

KIC 009418508

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})
009418508-01	OBS	5672.01	11.017904	140.364362	3349.4	2.600	37.7	37.5	1.68	5515	15.31	284.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009418508-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—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.

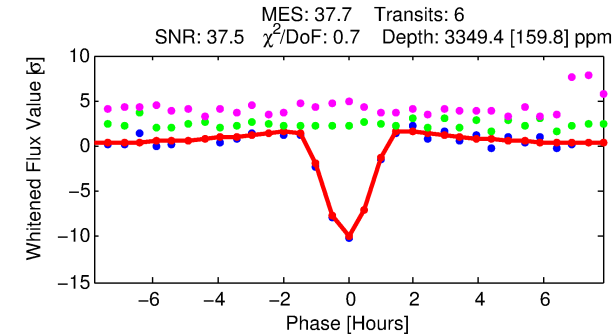
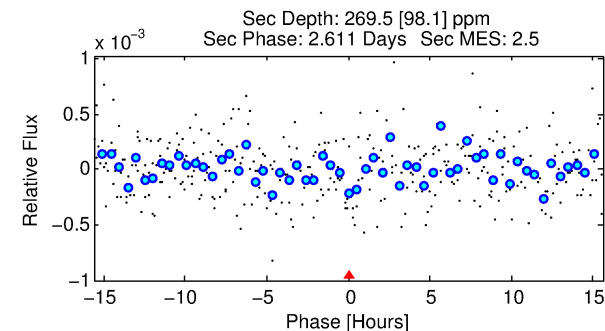
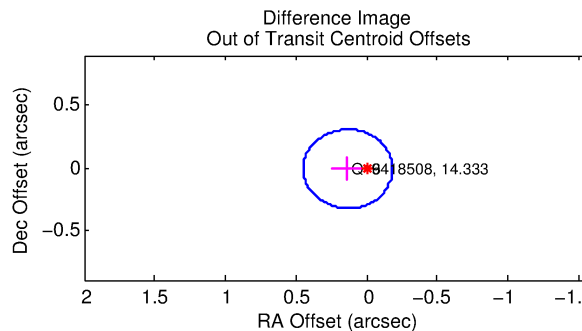
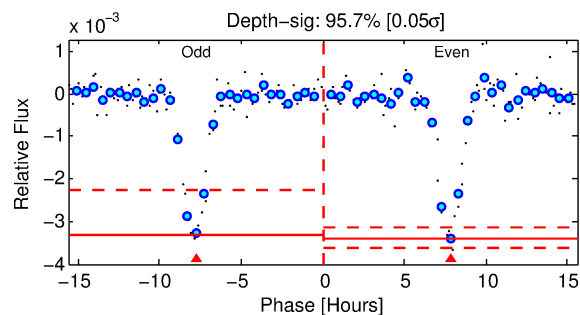
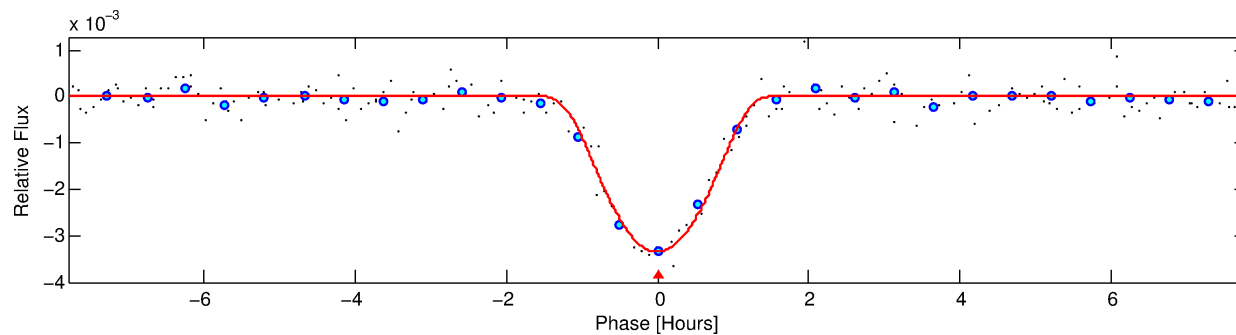
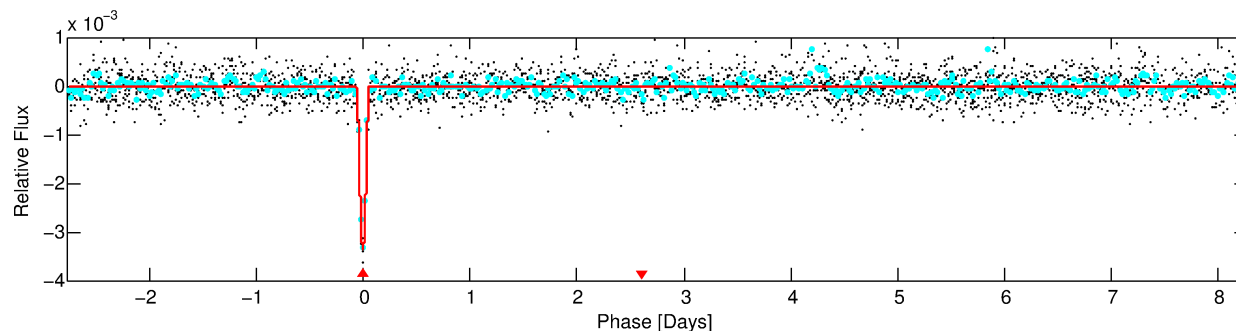
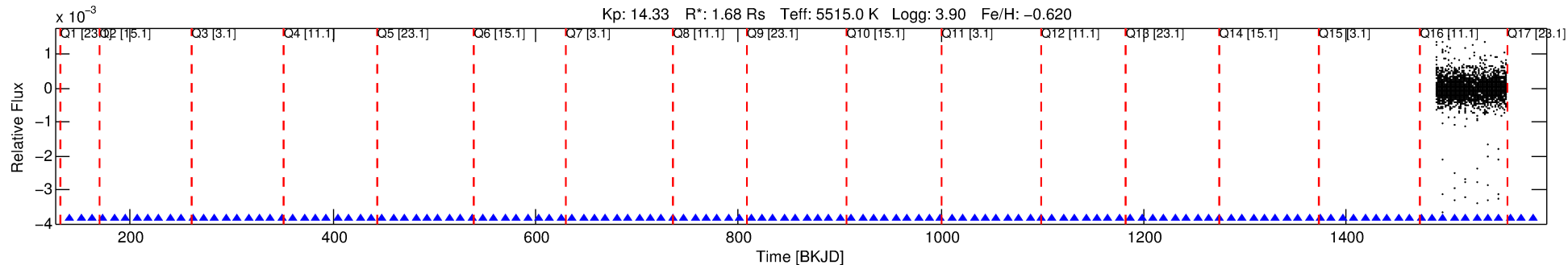
Ephemeris Match Information For 009418508-01

No Significant Match Found

DV One-Page Summary

KIC: 9418508 Candidate: 1 of 1 Period: 11.018 d
KOI: K05672 Corr: No Ephemeris Match

