Report page ExoTIC-ISM

W17_G102_lc_white_clipped.txt - g102_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 8970.535208879806
Wavelength half width = 3031.2655841460155

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 = 0.8608841005908712
C2 = -0.8099369390500151
C3 = 0.7831087215612728
C4 = -0.28246452857379345

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 = [49 48 44 39 34]
DOF = [41. 42. 42. 43. 44.]
Chi-squared = [447.32859065 452.71607688 455.06509408 465.28086977 470.42589759]
AIC evidence = [211.37707757 209.18333445 208.00882585 203.400938 201.32842409]
Weights = [0.8723445636107665 0.0972652100424667 0.03005210682678053
0.00029970546281806154 3.772361506701633e-05]
SDNR = [200.85668392 202.04300837 202.6171351 204.86935941 205.9790004]

Top model Noise Statistics:

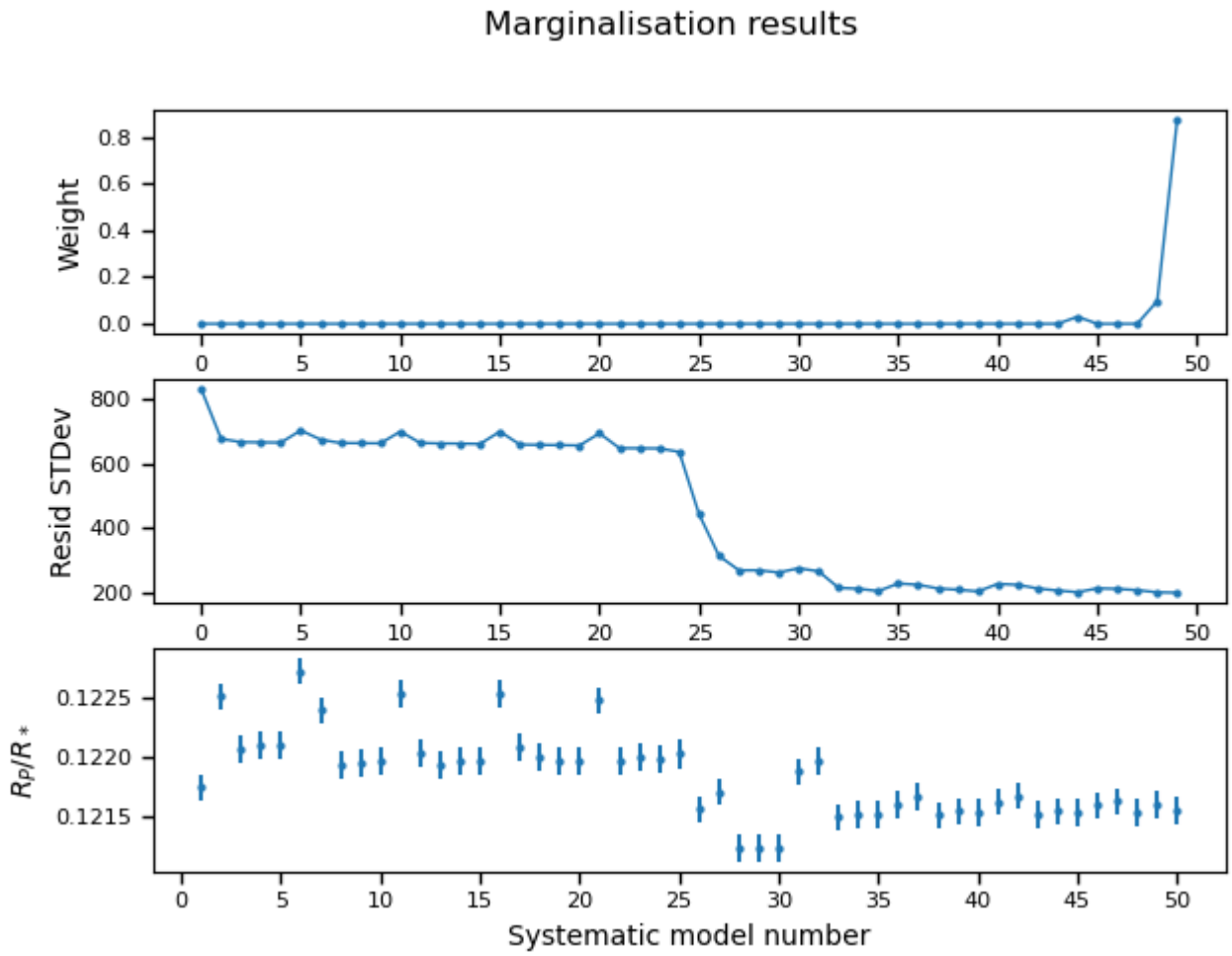
White noise = 0.00028016443643477554
Red noise = 4.9134269190239666e-05
Beta = 1.1398260068830561
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12156463543292564 +/- 0.00011369876673788382
Epoch (MJD) = 58021.48046547613 +/- 0.00012412959617914992
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

