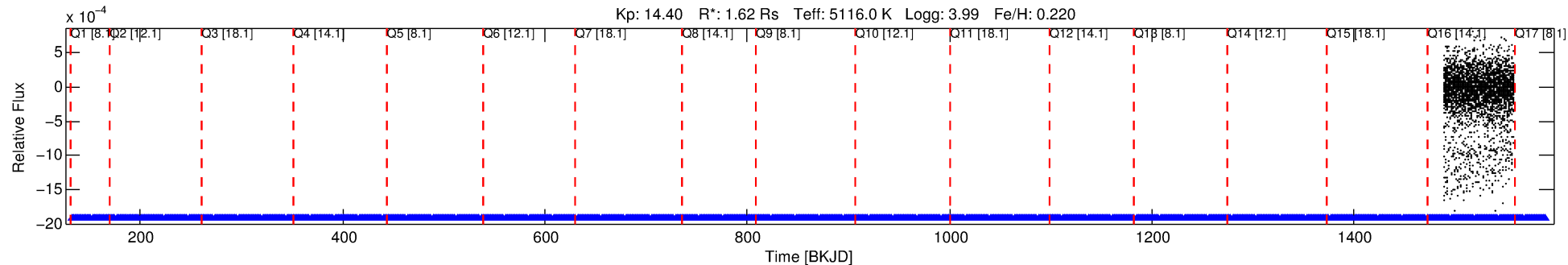
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008016211-01	8016211	6953.01	8016214	1:1	11.2	0	-3	14.36	14.39	203.30	Direct-PRF	0	4.29	4.39

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8016211 Candidate: 1 of 1 Period: 1.587 d
KOI: K05460 Corr: No Ephemeris Match

Kp: 14.40 R*: 1.62 Rs Teff: 5116.0 K Logg: 3.99 Fe/H: 0.220



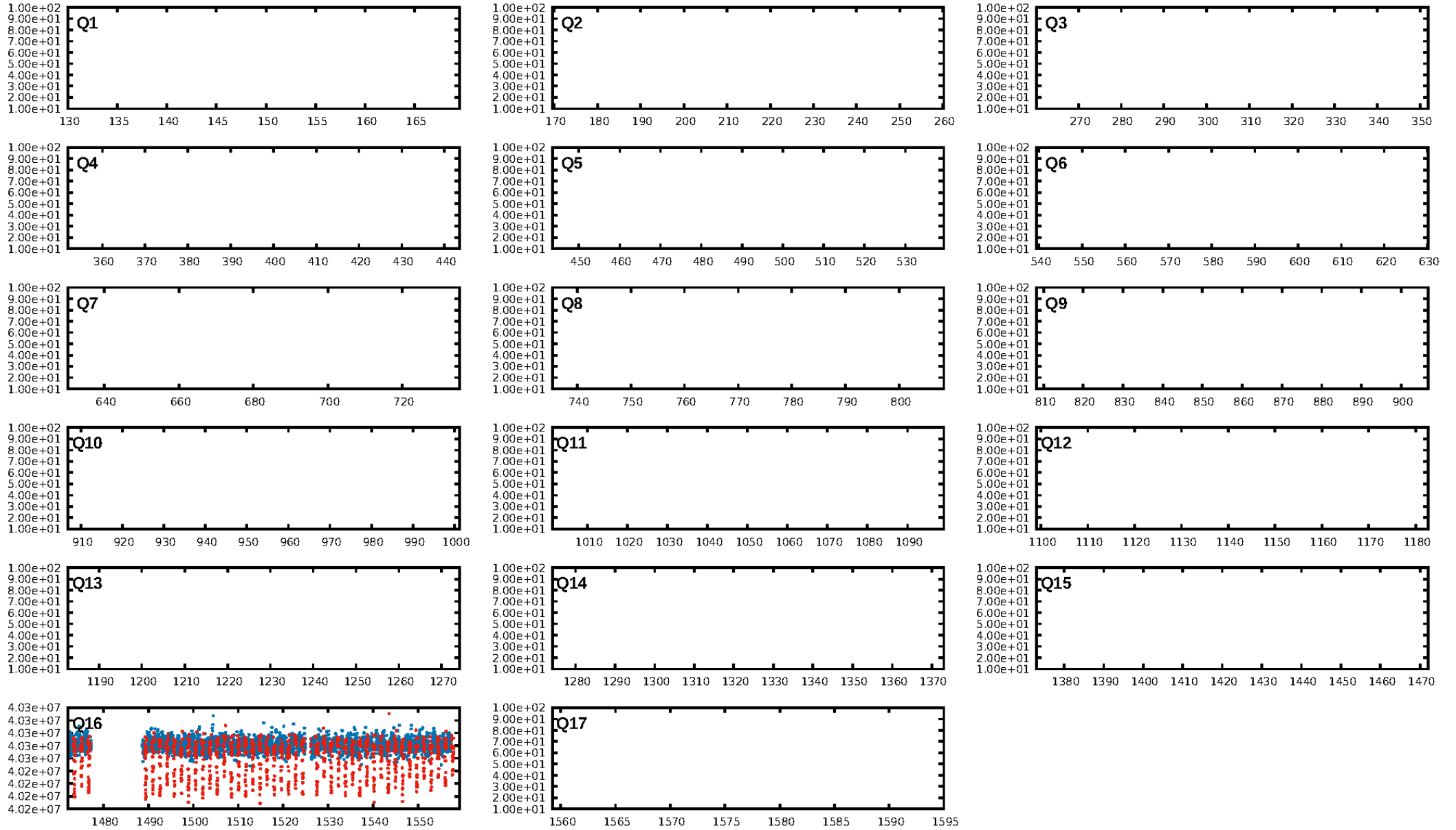
DV Fit Results:

Period = 1.58740 [0.00000] d
Epoch = 132.2094 [0.0016] BKJD
Rp/R* = 0.0422 [0.0007]
a/R* = 1.27 [0.01]
b = 0.95 [0.00]
Seff = 2357.94 [2279.14]
Teq = 1777 [429] K
Rp = 7.45 [3.79] Re
a = 0.0261 [0.0146] AU
Ag = 0.10 [0.14] [-6.46σ]
Teffp = 1534 [416] K [-0.41σ]