Kp: 14.33 R*: 1.68 Rs Teff: 5515.0 K Logg: 3.90 Fe/H: -0.620



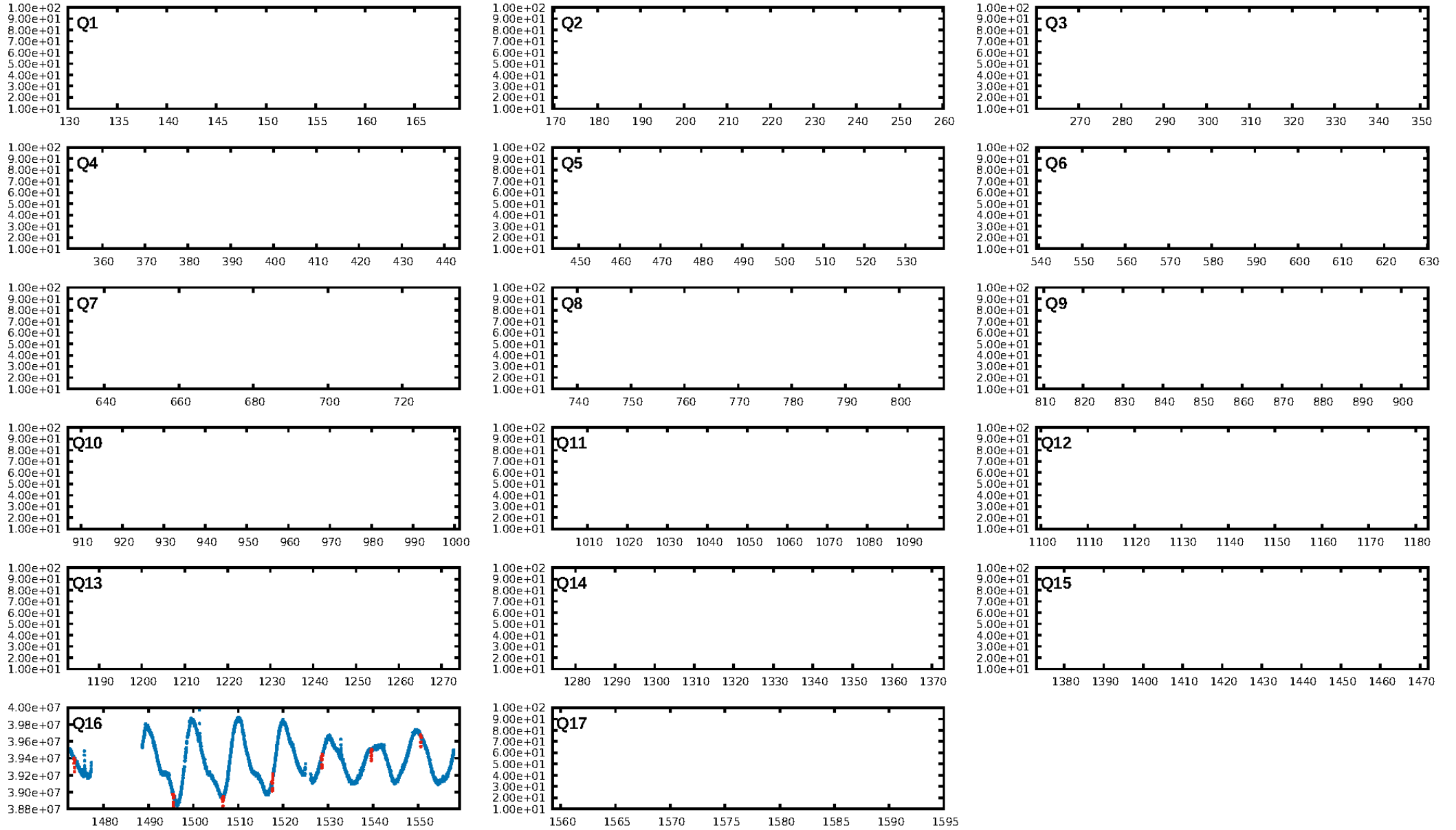
DV Fit Results:

Period = 11.01790 [0.00007] d
Epoch = 140.3644 [0.0079] BKJD
Rp/R* = 0.0836 [0.0647]
a/R* = 15.37 [4.05]
b = 0.97 [0.11]
Seff = 284.97 [329.94]
Teq = 1048 [303] K
Rp = 15.31 [15.04] Re
a = 0.0905 [0.0608] AU
Ag = 5.18 [10.16] [0.41σ]
Teffp = 2443 [976] K [1.37σ]

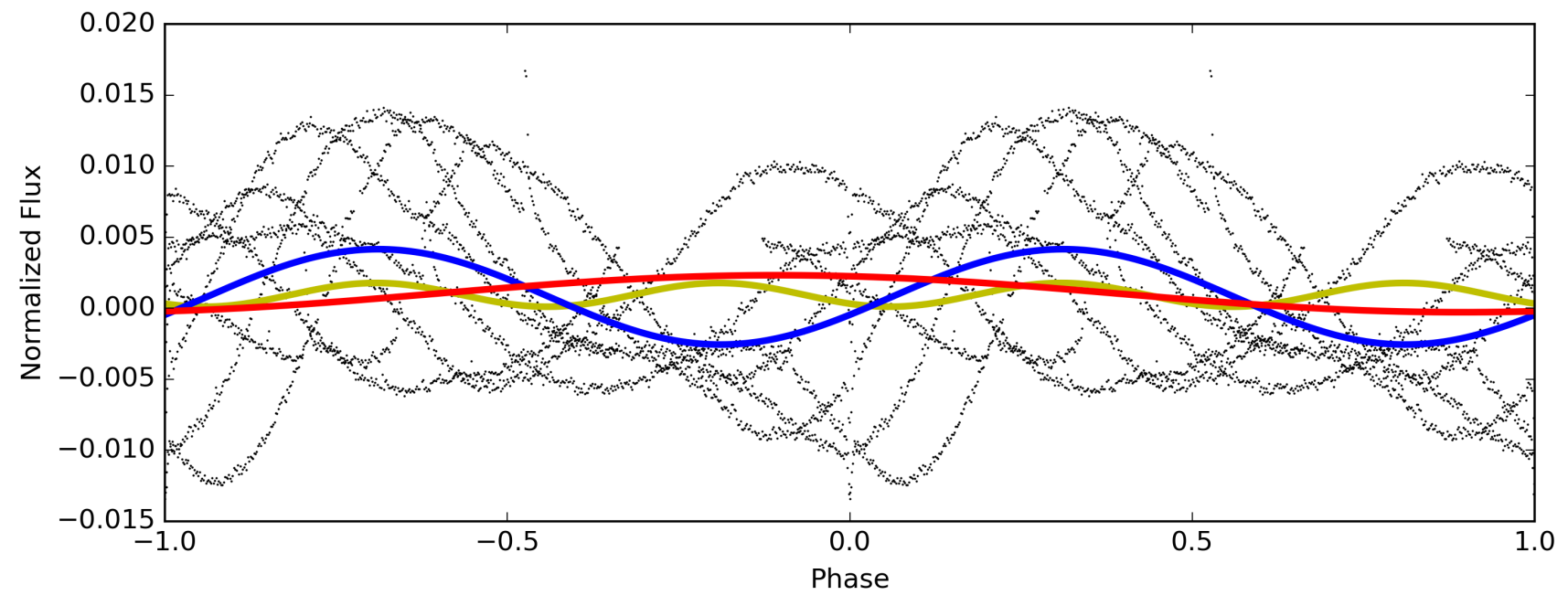
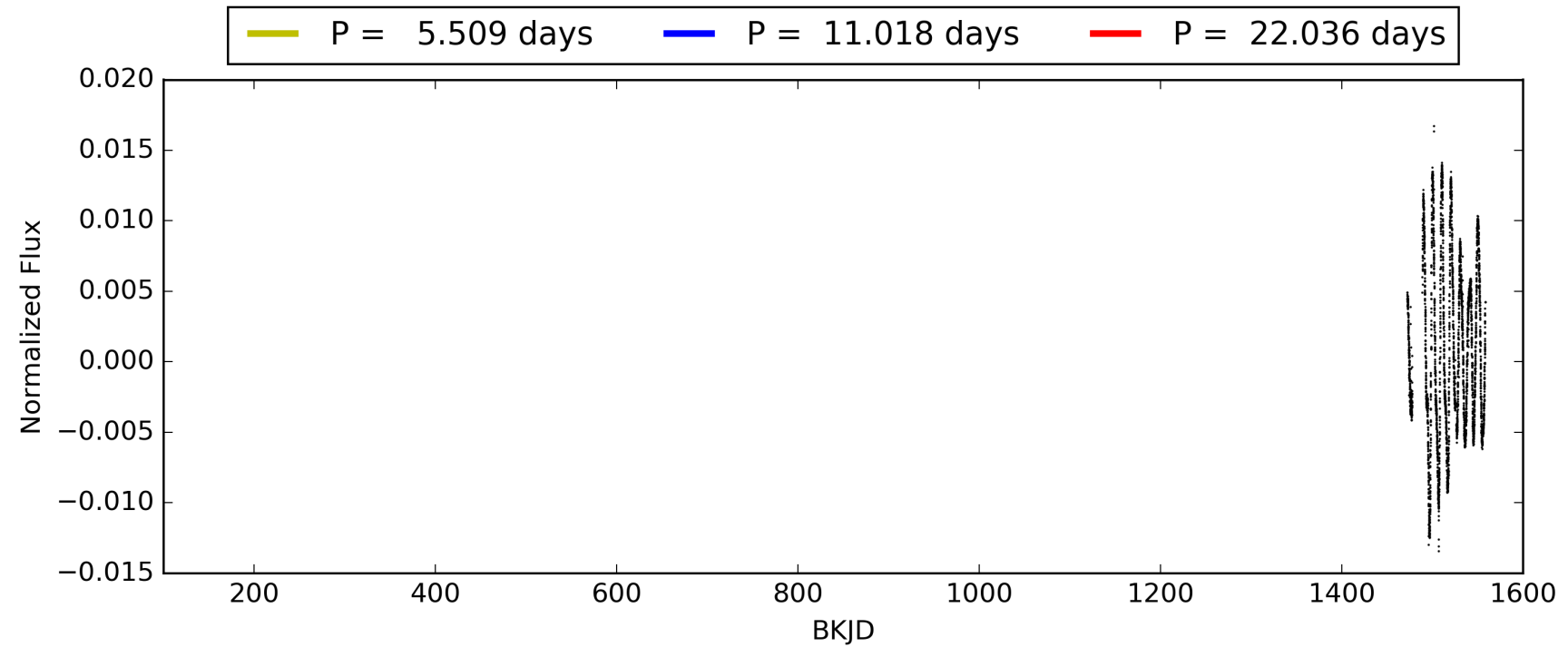
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 4.55e-303
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 2.069
Centroid-sig: 66.5%
Centroid-so: 0.242 arcsec [1.10σ]
OotOffset-rm: 0.135 arcsec [1.28σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 0.139 arcsec [1.38σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

