Report page ExoTIC-ISM

W17_G102_lc_9926.txt - 9926_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 9921.52049018052
Wavelength half width = 83.2112121138116

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 = 0.859265540014821
C2 = -0.8263102317692029
C3 = 0.8218827798181797
C4 = -0.30017181307347945

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 = [47 48 49 39 44]
DOF = [43. 42. 41. 43. 42.]
Chi-squared = [70.81255709 70.02420116 69.98876112 73.44947805 72.48874314]
AIC evidence = [328.43925884 328.33343681 327.85115683 327.12079836 327.10116582]
Weights = [0.22974551768113785 0.20667555942268886 0.12759615489181736 0.06146769617367917 0.060272697864833386]
SDNR = [311.30994872 309.64889043 309.57361094 317.31587765 315.1569482]

Top model Noise Statistics:

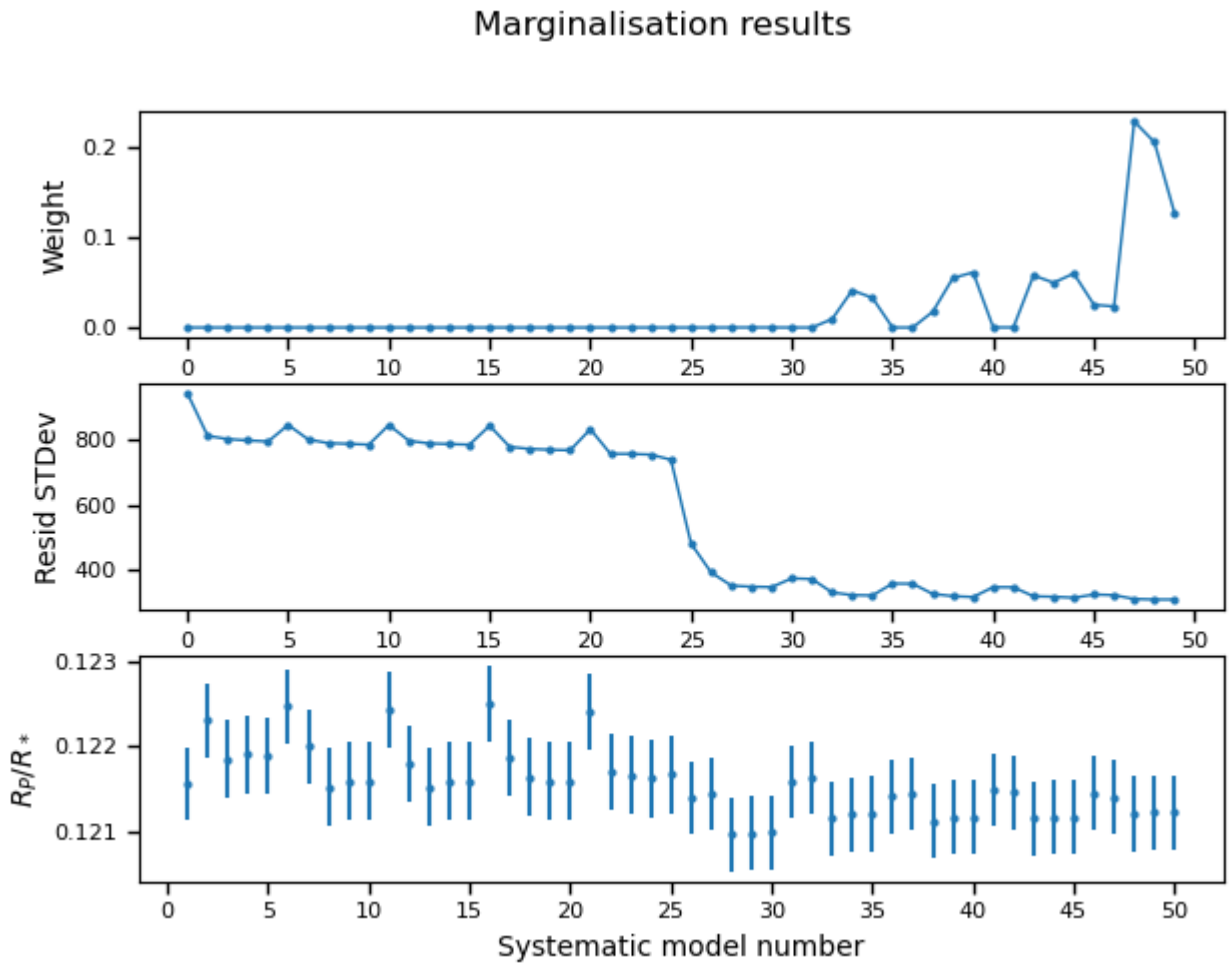
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12121361715880109 +/- 0.000440897712913913
Epoch (MJD) = 58021.47914076829 +/- 0.0004956574412356995
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