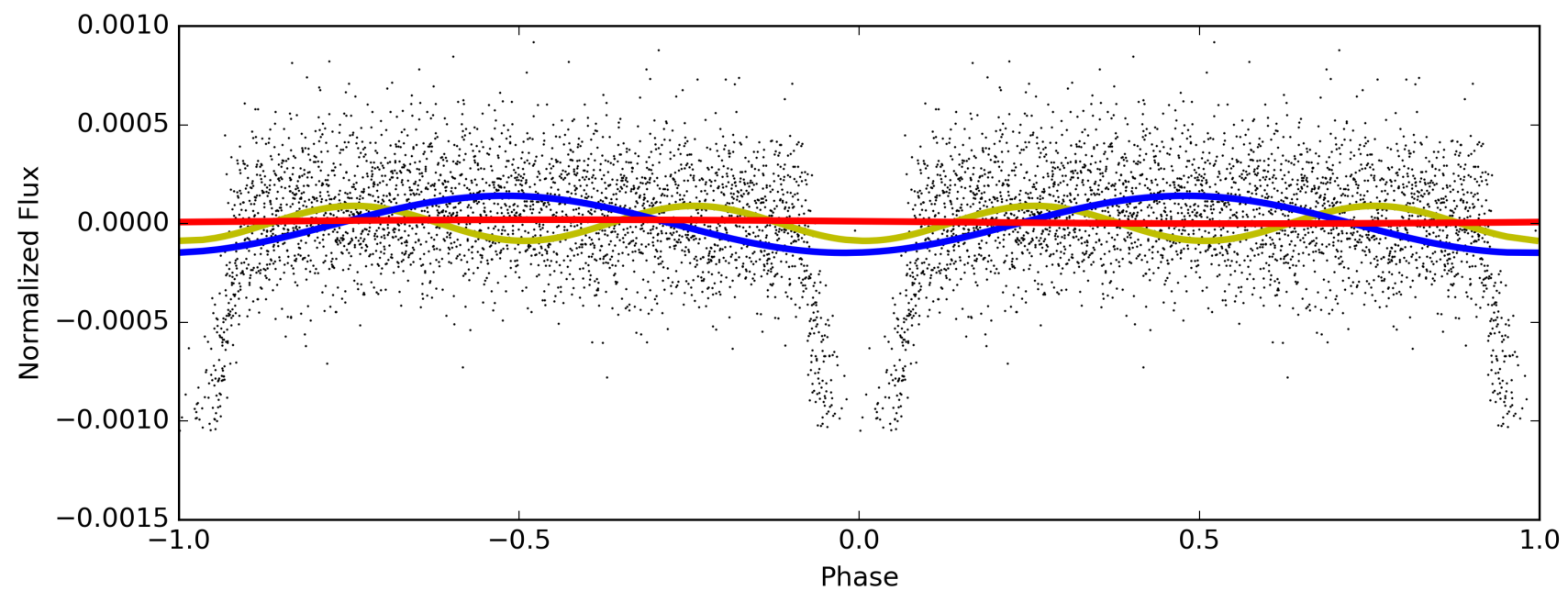
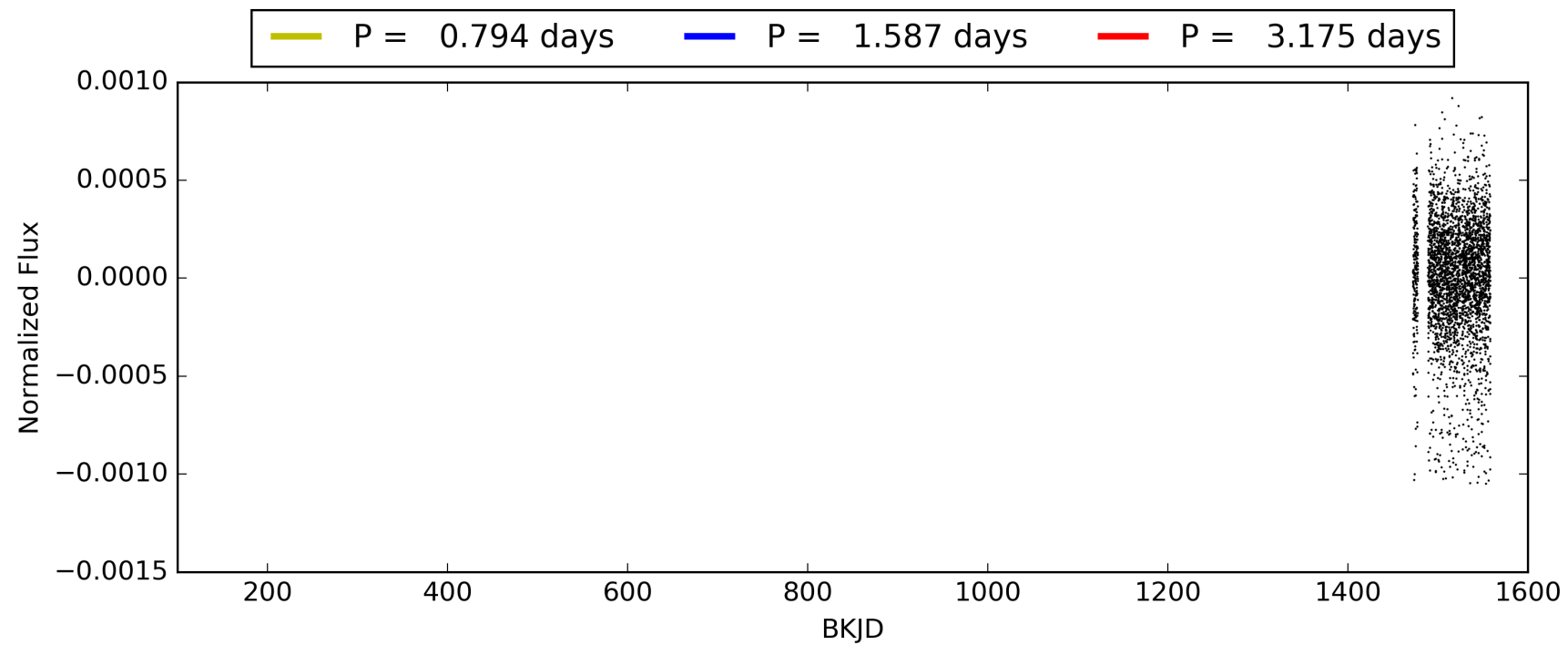
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [43/43]
GhostDiagnostic-chr: -0.8298
Centroid-sig: 0.0%
Centroid-so: 110.507 arcsec [170.72σ]
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]