TCE 009418508-01, PDC Light Curves

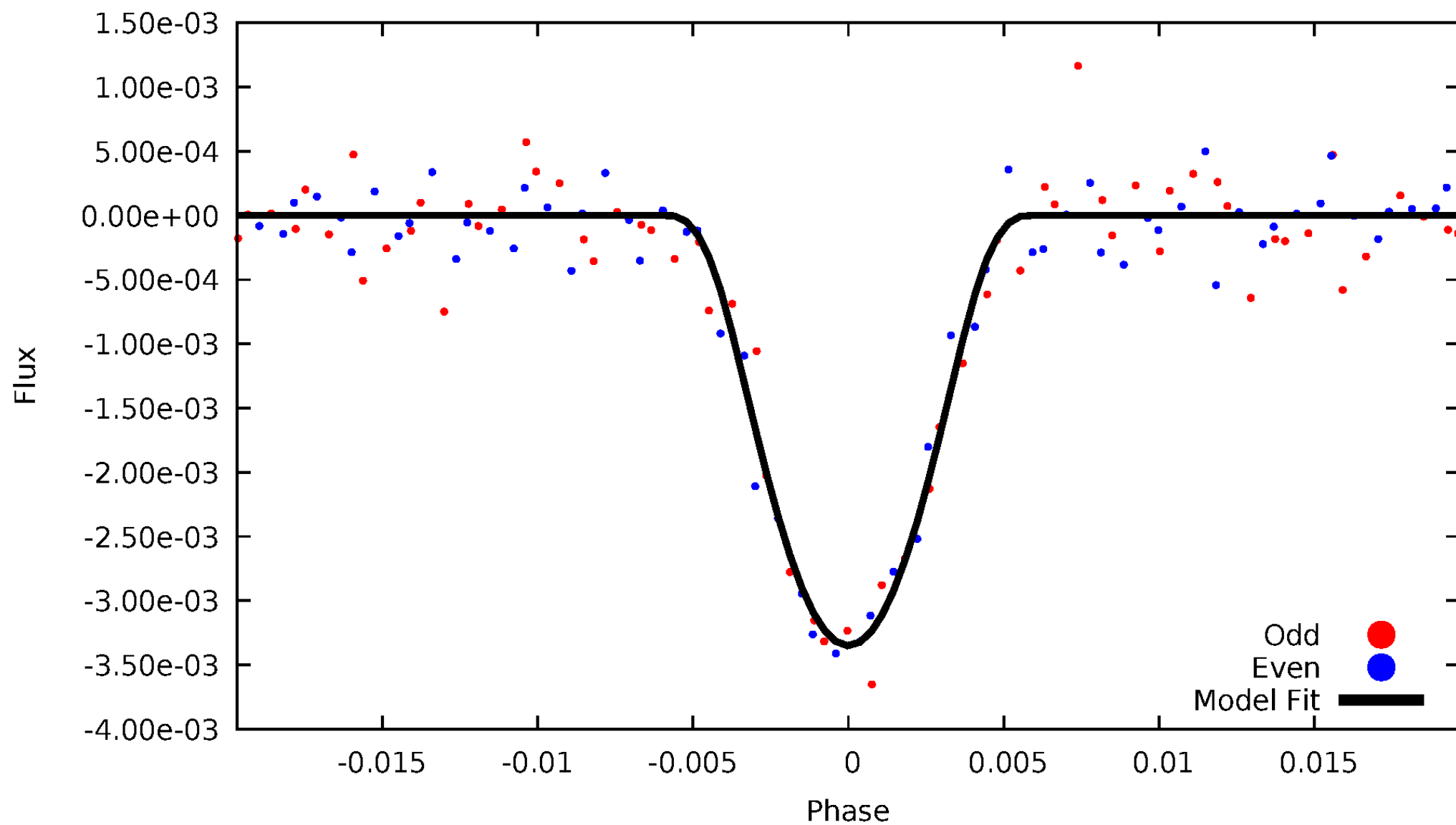


TCE 009418508-01



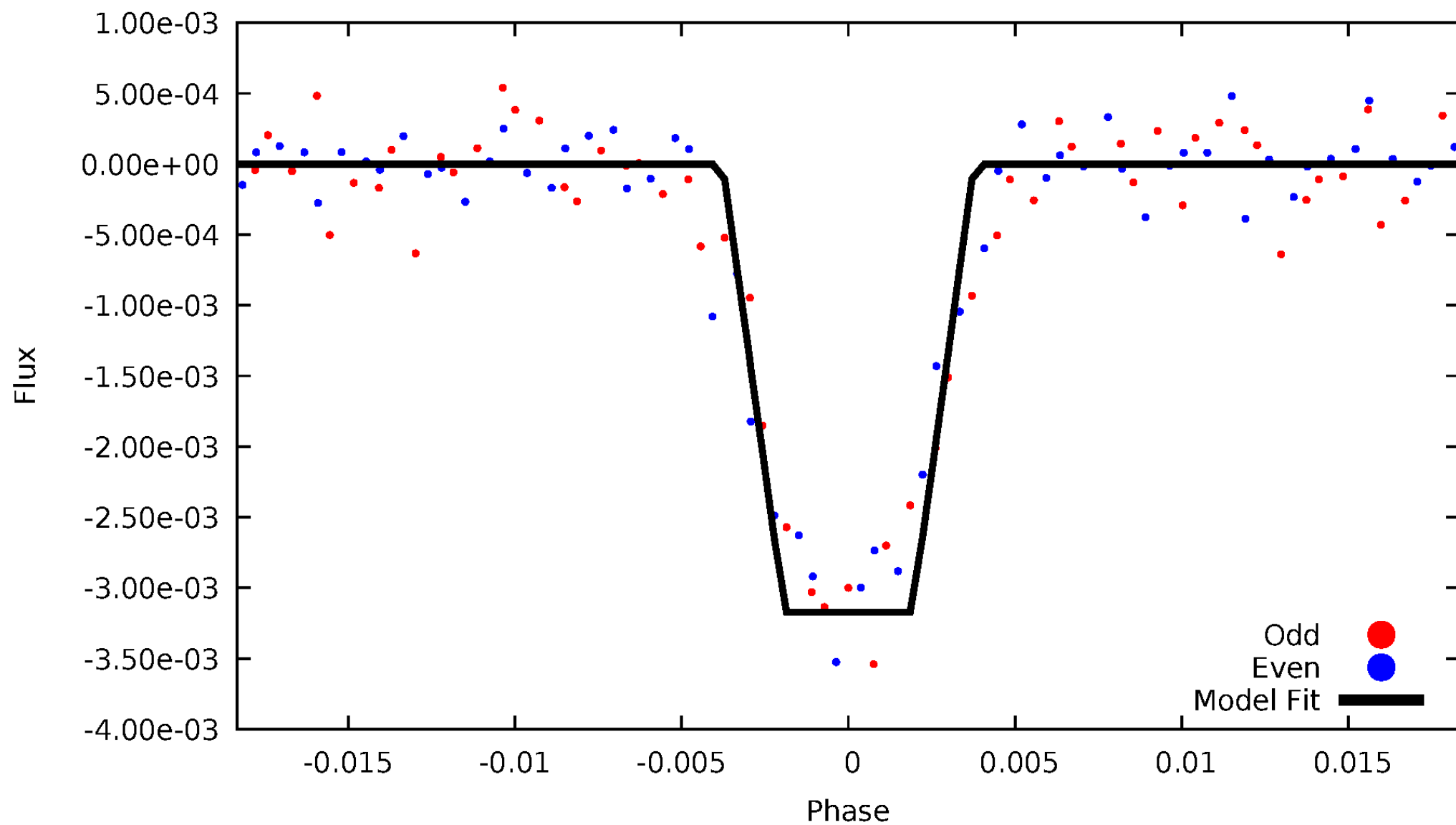
DV Odd/Even

TCE 009418508-01



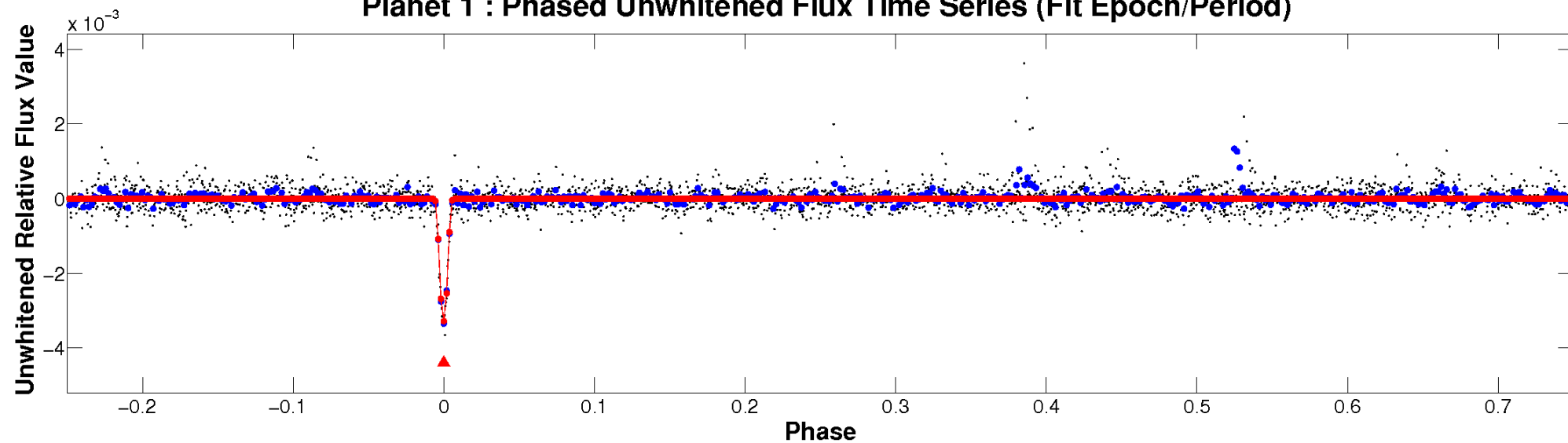
