Report page ExoTIC-ISM

W17_G102_lc_10334.txt - 10334_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 10337.57655074958
Wavelength half width = 95.09852813007092

Planet parameters:

Rp/R* = 0.1255
Epoch (MJD) = 58021.48064883803
Inclination (deg) = 86.93051272857655
Eccentricity = 0.0
Omega (deg) = 0.0
Period (days) = 3.7354850226
a/R* = 7.025

Stellar parameters:

FeH (dex) = -0.25
Teff (K) = 6550.0
log(g) (cgs) = 4.2

Output parameters:

Limb-darkening coefficients:

C1 = 0.8462429699526268
C2 = -0.796416469006678
C3 = 0.7711155688136142
C4 = -0.2752012772485249

Top five systematic models by their weight

Check the chi-squared values and the AIC evidence for reasonable fits.
If the chi-squared values far exceed the DOF then it is likely that the input data contains additional noise, double check the spectral extraction.
Model numbers = [35 38 40 43 36]
DOF = [47. 44. 46. 43. 46.]
Chi-squared = [111.65079187 108.72050442 111.03196888 108.58525002 111.62623123]
AIC evidence = [313.81875416 313.78389789 313.62816565 313.35152508 313.33103448]
Weights = [0.12209866190655425 0.11791607564870993 0.10091119953591993 0.07652368830116703 0.07497162734146062]
SDNR = [364.38121871 359.62690019 363.35128399 359.42643757 364.32584639]

Top model Noise Statistics:

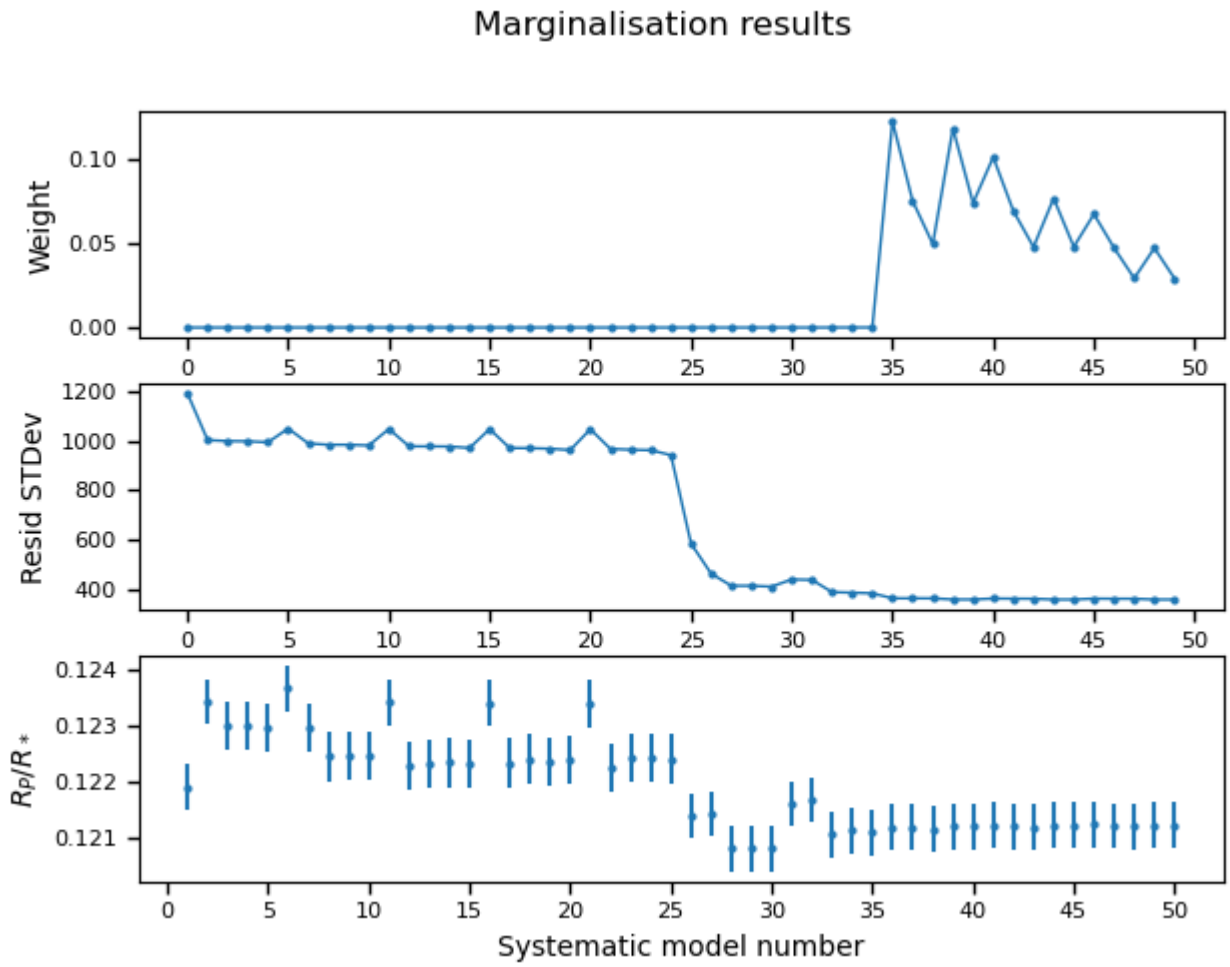
White noise = 0.0005052447655176488
Red noise = 0.00010640192061429134
Beta = 1.194283656002782
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12121598789648089 +/- 0.00040726967939044677
Epoch (MJD) = 58021.47849692218 +/- 0.0004279577775702806
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