TCE 008016211-01, PDC Light Curves

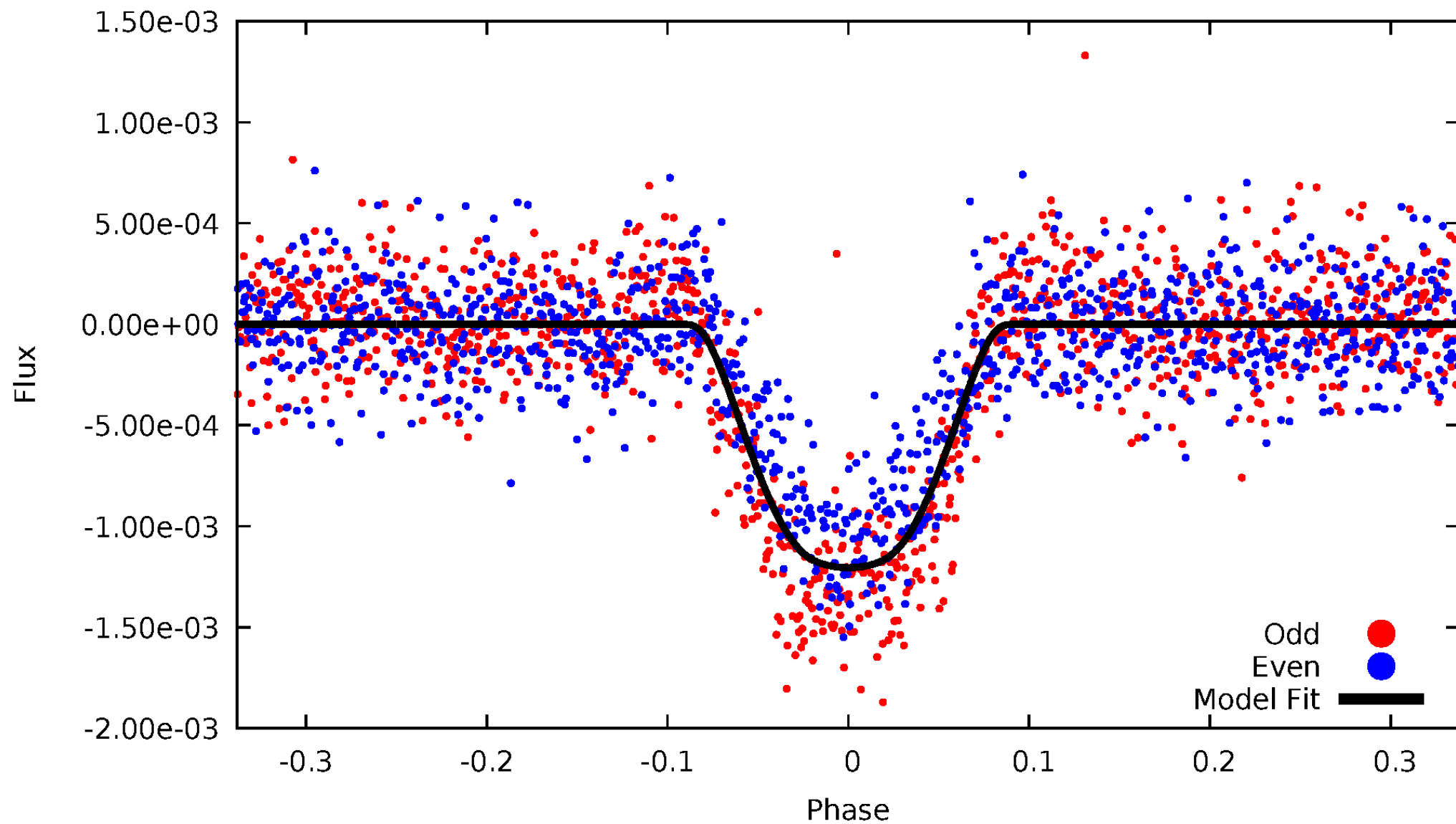


TCE 008016211-01



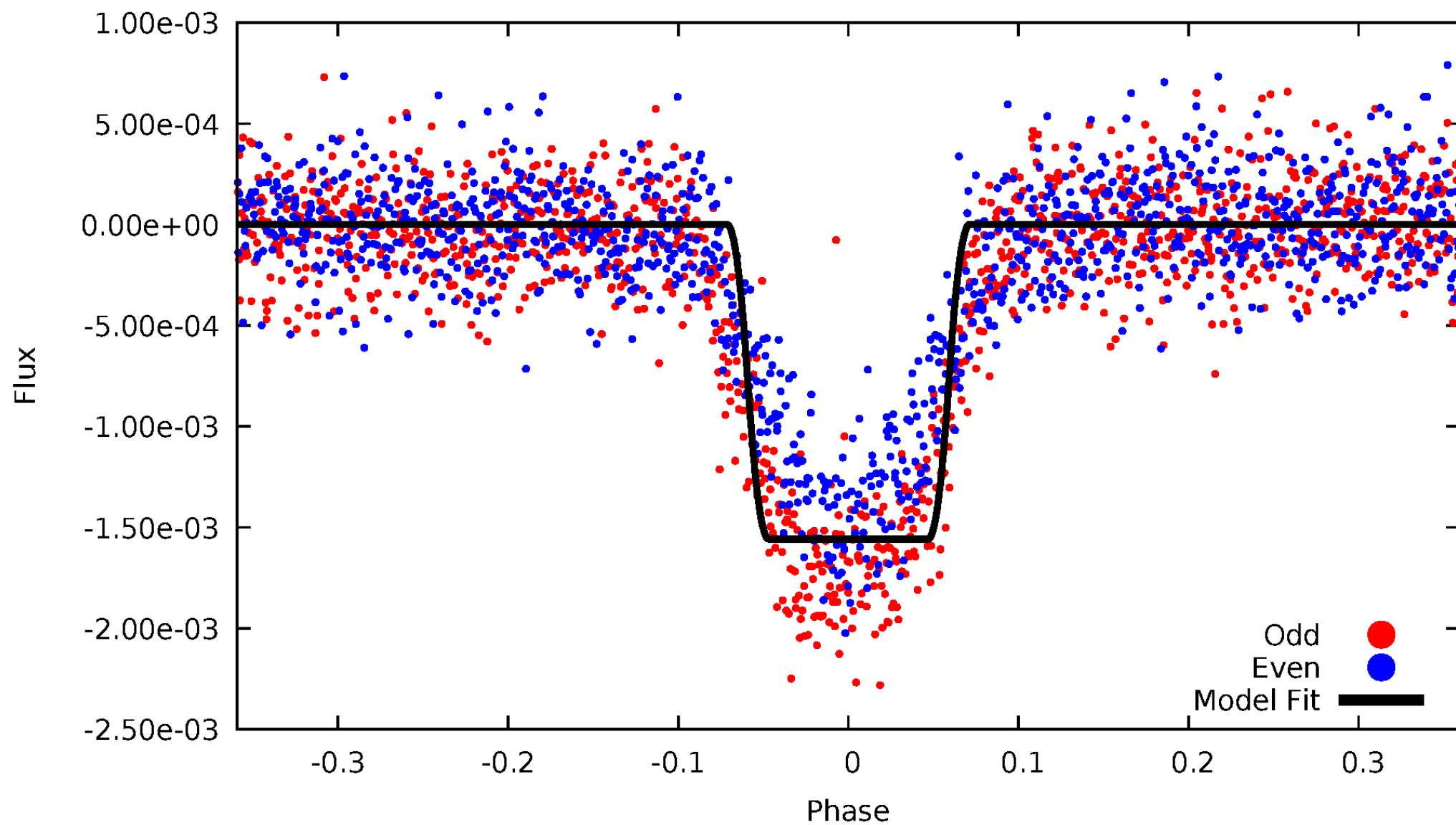
DV Odd/Even

TCE 008016211-01



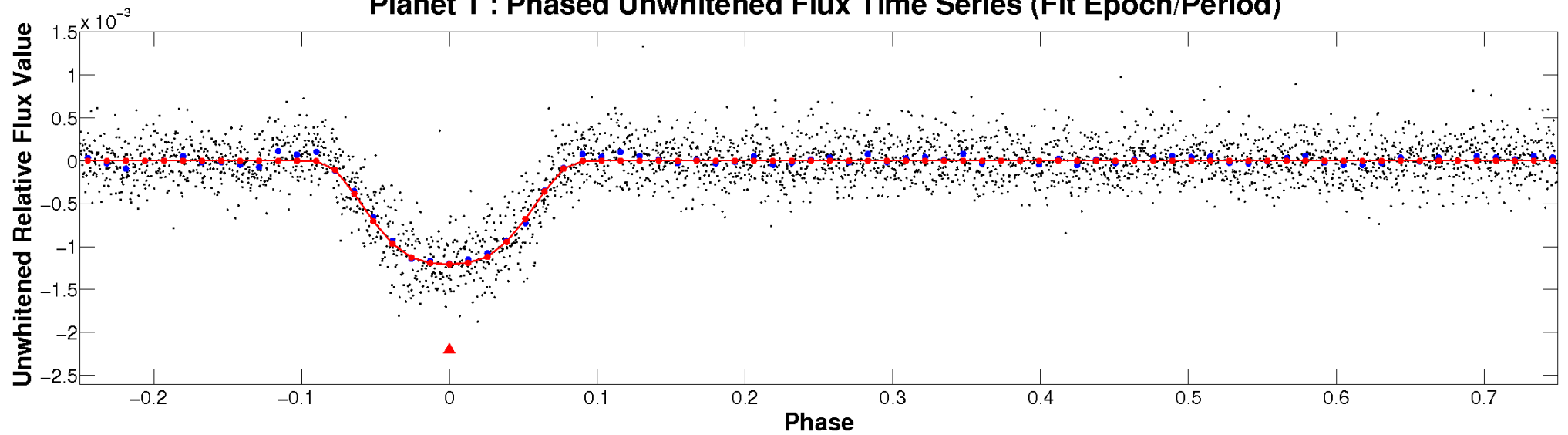