ALT Odd/Even

TCE 009418508-01

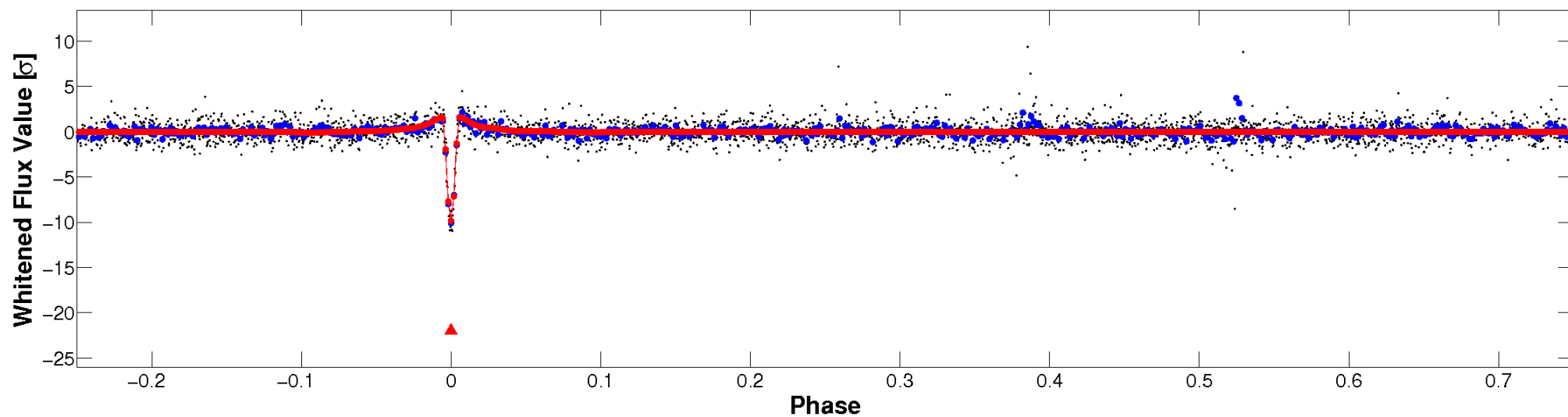


Non-Whitened Vs. Whitened Light Curve

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

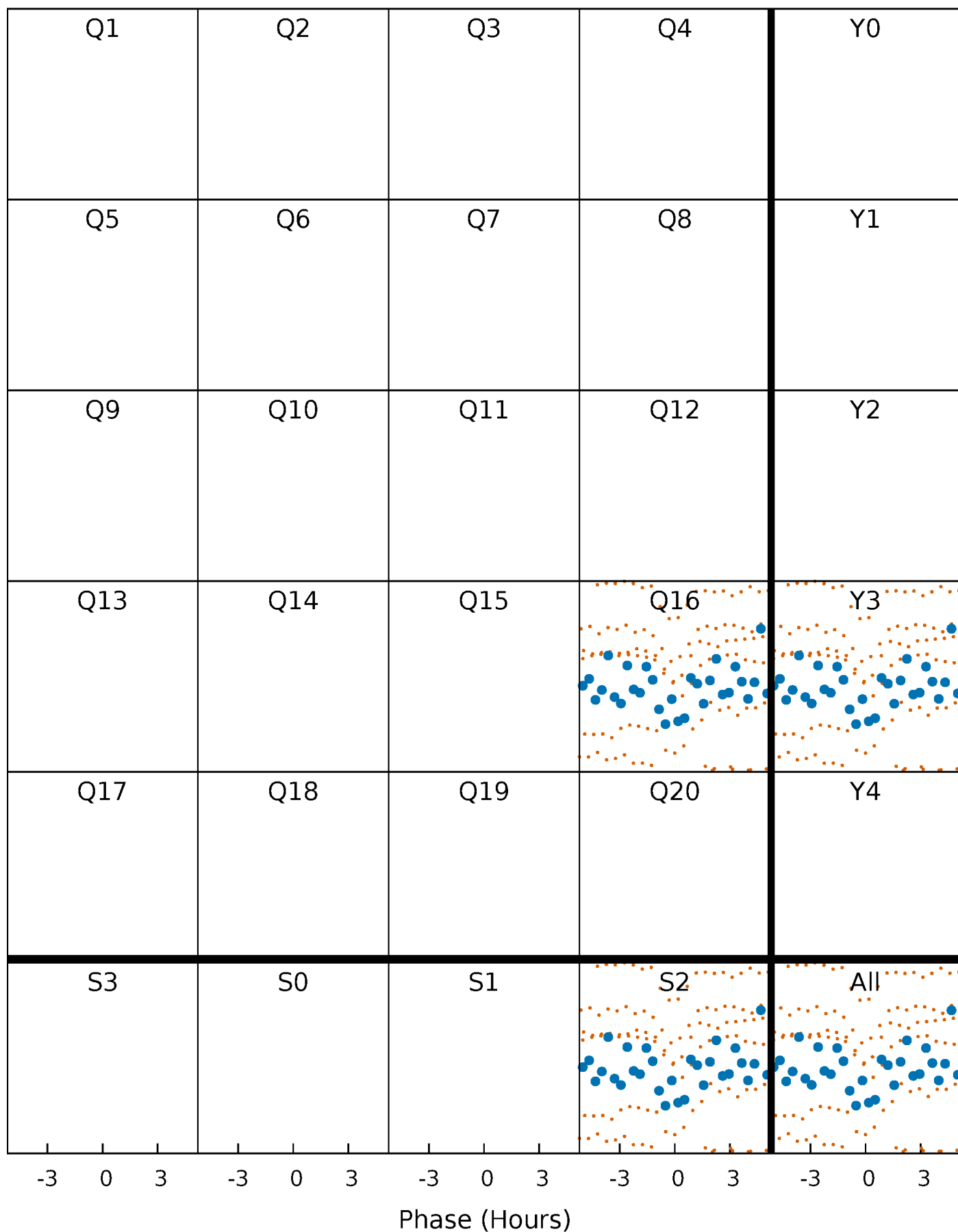