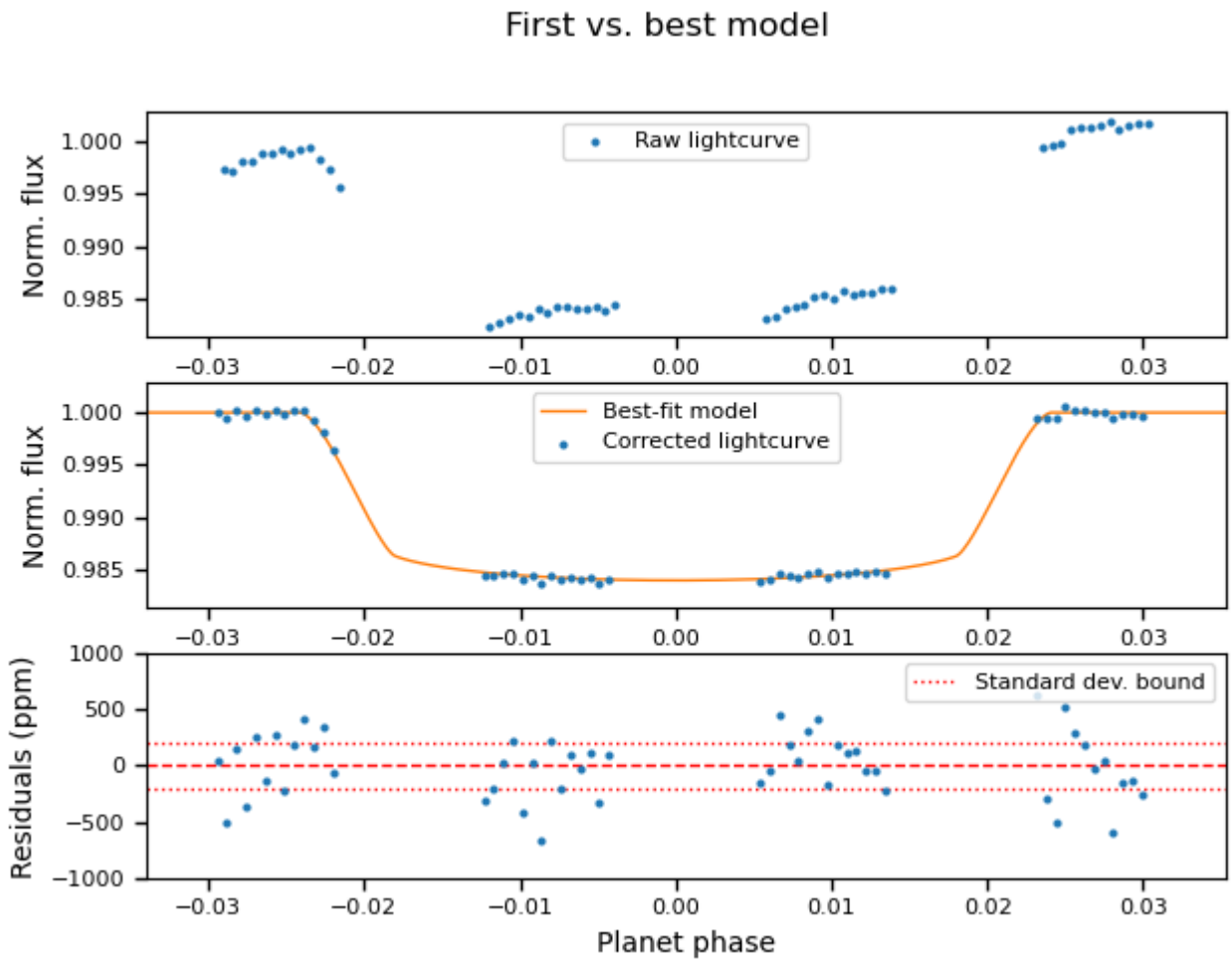
Systematics



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.