ALT Odd/Even

TCE 008016211-01

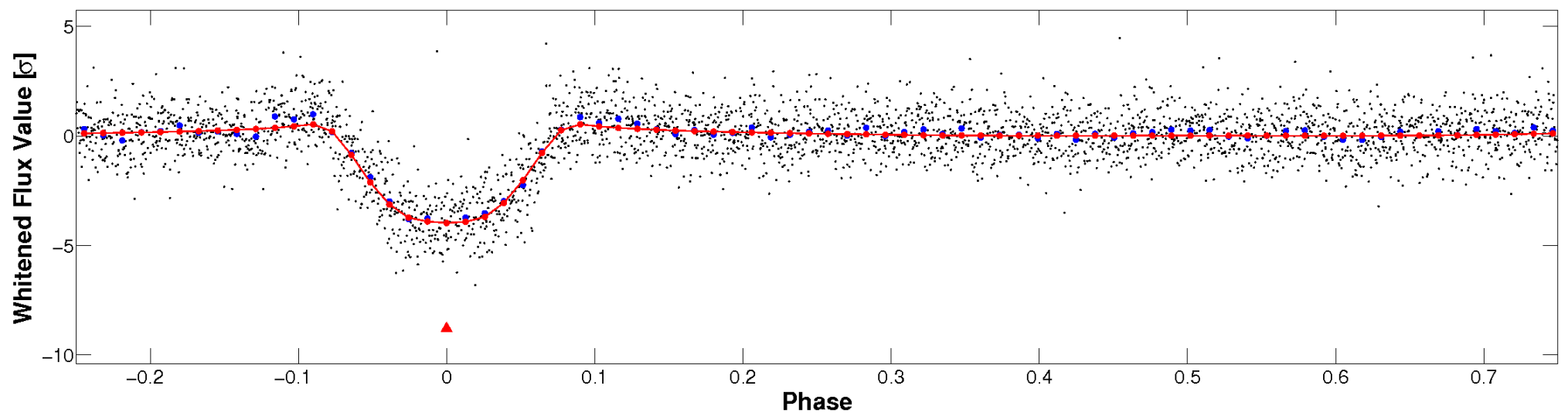


Non-Whitened Vs. Whitened Light Curve

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

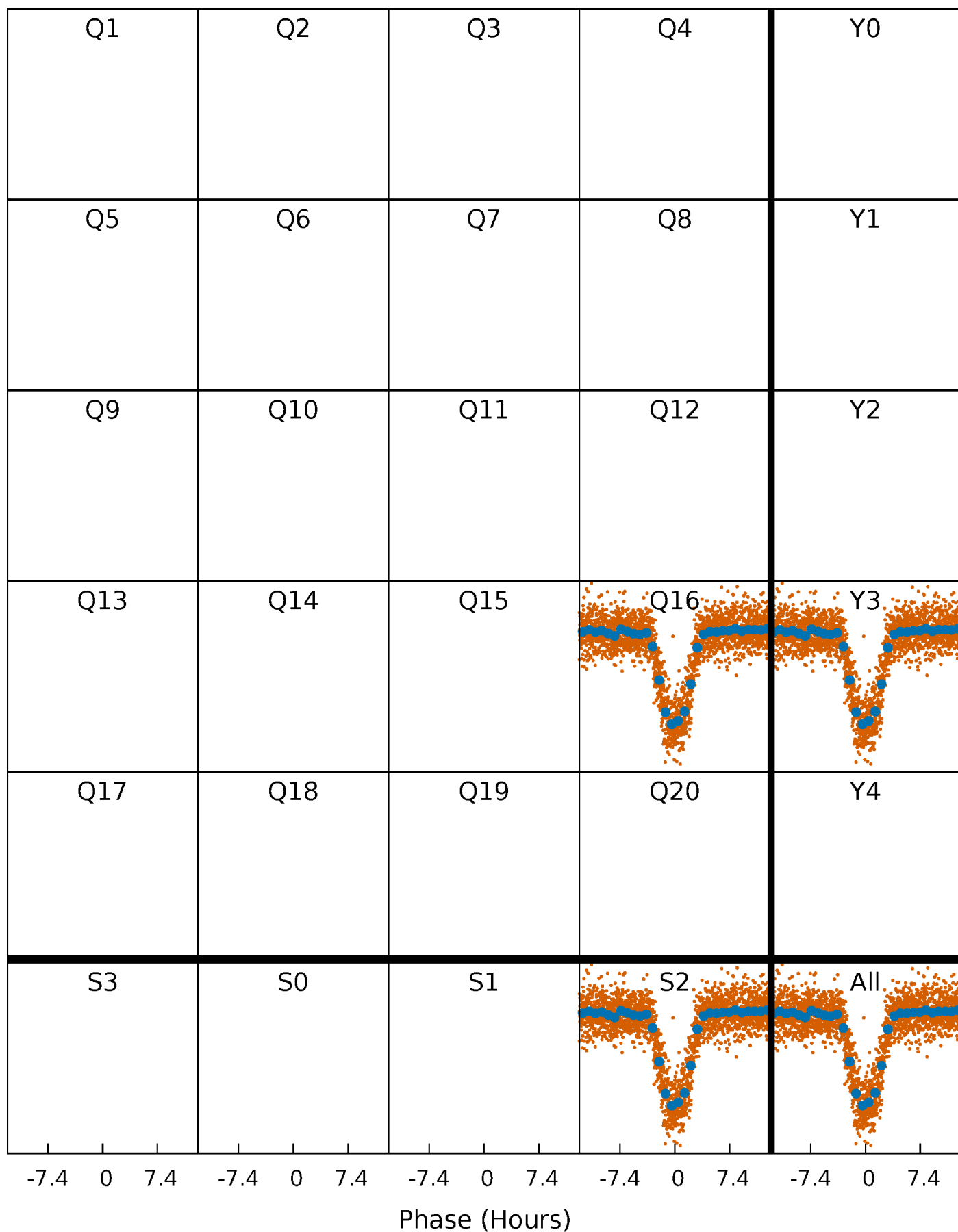