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



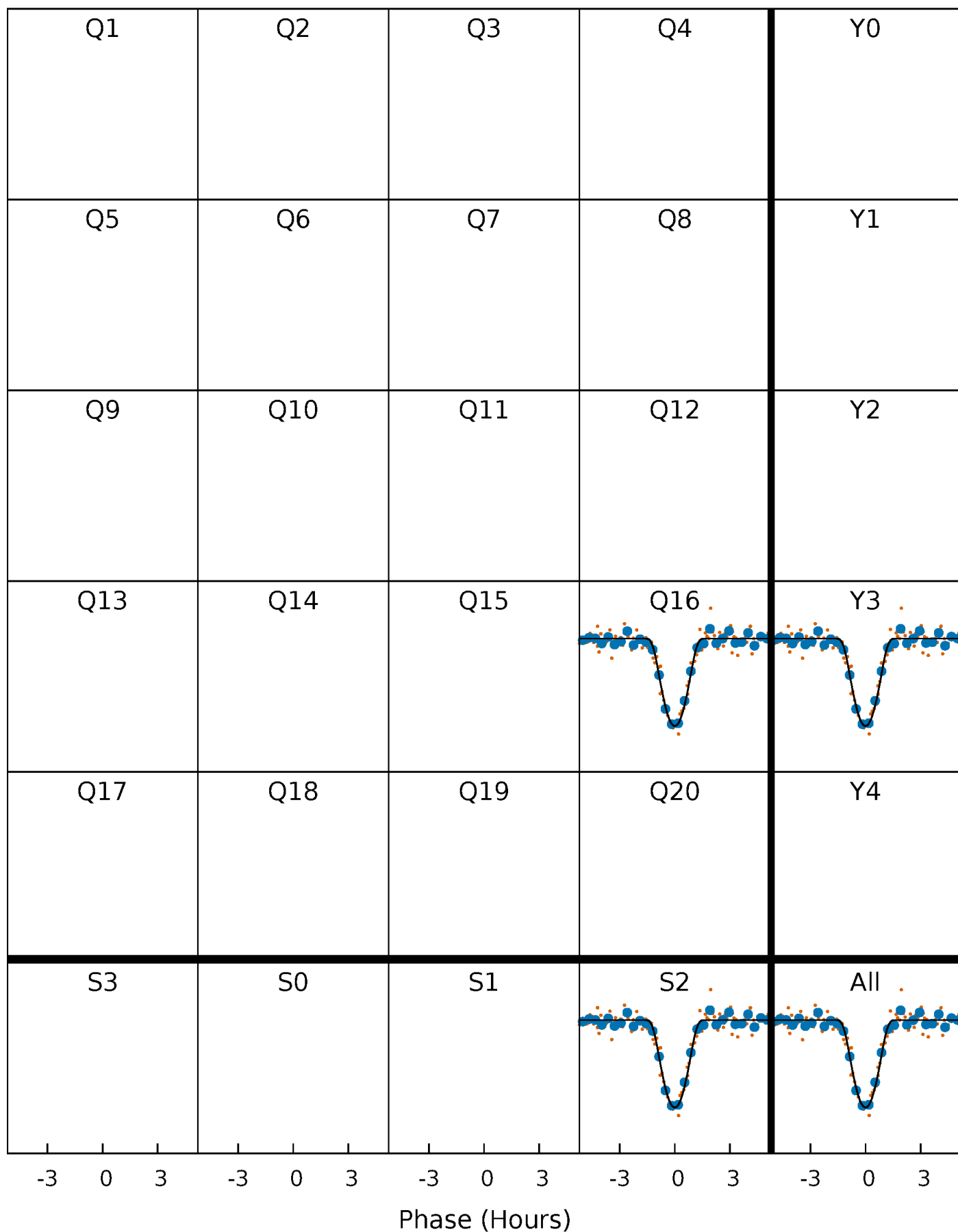
PDC Quarter-Phased Transit Curves

TCE 009418508-01 P= 11.017904 Days $T_0=140.364362$ (BKJD)