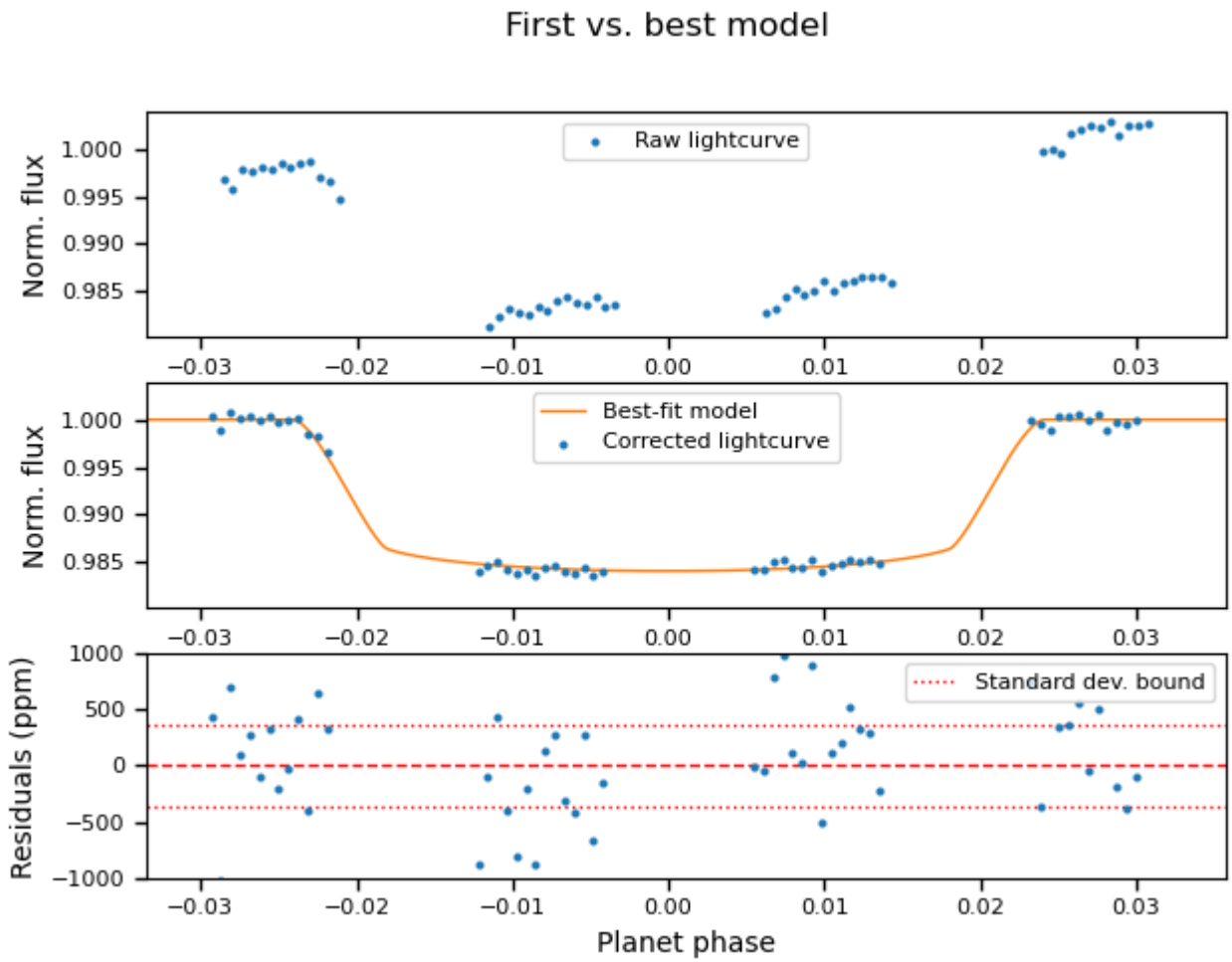
Systematics



Top: Evidence-based weight associated with each systematic model when fit with the data. *Middle:* Standard deviation of the residuals after correcting for each systematic model. *Bottom:* Radius ratio

measured from the transit depth when the light curve has been corrected using each systematic model. *If present, grey crosses mark discarded systematic models (poor AIC evidence).*

Lightcurves



Top: Input lightcurve with no systematic model correction applied. *Middle:* Lightcurve corrected by highest weight systematic model plotted with the smooth planetary transit model centred on the mid-transit time. *Bottom:* Residuals and uncertainties associated with the middle panel lightcurve. The upper and lower standard deviation bounds are shown in dotted lines relative to zero.