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



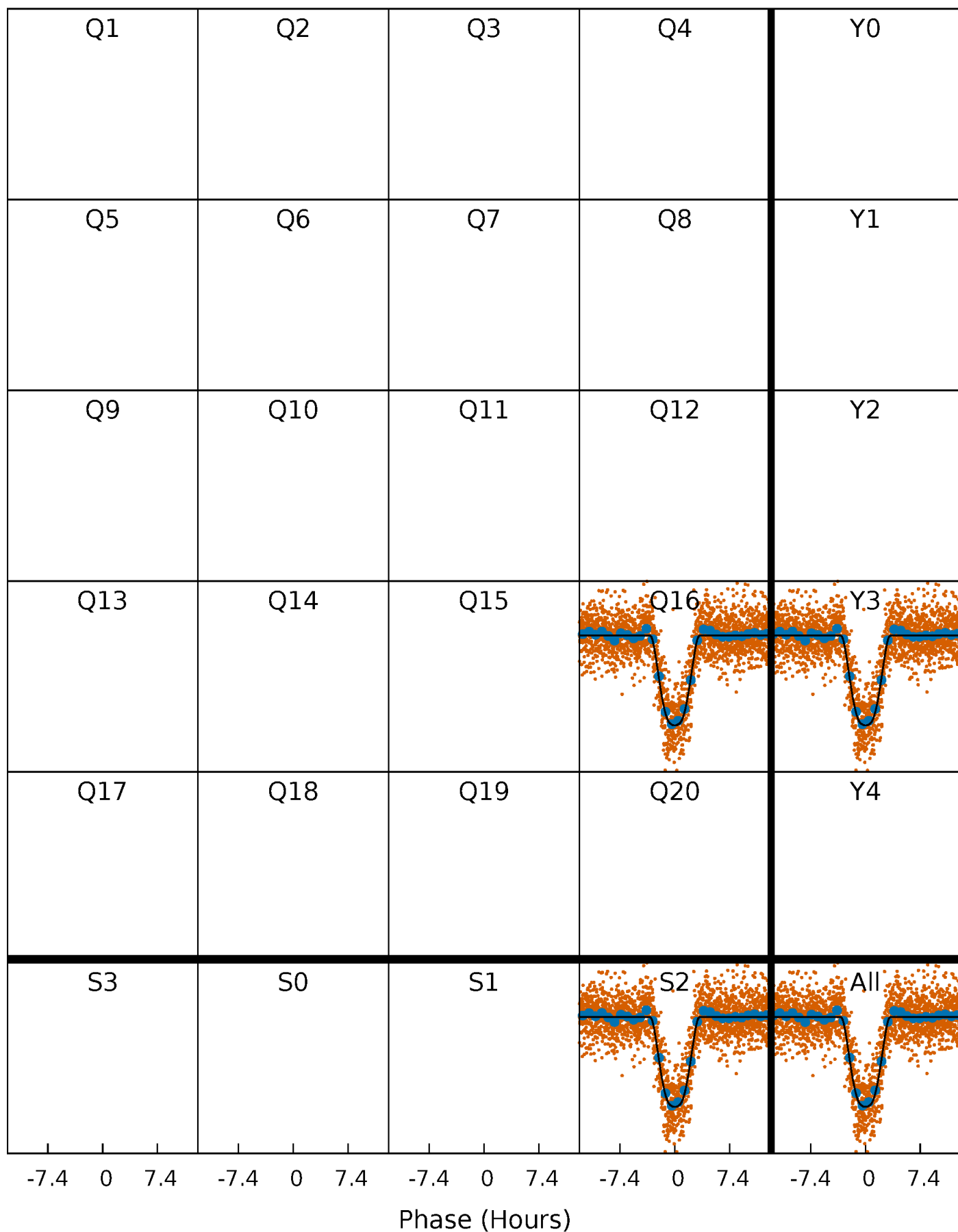
PDC Quarter-Phased Transit Curves

TCE 008016211-01 P= 1.587398 Days $T_0=132.209415$ (BKJD)