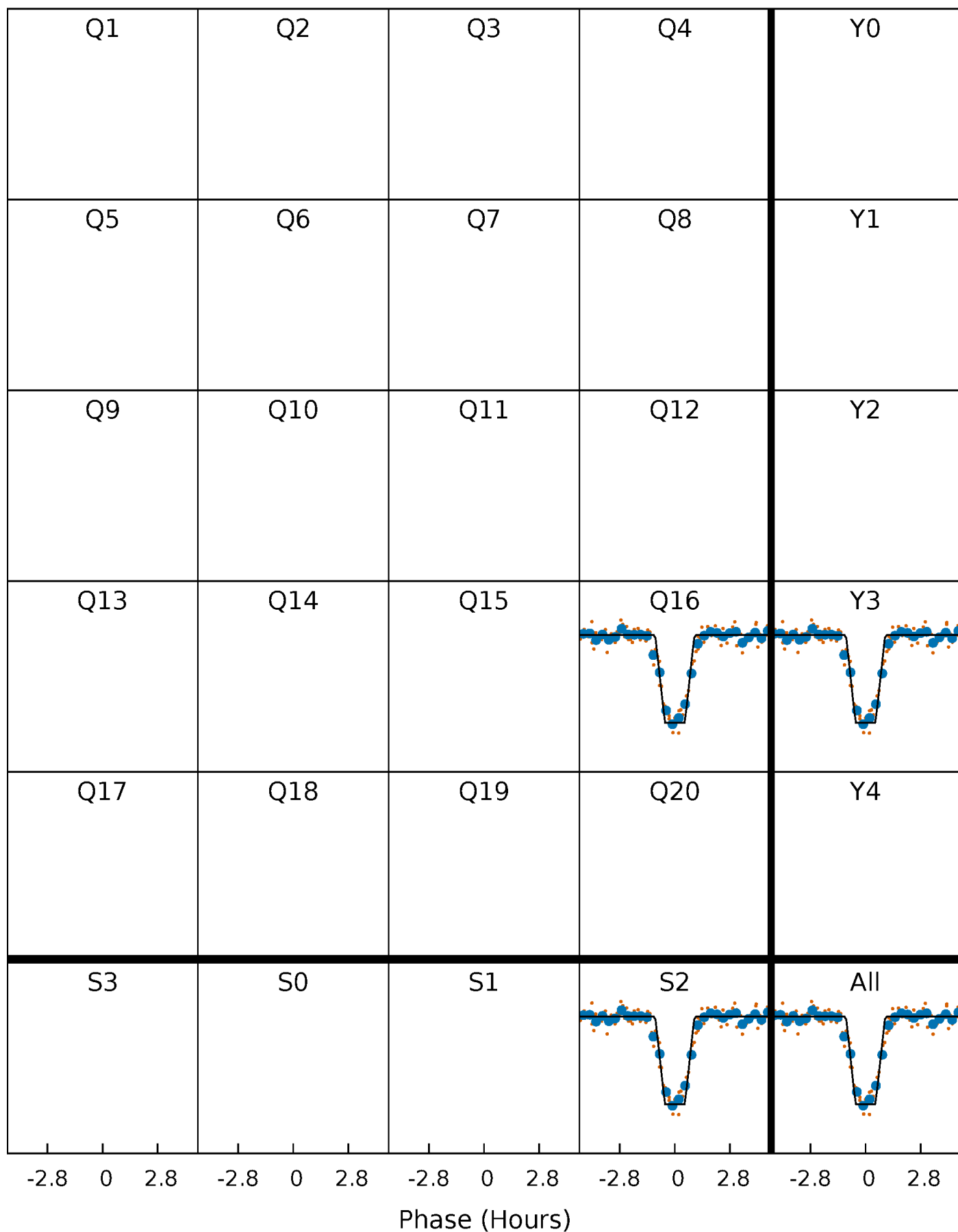
DV Quarter-Phased Transit Curves

TCE 009418508-01 P= 11.017904 Days $T_0=140.364362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

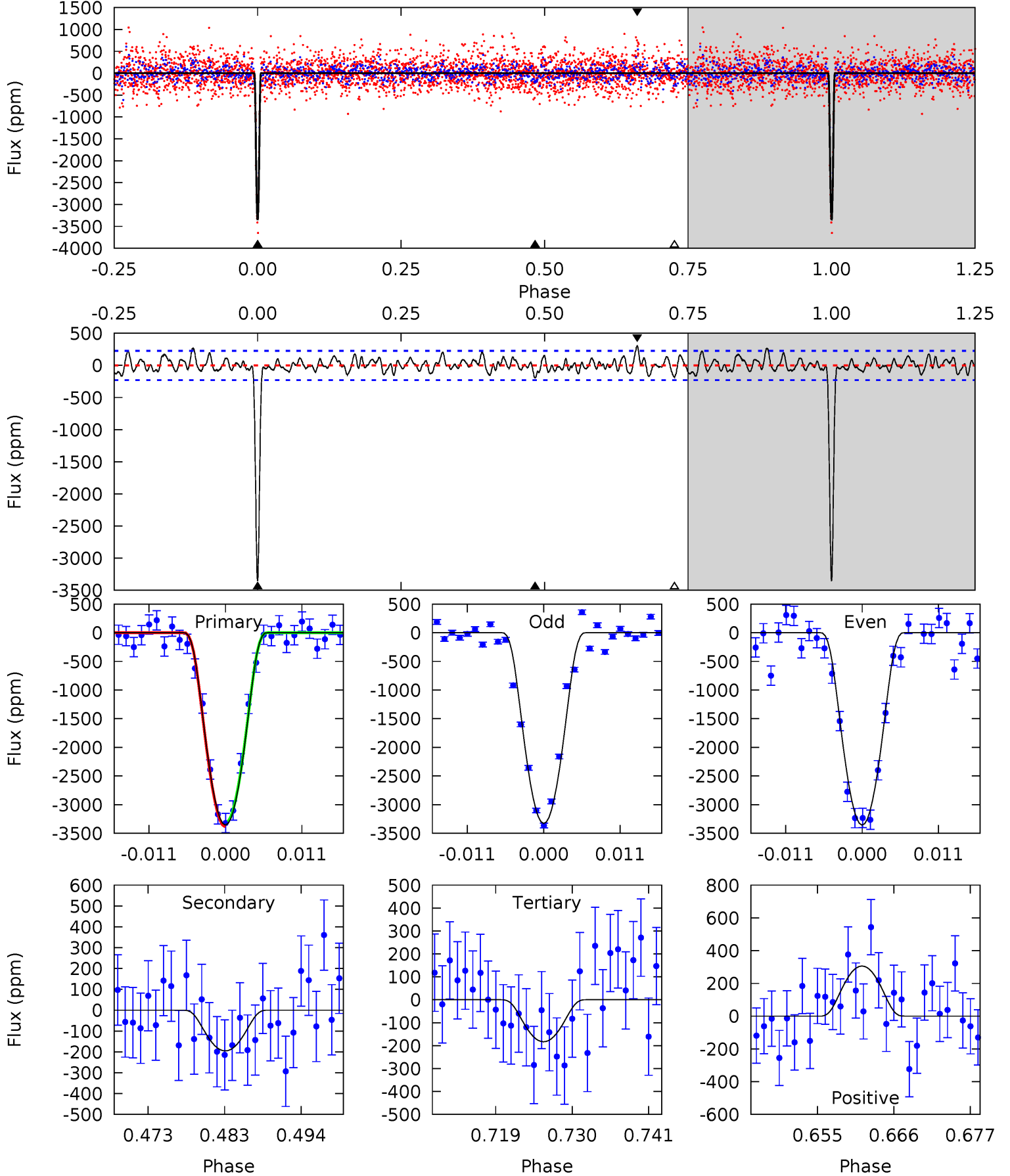
TCE 009418508-01 P= 11.017730 Days $T_0=140.385719$ (BKJD)