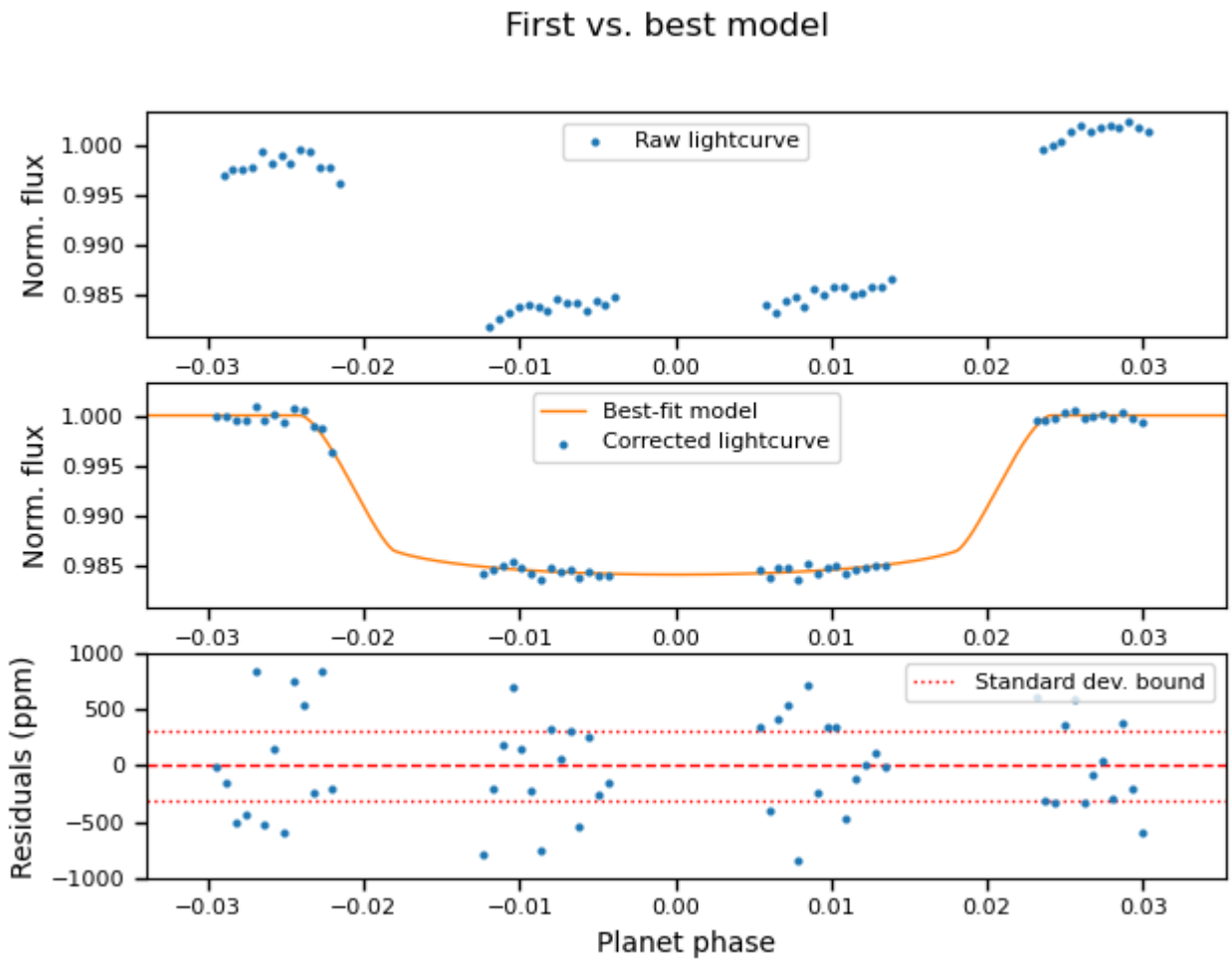
Systematics



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.