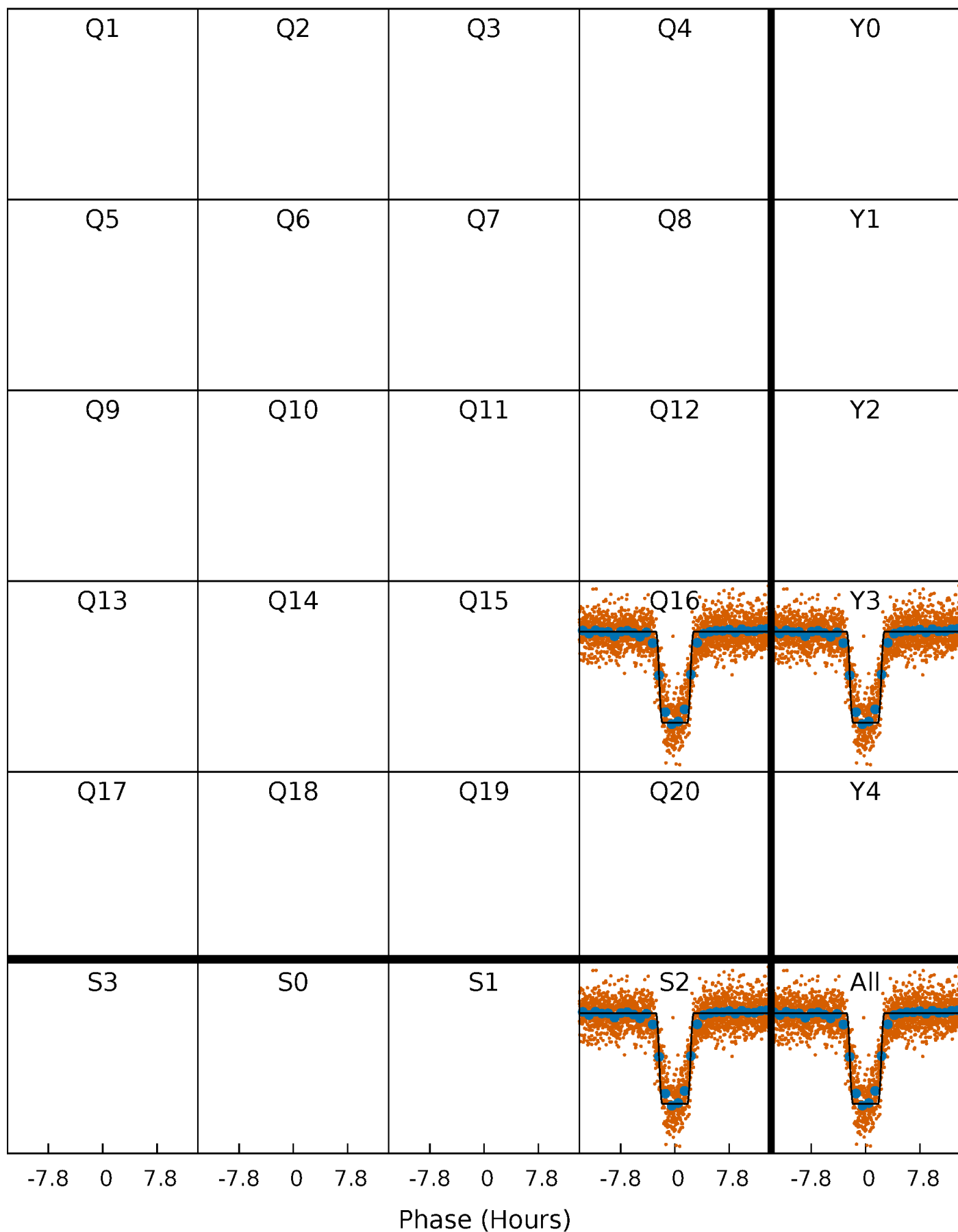
DV Quarter-Phased Transit Curves

TCE 008016211-01 P= 1.587398 Days $T_0=132.209415$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

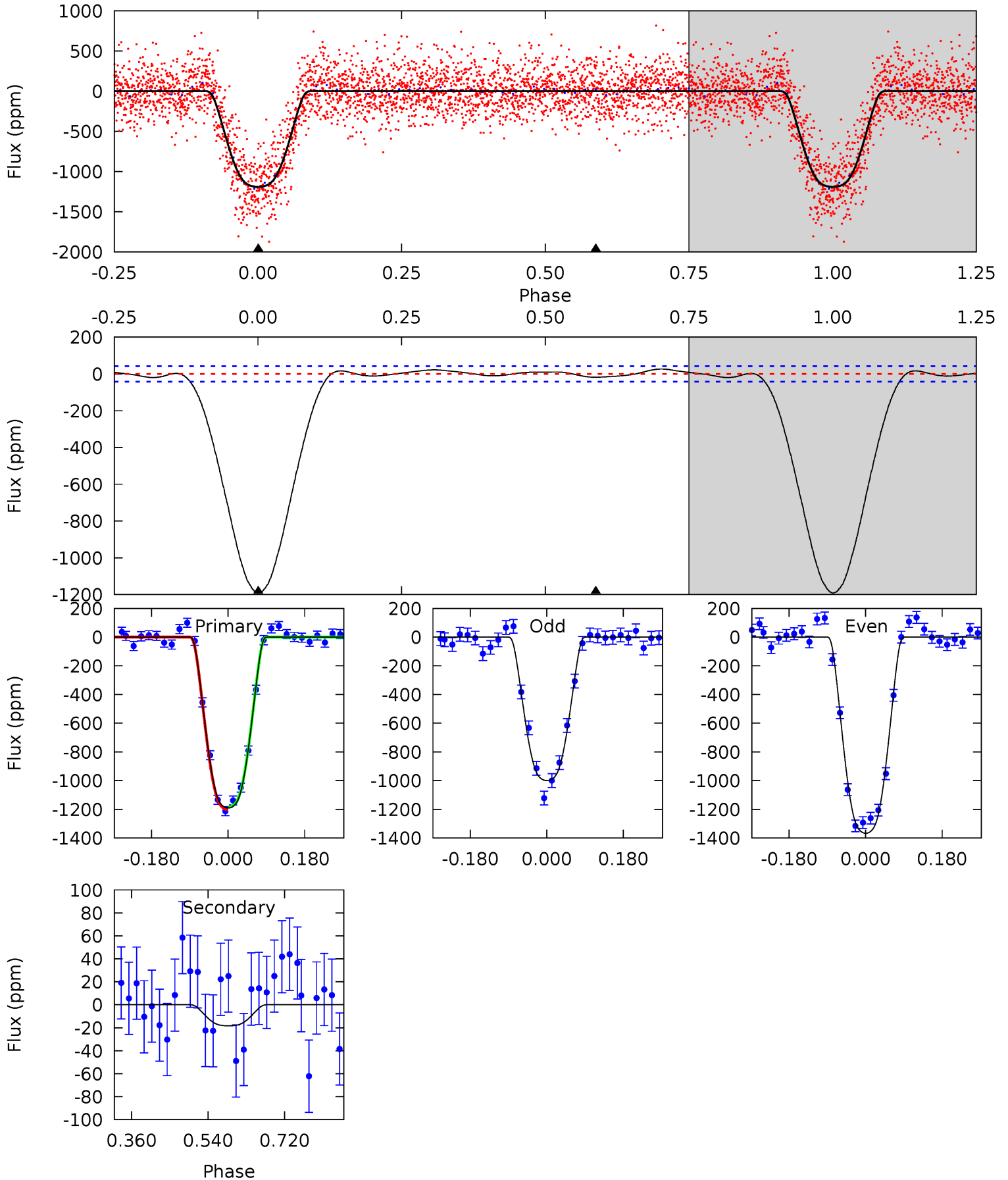
TCE 008016211-01 P= 1.587576 Days $T_0=132.055438$ (BKJD)