DV Model-Shift Uniqueness Test

009418508-01, $P = 11.017904$ Days, $E = 140.364362$ Days

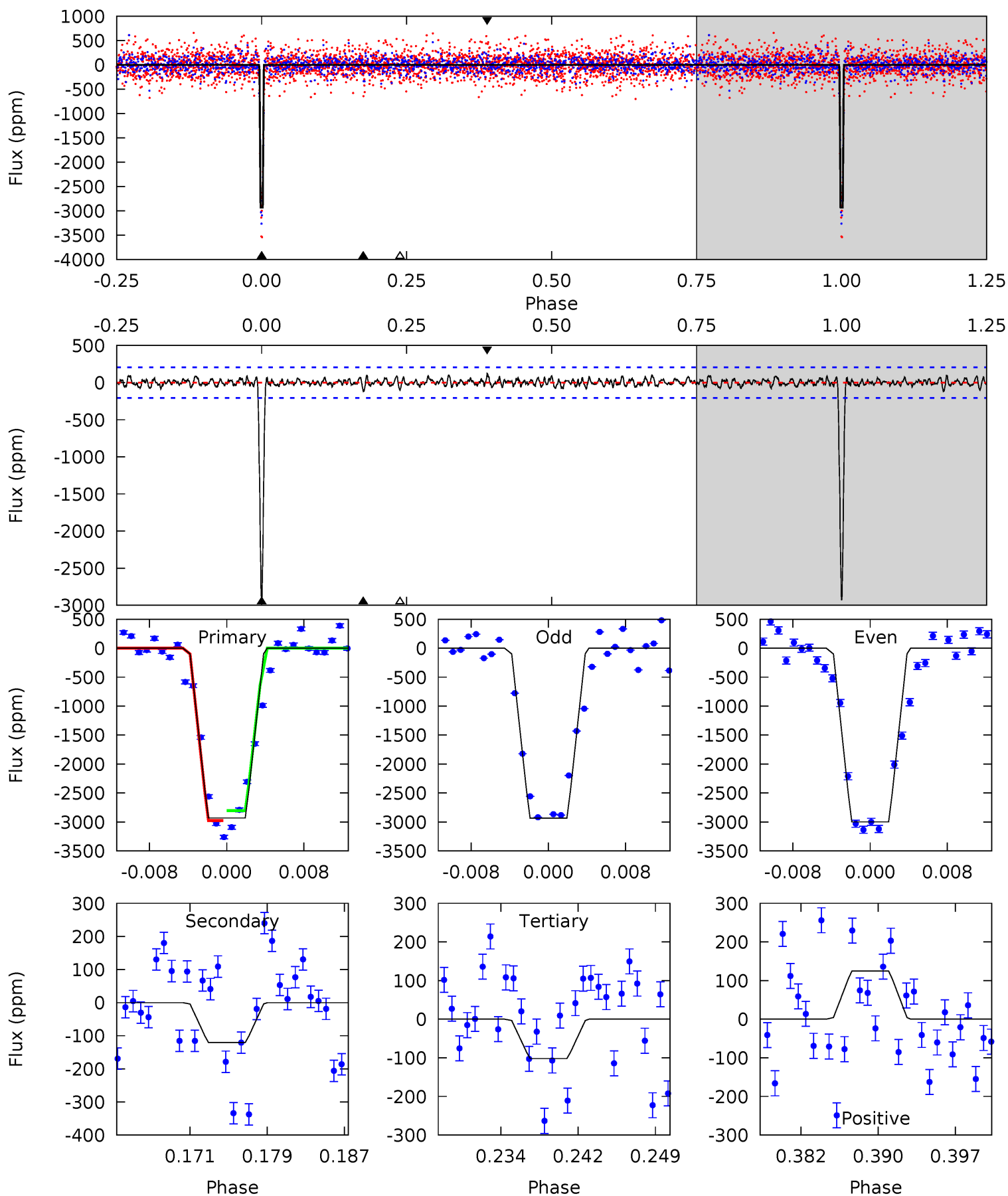
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.8	4.30	4.03	6.73	5.01	2.55	1.80	69.8	67.1	0.27	-2.43	0.32	1.00	0.08	1.01



Alt Model-Shift Uniqueness Test

009418508-01, $P = 11.017730$ Days, $E = 140.385719$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.2	2.97	2.51	3.07	5.07	2.66	0.88	69.7	69.1	0.46	-0.10	0.76	1.01	0.04	2.04



Stellar Parameters For KIC 009418508

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5515^{+210}_{-191}	$3.899^{+0.700}_{-0.300}$	$-0.620^{+0.300}_{-0.300}$	$1.678^{+0.923}_{-1.015}$	$0.813^{+0.096}_{-0.105}$	$0.242^{+2.834}_{-0.167}$
	+4%/-3%	+18%/-8%	+48%/-48%	+55%/-60%	+12%/-13%	+1169%/-69%
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 009418508-01 / KOI 5672.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-195 ± 45	$15.74^{+13.07}_{-9.71}$	1446^{+203}_{-241}	2819^{+885}_{-416}	$3.540^{+19.749}_{-2.523}$
Alt.	-120 ± 41	$11.54^{+11.47}_{-8.02}$	1432^{+208}_{-268}	2837^{+1136}_{-508}	$3.973^{+36.904}_{-3.063}$

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

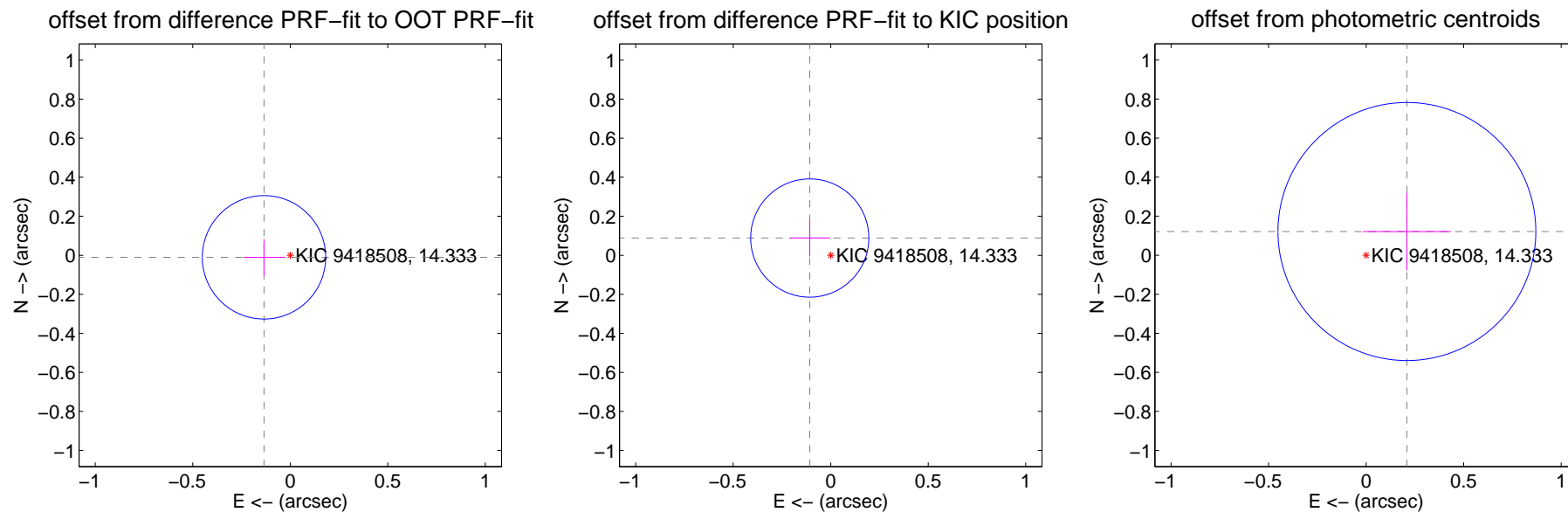
DV Centroid Data

Supplemental centroid analysis for 009418508-01. Kepler magnitude: 14.33. Transit SNR 37.46

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.135 ± 0.105	1.28	0.135 ± 0.105	-0.010 ± 0.094
PRF-fit source offset from KIC position	0.139 ± 0.101	1.38	0.108 ± 0.105	0.088 ± 0.094
photometric centroid source offset	0.24 ± 0.22	1.10	-0.21 ± 0.23	0.12 ± 0.20



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.



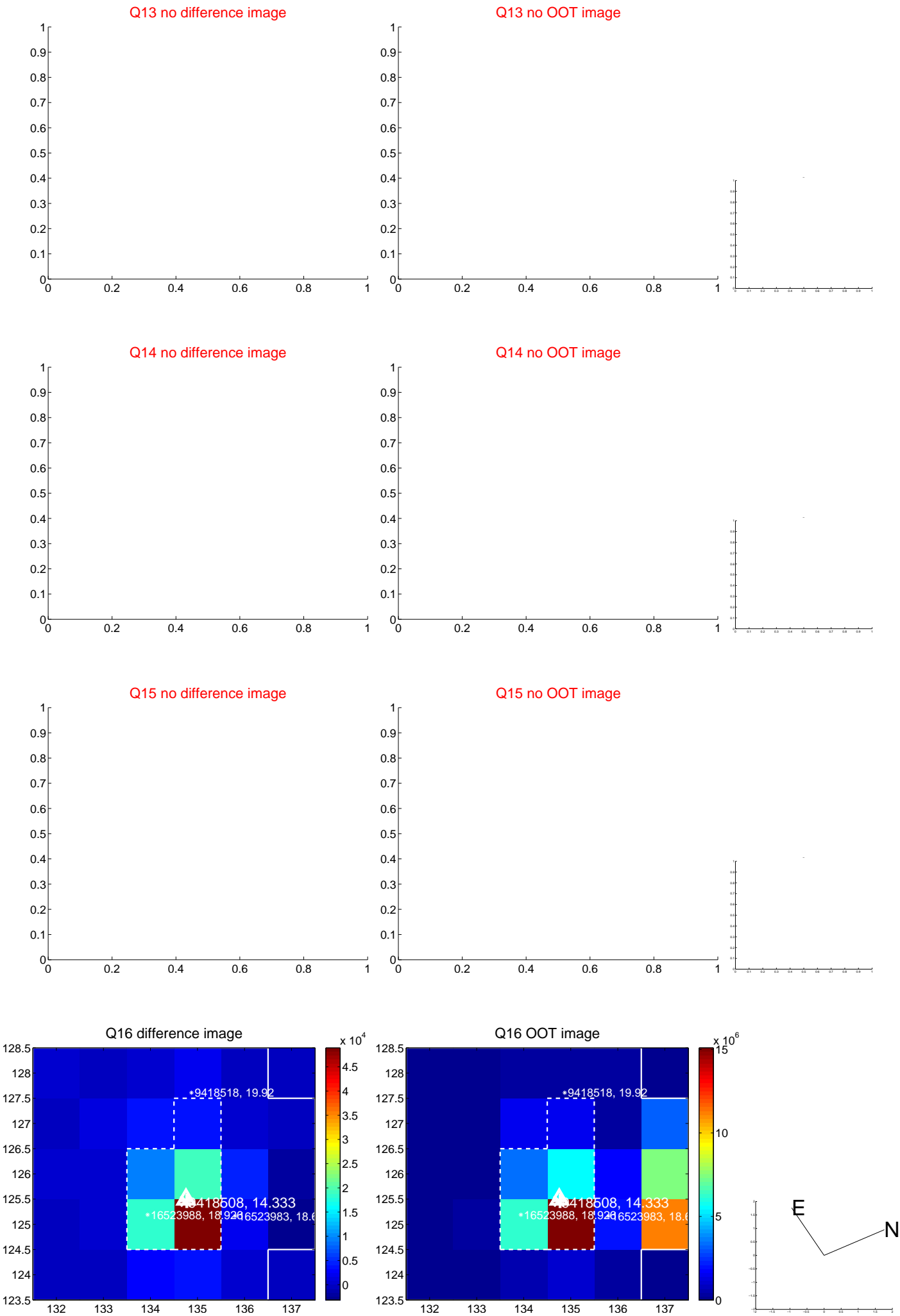
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



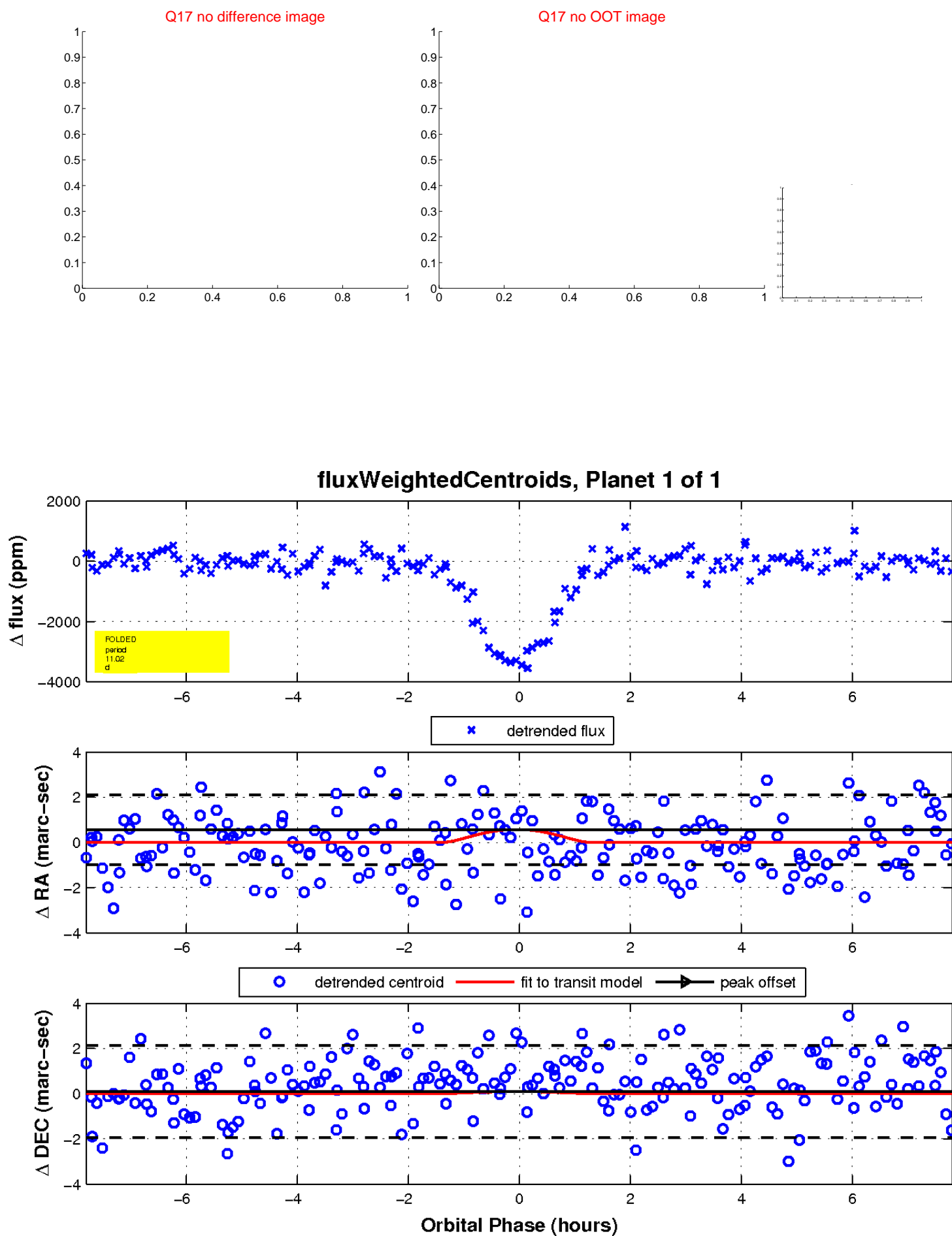
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UKIRT Image

Declination