DV Model-Shift Uniqueness Test

008016211-01, P = 1.587398 Days, E = 132.209415 Days

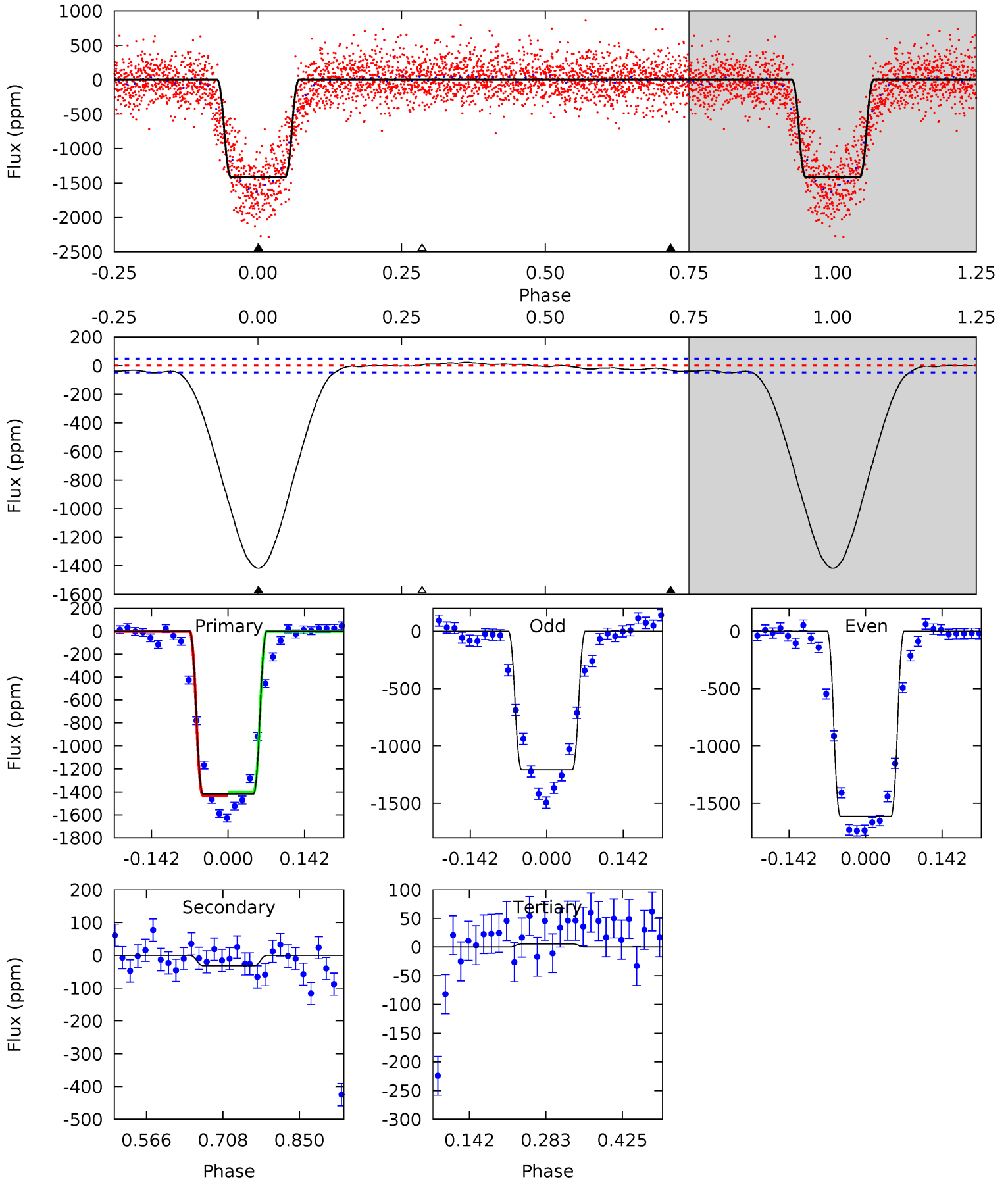
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
124.8	1.92	0	0	4.44	1.34	1.28	124.8	124.8	1.92	1.92	19.1	1.00	0.02	0.96



Alt Model-Shift Uniqueness Test

008016211-01, P = 1.587576 Days, E = 132.055438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
132.0	2.95	-0.50	0	4.49	1.47	1.02	132.5	132.0	3.45	2.95	18.8	1.00	0.02	1.30



Stellar Parameters For KIC 008016211

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5116^{+197}_{-179}	$3.994^{+0.581}_{-0.290}$	$0.220^{+0.200}_{-0.250}$	$1.619^{+0.824}_{-0.741}$	$0.944^{+0.124}_{-0.112}$	$0.313^{+1.988}_{-0.212}$
	+4%/-3%	+15%/-7%	+91%/-114%	+51%/-46%	+13%/-12%	+634%/-68%
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 008016211-01 / KOI 5460.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 10	$7.21^{+2.13}_{-1.89}$	2450^{+324}_{-359}	-2540^{+665}_{-277}	$0.127^{+0.151}_{-0.075}$
Alt.	-32 ± 11	$6.85^{+1.82}_{-1.71}$	2448^{+339}_{-334}	-2235^{+4638}_{-436}	$0.244^{+0.222}_{-0.109}$

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 $A_{obs} \gg 1.0$

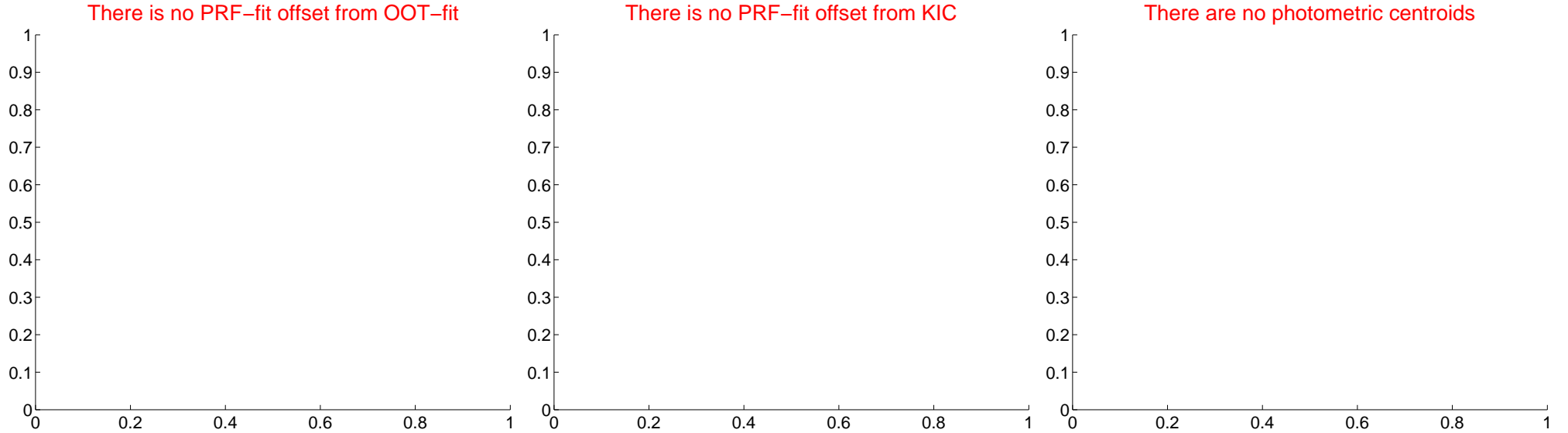
DV Centroid Data

Supplemental centroid analysis for 008016211-01. Kepler magnitude: 14.39. Transit SNR 62.08

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	—	—	—	—



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.



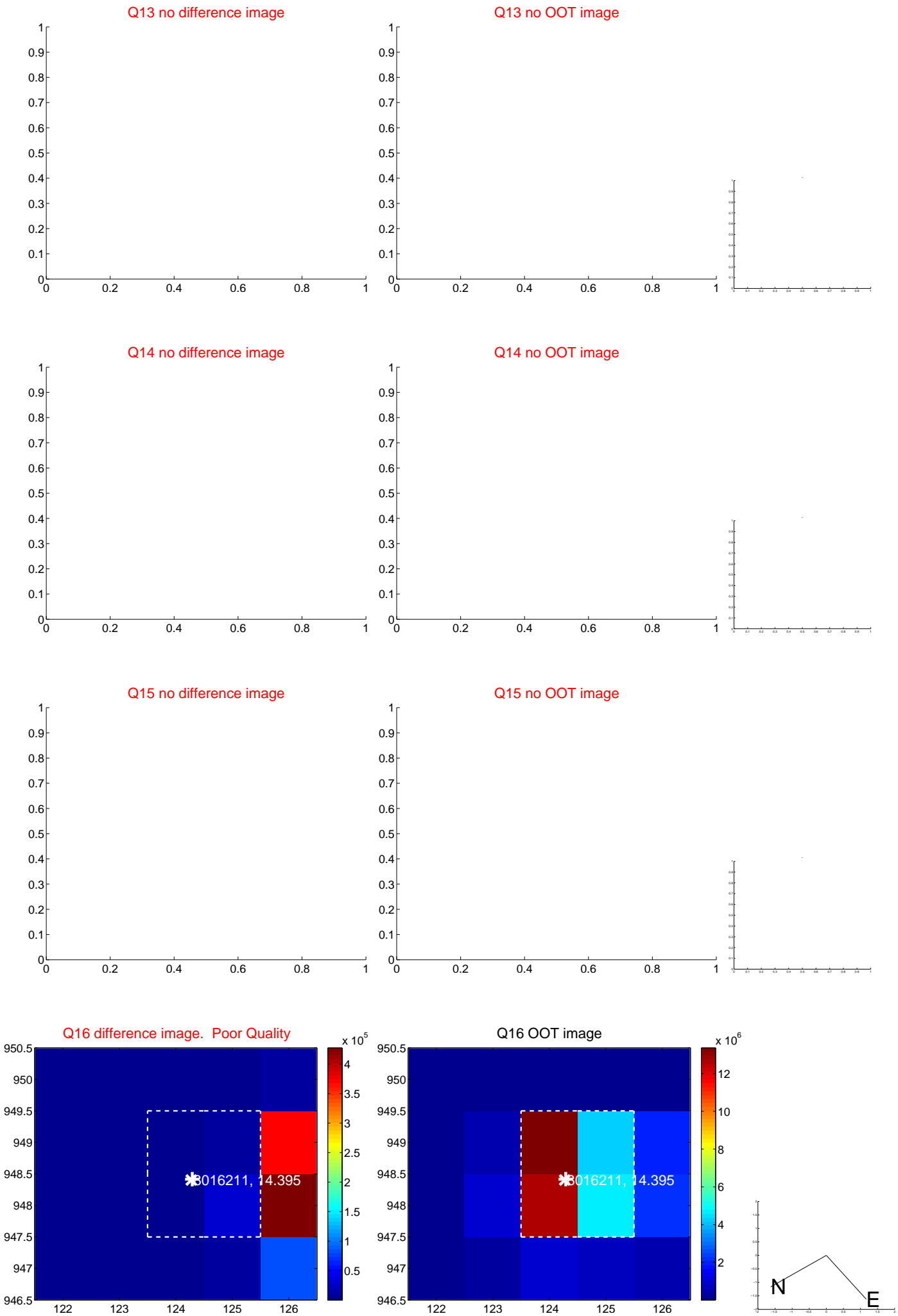
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



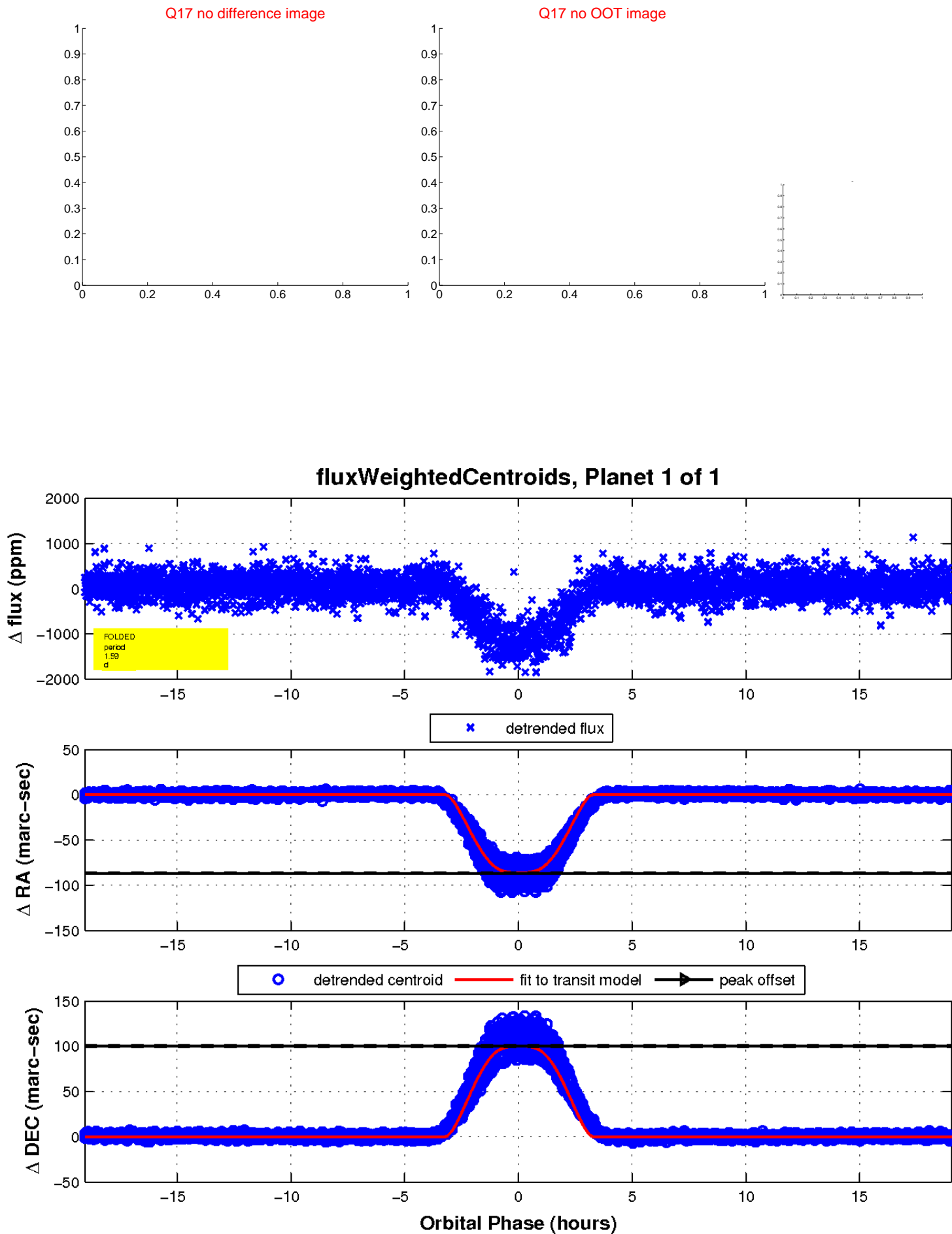
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

